

September 30, 2020

**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 Associated Electric Cooperative, Inc.,  
FERC Docket No. NP20-\_-000**

Dear Ms. Bose:

The North American Electric Reliability Corporation (NERC) hereby provides this Notice of Penalty<sup>1</sup> regarding Associated Electric Cooperative, Inc. (AECI), NERC Registry ID# NCR01177,<sup>2</sup> with information and details regarding the nature and resolution of the violations<sup>3</sup> discussed in detail in the Settlement Agreement hereto (Attachment A), 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>4</sup>

NERC is filing this Notice of Penalty with the Commission because SERC Reliability Corporation (SERC) and AECI have entered into a Settlement Agreement to resolve all outstanding issues arising from SERC's determination and findings of the violations of

According to the Settlement Agreement, AECI neither admits nor denies the violations, but has agreed to the assessed penalty of four hundred and thirty thousand dollars (\$430,000), in addition to other

---

<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, 114 FERC ¶ 61,104, order on reh'g, Order No. 672-A, 114 FERC ¶ 61,328 (2006); Notice of New Docket Prefix "NP" for Notices of Penalty Filed by the N. Am. Elec. Reliability Corp., Docket No. RM05-30-000 (February 7, 2008); Mandatory Reliability Standards for the Bulk-Power System, Order No. 693, 118 FERC ¶ 61,218, order on reh'g, Order No. 693-A, 120 FERC ¶ 61,053 (2007).

<sup>2</sup> AECI was included on the NERC Compliance Registry as a Balancing Authority (BA), Distribution Provider (DP) Generator Owner (GO), Generator Operator (GOP), Planning Authority/Planning Coordinator (PA/PC), Resource Planner (RP), Transmission Owner (TO), Transmission Operator (TOP), Transmission Planner (TP), and Transmission Service Provider (TSP) on May 31, 2007.

<sup>3</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.

<sup>4</sup> See 18 C.F.R. § 39.7(c)(2) and 18 C.F.R. § 39.7(d).

1325 G Street NW Suite 600  
Washington, DC 20005  
202-400-3000 | [www.nerc.com](http://www.nerc.com)

NERC Notice of Penalty  
Associated Electric Cooperative, Inc.  
September 30, 2020  
Page 2

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

**Statement of Findings Underlying the Violations**

This Notice of Penalty incorporates the findings and justifications set forth in the Settlement Agreement, by and between SERC and AECL. 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 (2020), NERC provides the following summary table identifying each violation of a Reliability Standard resolved by the Settlement Agreement. Further information on the subject violations is set forth in the Settlement Agreement/Notice of Confirmed Violation and herein.

<b>Violation(s) Determined and Discovery Method</b>								
*SR = Self-Report / SC = Self-Certification / CA = Compliance Audit / SPC = Spot Check / CI = Compliance Investigation								
NERC Violation ID	Standard	Req.	VRF/VSL	Applicable Function(s)	Discovery Method* & Date	Violation Start-End Date	Risk	Penalty Amount
SERC2016016486	EOP-008-1	R1	Medium/Severe	BA, TOP	CA 10/31/2016	7/1/2013 – Anticipated 12/31/2020	Serious	\$430k
SERC2016016487	EOP-008-1	R4	High/Severe	BA, TOP	CA 10/31/2016	7/1/2013 – Anticipated 12/31/2020	Serious	
SERC2016016489	FAC-009-1	R1	Medium/Severe	TO	CA 10/31/2016	6/18/2007 - 6/1/2019	Moderate	
SERC2017017277	TOP-004-2	R6	Medium/Lower	TOP	SR 3/23/2017	1/9/2017 - 1/9/2017	Moderate	
SERC2019021901	PER-003-0	R1	High/Severe	TOP	SR 7/24/2019	6/18/2007 – Anticipated 6/24/2021	Serious	
SERC2019021902	PER-005-1	R1	Medium/Severe	TOP	SR 7/24/2019	4/1/2013 – 9/9/2020	Serious	

NERC Notice of Penalty  
Associated Electric Cooperative, Inc.  
September 30, 2020  
Page 3

## Background

AECI is organized into three levels or “tiers,” each with its own set of responsibilities. The top tier is made up of 51 distribution cooperatives in Missouri, southern Iowa and northeast Oklahoma. At the second tier are six regional cooperatives that transmit AECI’s power to the 51 distribution cooperatives. These six regional cooperatives are known as generation and transmission cooperatives (G&Ts), and they serve six geographical areas of Missouri, southern Iowa and northeast Oklahoma. In 1961, the six regional G&Ts joined to form the third tier, AECI. AECI is responsible for generation and power procurement and NERC compliance. AECI is registered as a JRO (JRO00088) with the six G&Ts. The G&Ts are KAMO Power, Central Electric Power Cooperative, NW Electric Power Cooperative, Northeast Missouri Electric Power Cooperative, M&A Electric Power Cooperative, and Sho-Me Power Electric Cooperative. AECI has a total generation capacity of 5,185.5 MW. The integrated transmission system is owned by AECI and its member systems consist of 3,122 miles of Bulk Electric System (BES) transmission line, as well as the related substations. The cooperative has 108 BES interconnections and 22 interconnection agreements, as well as interchange agreements with investor-owned and municipal utilities, electric cooperatives, power marketing firms, and regional transmission organizations.

## EOP-008-1 R1

SERC determined that AECI did not have a current Operating Plan describing the manner in which it would continue to meet its functional obligations with regard to the reliable operations of the Bulk Electric System (BES) in the event that its generation and transmission (G&T) cooperative primary Regional Dispatch Centers (RDCs) functionality is lost. Attachment A includes additional facts regarding the violation.

The cause of this violation was management oversight by failing to ensure the implementation of an organizational model that reflected the G&T RDC’s role of performing TOP functions both within and outside the terms of the jurisdictional control agreements. A contributing cause of this violation

SERC determined that this violation posed a serious and substantial risk to the reliability of the bulk power system (BPS). Attachment A includes the facts regarding the violation that SERC considered in its risk assessment.

AECI submitted its Mitigation Plan to address the referenced violation. Attachment A includes a description of the mitigation activities AECI took to address this violation. A copy of the Mitigation Plan is included as Attachment B.2.

NERC Notice of Penalty  
Associated Electric Cooperative, Inc.  
September 30, 2020  
Page 4

EOP-008-1 R4

SERC determined that AECl lacked backup functionality for the RDCs and did not provide control capability of the BES elements for which the RDCs had exclusive functional control. Attachment A includes additional facts regarding the violation.

The cause of this violation was management oversight by failing to ensure the implementation of an organizational model that reflected the G&T RDC's role of performing TOP functions per the jurisdictional control agreements.

SERC determined that this violation posed a serious and substantial risk to the reliability of the BPS. Attachment A includes the facts regarding the violation that SERC considered in its risk assessment.

AECl submitted its Mitigation Plan to address the referenced violation. Attachment A includes a description of the mitigation activities AECl took to address this violation. A copy of the Mitigation Plan is included as Attachment C.2.

FAC-009-1 R1

SERC determined that AECl did not have Facility Ratings for its solely and jointly owned Facilities that were consistent with its associated Facility Ratings Methodology (FRM). Attachment A includes additional facts regarding the violation.

The cause of this violation was management oversight by failing to verify the implementation of effective processes. When AECl performed its initial evaluation and physical verification of equipment ratings, it did not have the processes in place to ensure that it considered all relevant equipment.

SERC determined that this violation posed a moderate risk and did not pose a serious or substantial risk to the reliability of the BPS. Attachment A includes the facts regarding the violation that SERC considered in its risk assessment.

AECl submitted mitigating activities to address the referenced violation.

AECl certified that it had completed all mitigating activities.

TOP-004-2 R6



NERC Notice of Penalty  
Associated Electric Cooperative, Inc.  
September 30, 2020  
Page 5

SERC determined that AECl did not implement its formal policies and procedures to provide for transmission reliability as it relates to switching transmission elements. Attachment A includes additional facts regarding the violation.

The cause of this violation was management oversight by failing to verify that all needed controls were implemented to prevent the KAMO RDC operation of a BES element without the prior approval of the AECl Operator.

SERC determined that this violation posed a moderate risk and did not pose a serious or substantial risk to the reliability of the BPS. Attachment A includes the facts regarding the violation that SERC considered in its risk assessment.

AECl submitted mitigating activities to address the referenced violation.

AECl certified that it had completed all mitigating activities.

#### PER-003-0 R1

SERC determined that AECl failed to staff its Real-time operating positions performing TOP reliability-related tasks in its G&Ts' RDCs with System Operators who have demonstrated minimum competency by obtaining and maintaining one of the valid NERC certificates. Attachment A includes additional facts regarding the violation.

The cause of this violation was management oversight by failing to ensure the implementation of an organizational model that reflected the G&T RDC's role of performing TOP functions per the jurisdictional control agreements.

SERC determined that this violation posed a serious and substantial risk to the reliability of the BPS. Attachment A includes the facts regarding the violation that SERC considered in its risk assessment.

AECl submitted its Mitigation Plan to address the referenced violation. Attachment A includes a description of the mitigation activities AECl took to address this violation. A copy of the Mitigation Plan is included as Attachment F.2.

#### PER-005-1 R1

NERC Notice of Penalty  
Associated Electric Cooperative, Inc.  
September 30, 2020  
Page 6

SERC determined that AECl failed to establish and implement a systematic approach for its training program for the BES company-specific reliability-related tasks performed by its System Operators. Attachment A includes additional facts regarding the violation.

The cause of this violation was management oversight by failing to ensure the implementation of an organizational model that reflected the G&T RDC's role of performing TOP functions per the jurisdictional control agreements.

SERC determined that this violation posed a serious and substantial risk to the reliability of the BPS. Attachment A includes the facts regarding the violation that SERC considered in its risk assessment.

AECl submitted its Mitigation Plan to address the referenced violation. Attachment A includes a description of the mitigation activities AECl took to address this violation. A copy of the Mitigation Plan is included as Attachment G.2.

AECl certified that it had completed all mitigation activities.

#### Regional Entity's Basis for Penalty

According to the Settlement Agreement, AECl has assessed a penalty of four hundred and thirty thousand dollars (\$430,000) for the referenced violations. In reaching this determination, SERC considered the following factors:

1. The violations of EOP-008-1 R1 and R4 and PER-003-0 R1 and PER-005-1 R1 posed a serious and substantial risk to the reliability of the BPS, and the violations of FAC-009-1 R1 and TOP-004-2 R6 posed a moderate risk to the reliability of the BPS;
2. AECl has no relevant prior violations associated with EOP-008-1 R1 and R4, FAC-009-1 R1, PER-003-0 R1, and PER-005-1 R1;
3. SERC considered the AECl's relevant prior noncompliance with TOP-004-2 R6 (including NERC Violation ID SERC2015015266) as repeat noncompliance with the subject NERC Reliability Standards. SERC considered AECl's compliance history with TOP-004-2 R6 as an aggravating factor;
4. AECl self-reported three of the violations;
5. AECl agreed to settle the violations; and

NERC Notice of Penalty  
Associated Electric Cooperative, Inc.  
September 30, 2020  
Page 7

6. 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 four hundred and thirty thousand dollars (\$430,000) is appropriate and bears a reasonable relation to the seriousness and duration of the violations.

### **Statement Describing the Assessed Penalty, Sanction, or Enforcement Action Imposed<sup>5</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>6</sup> the NERC BOTCC reviewed the violations on September 17, 2020 and approved the resolution between SERC Reliability Corporation and the Associated Electric Cooperative, Inc. In approving the resolution, the NERC BOTCC reviewed the applicable requirements of the Commission-approved Reliability Standards and the underlying facts and circumstances of the violations at issue.

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

For the foregoing reasons, the NERC BOTCC approved the resolution and believes that the assessed penalty of four hundred and thirty thousand dollars (\$430,000) is appropriate for the violations 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:

---

<sup>5</sup> See 18 C.F.R. § 39.7(d)(4).

<sup>6</sup> N. Am. Elec. Reliability Corp., "Guidance Order on Reliability Notices of Penalty," 124 FERC ¶ 61,015 (2008); N. Am. Elec. Reliability Corp., "Further Guidance Order on Reliability Notices of Penalty," 129 FERC ¶ 61,069 (2009); N. Am. Elec. Reliability Corp., "Notice of No Further Review and Guidance Order," 132 FERC ¶ 61,182 (2010).

NERC Notice of Penalty  
Associated Electric Cooperative, Inc.  
September 30, 2020  
Page 8

1. Settlement Agreement by and between SERC and AECL executed June 17, 2020, included as Attachment A;
2. Record documents for the violation of EOP-008-1 R1:
  - a. AECL's Compliance Audit for EOP-008-1 R1 dated October 31, 2016, included as Attachment B.1;
  - b. AECL's Mitigation Plan designated as SERCMIT014783 for EOP-008-1 R1 submitted September 10, 2019, included as Attachment B.2;
3. Record documents for the violation of EOP-008-1 R4:
  - a. AECL's Compliance Audit for EOP-008-1 R4 dated October 31, 2016, included as Attachment C.1;
  - b. AECL's Mitigation Plan designated as SERCMIT014783 for EOP-008-1 R4 submitted September 10, 2019, included as Attachment C.2;
4. Record documents for the violation of FAC-009-1 R1:
  - a. AECL's Compliance Audit for FAC-009-1 R1 dated October 31, 2016, included as Attachment D.1;
  - b. AECL's Mitigating Activities submitted August 22, 2019, included as Attachment D.2
  - c. AECL's Certification of Mitigating Activities Completion for FAC-009-1 R1 submitted July 9, 2020, included as Attachment D.3;
5. Record documents for the violation of TOP-004-2 R6:
  - a. AECL's Self-Report for TOP-004-2 R6 dated March 23, 2017, included as Attachment E.1;
  - b. AECL's Mitigating Activities submitted September 13, 2019, included as Attachment E.2;
  - c. AECL's Certification of Mitigating Activities Completion for TOP-004-2 R6 submitted June 29, 2020, included as Attachment E.3;
6. Record documents for the violation of PER-003-0 R1:
  - a. AECL's Self-Report for PER-003-0 R1 dated July 24, 2019, included as Attachment F.1;
  - b. AECL's Mitigation Plan designated as SERCMIT014751 for PER-003-0 R1 submitted August 1, 2019, included as Attachment F.2;
7. Record documents for the violation of PER-005-1 R1:
  - a. AECL's Self-Report for PER-005-1 R1 dated July 24, 2019, included as Attachment G.1;

NERC Notice of Penalty  
Associated Electric Cooperative, Inc.  
September 30, 2020  
Page 9

- b. AECl's Mitigation Plan designated as SERCMIT014828-1 for PER-005-1 R1 submitted February 5, 2020, included as Attachment G.2; and
- c. AECl's Certification of Mitigation Plan Completion for PER-005-1 R1 submitted September 10, 2020, included as Attachment G.3.

NERC Notice of Penalty  
Associated Electric Cooperative, Inc.  
September 30, 2020  
Page 10

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

<p>*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.</p> <p>Drew R. Slabaugh* Legal Counsel SERC Reliability Corporation 3701 Arco Corporate Drive, Suite 300 Charlotte, NC 28273 (704) 414-5244 (704) 357-7914 – facsimile dslabaugh@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 jccline@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>Teresina Stasko* Assistant General Counsel and Director of Enforcement North American Electric Reliability Corporation 1325 G Street NW Suite 600 Washington, DC 20005 (202) 400-3000 (202) 644-8099 – facsimile teresina.stasko@nerc.net</p> <p>James McGrane* Senior Counsel North American Electric Reliability Corporation 1325 G Street NW, Suite 600 Washington, DC 20005 (202) 400-3000 (202) 644-8099 – facsimile james.mcgrane@nerc.net</p> <p>Joshua Yang* Associate Counsel North American Electric Reliability Corporation 1325 G Street NW Suite 600 Washington, DC 20005 (202) 400-3000 (202) 644-8099 – facsimile joshua.yang@nerc.net</p>
--	--



NERC Notice of Penalty  
Associated Electric Cooperative, Inc.  
September 30, 2020  
Page 11

Brian Prestwood\*  
Sr. Vice-President, General Counsel & Chief  
Compliance Officer  
Associated Electric Cooperative, Inc.  
2814 South Golden Ave.  
PO Box 754  
Springfield, MO 65801-0754  
(417) 371-5273  
(417) 891-5496- facsimile  
BPrestwood@aeci.org

Todd Bennett\*  
Managing Director, Reliability Compliance &  
Audit Services  
Associated Electric Cooperative, Inc.  
2814 South Golden Ave.  
PO Box 754  
Springfield, MO 65801-0754  
(417) 371-5391  
(417) 891-5496-facsimile  
TBennett@aeci.org

NERC Notice of Penalty  
Associated Electric Cooperative, Inc.  
September 30, 2020  
Page 12

## Conclusion

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

Respectfully submitted,

*/s/ Joshua Yang*  
Teresina Stasko  
Assistant General Counsel and Director of  
Enforcement  
James McGrane  
Senior Counsel  
Joshua Yang  
Associate Counsel  
North American Electric Reliability  
Corporation  
1325 G Street NW  
Suite 600  
Washington, DC 20005  
(202) 400-3000  
(202) 644-8099 - facsimile  
teresina.stasko@nerc.net  
james.mcgrane@nerc.net  
joshua.yang@nerc.net

cc: Associated Electric Cooperative, Inc.  
SERC Reliability Corporation

Attachments

Attachment A  
Settlement Agreement by and between SERC and AECl  
executed June 17, 2020

---

**SETTLEMENT AGREEMENT**  
**BETWEEN SERC RELIABILITY CORPORATION**  
**AND**  
**ASSOCIATED ELECTRIC COOPERATIVE, INC <sup>1</sup>**

---

**I. INTRODUCTION**

1. SERC Reliability Corporation (SERC) and Associated Electric Cooperative, Inc. (AECI) enter into this Settlement Agreement (Agreement) to resolve six Alleged Violations by AECI of the below-referenced Reliability Standards and Requirements. SERC and AECI are each referred to as a “Party” and collectively as “Parties.”

Reliability Standard	Requirement	NERC Tracking No.
EOP-008-1	R1	SERC2016016486
EOP-008-1	R4	SERC2016016487
FAC-009-1	R1	SERC2016016489
TOP-004-2	R6	SERC2017017277
PER-003-0	R1	SERC2019021901
PER-005-1	R1	SERC2019021902

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

**II. OVERVIEW OF AECI**

3. AECI is organized into three levels or “tiers,” each with its own set of responsibilities. The top tier is made up of 51 distribution cooperatives in Missouri, southern Iowa and northeast Oklahoma. At the second tier are six regional cooperatives that transmit AECI’s power to the 51 distribution cooperatives. These six regional cooperatives are known as generation and transmission cooperatives (G&Ts), and they serve six geographical areas of Missouri, southern Iowa and northeast Oklahoma. In 1961, the

---

<sup>1</sup> NERC Registry ID No. NCR01177

six regional G&Ts joined to form the third tier, AECI. AECI is responsible for generation and power procurement and NERC compliance.

4. AECI is registered as a JRO (JRO00088) with the six G&Ts. The G&Ts are KAMO Power, Central Electric Power Cooperative, NW Electric Power Cooperative, Northeast Missouri Electric Power Cooperative, M&A Electric Power Cooperative, and Sho-Me Power Electric Cooperative.
5. AECI has a total generation capacity of 5,185.5 MW. The integrated transmission system owned by AECI and its member systems consists of 3,122 miles of Bulk Electric System (BES) transmission line, as well as the related substations. The cooperative has 108 BES interconnections and 22 interconnection agreements, as well as interchange agreements with investor-owned and municipal utilities, electric cooperatives, power marketing firms, and regional transmission organizations.
6. AECI is registered on the NERC Compliance Registry as a Balancing Authority (BA), Distribution Provider (DP), Generator Owner (GO), Generator Operator (GOP), Planning Authority, Resource Planner, Transmission Owner (TO), Transmission Operator (TOP), Transmission Planner, and Transmission Service Provider (May 31, 2007). AECI, in its capacity as a BA, TO, TOP, GO, GOP, and DP, is subject to compliance with the Operations and Planning (O&P) standards.

### **III. EXECUTIVE SUMMARY**

#### *Overview of Alleged Violations*

7. This Settlement Agreement resolves six Alleged Violations of O&P Reliability Standards. SERC discovered three Alleged Violations during a compliance audit, which occurred from July 12, 2016 to October 31, 2016. AECI Self-reported one violation on March 23, 2017 and the last two Alleged Violations on July 24, 2019.
8. SERC determined that four Alleged Violations posed serious risks to the Bulk Power System and two posed a moderate risk. The Alleged Violations have extended durations, each lasting over four years, and all but one remain unmitigated. However, SERC considered AECI's operational and organizational structure a mitigating factor. The six G&T Control Centers operate independent of each other; therefore, any adverse impact associated with the loss, compromise, or misuse of any G&T's BES Cyber Systems would have likely been contained to that G&T. Furthermore, Extra High Voltage (EHV) facilities are predominantly operated by AECI, not the G&Ts. The underlying noncompliances were only found at the G&Ts, not at AECI, and thus the effects of any adverse impact would be less likely to impact neighboring systems.

9. The cause for the two serious risk EOP and two serious risk PER Alleged Violations was management oversight by failing to ensure the implementation of an organizational model that reflected the G&T Regional Dispatch Centers' (RDC) role of performing TOP functions both within and outside of the jurisdictional control agreements. Despite the agreements providing that the G&T RDCs would act and operate BES elements in the capacity of a TOP, according to AECI, it nonetheless maintained exclusive BES jurisdictional control of all TOP functions, which excluded the RDCs from maintaining compliance with the EOP and PER standards.

#### *Overview of Mitigation*

10. To address this cause, AECI and the G&Ts have agreed to a collaborative solution for security and compliance with regard to the TOP functions, which is reflected in AECI's mitigation. Specifically, for the EOP Alleged Violations, AECI revised the "AECI Loss of Control Center Functionality Plan" to address the AECI member G&T cooperative RDCs' functional obligations of the TOP. Further, the G&Ts developed loss of RDC plans and will implement all EOP-008 requirements at their respective backup RDC locations. Finally, AECI and the G&Ts will also test the loss of RDC plans and conduct training.
11. For the PER Alleged Violations, AECI will work closely with the AECI Board of Directors, member G&T Boards of Directors, and the G&T Operation Committee to establish a G&T NERC certification and training task force. This task force will develop a documented program which will detail the management and implementation of PER-003-0 R1 & PER-005-1 R1 moving forward.
12. AECI has also significantly changed management oversight of the AECI NERC Compliance Program since these Alleged Violations were issued. Key management oversight roles inclusive of the AECI CEO, CCO, and NERC compliance manager have all changed and are supportive of the AECI NERC Compliance Program. Lastly the AECI NERC Compliance Program has been revised to incorporate a documented standards implementation process, documented internal controls program, and a more robust responsibility matrix; all of which allow for additional AECI management oversight

#### **IV. ADJUSTMENT FACTORS**

##### *Compliance History*

13. SERC considered AECI's compliance history and whether there has been any repetitive infractions. AECI has no relevant prior violations associated with EOP-008-1 R4 and R1, FAC-009-1 R1, PER-003-0 R1, and PER-005-1.



14. AECI's relevant prior noncompliance with TOP-004-2 R6 includes NERC Violation ID SERC2015015266.<sup>2</sup> SERC considered this an aggravating factor when determining this disposition of this violation.

*Self-Disclosure*

15. Effective oversight of the reliability of the BES depends on robust and timely self-reporting by Registered Entities. AECI self-reported three of the Alleged Violations.

**V. PENALTY**

16. Based upon the foregoing, AECI shall pay a monetary penalty of **\$430,000** to SERC. Both aggravating and mitigating factors were applied to increase or decrease the penalty amount.
17. SERC shall present an invoice to AECI within 20 days after the Agreement is approved by the Commission or affirmed by operation of law. Upon receipt, AECI shall have 30 days to remit payment. SERC will notify NERC if it does not timely receive the payment from AECI.
18. If AECI 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 AECI for the monetary penalty payment or (b) the 51st day after the Agreement is approved by the Commission or operation of law.

**VI. ADDITIONAL TERMS**

19. The Parties agree that this Agreement is in the best interest of BES reliability. The terms and conditions of the Agreement are consistent with the regulations and orders of the Commission and the NERC Rules of Procedure.
20. 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 AECI 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

---

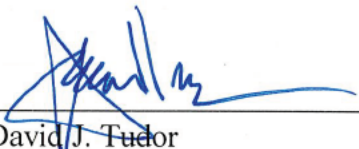
<sup>2</sup> NP16-21-000. This violation was filed as a Spreadsheet Notice of Penalty and SERC assessed a \$0 penalty.

operation of law and (b) publicly post the Alleged Violations and the terms provided for in this Agreement.

21. This Agreement binds the Parties upon execution, and may only be altered or amended by written agreement executed by the Parties. AECI expressly waives its right to any hearing or appeal concerning any matter set forth herein, unless and only to the extent that AECI contends that any NERC or Commission action constitutes a material modification to this Agreement.
22. SERC reserves all rights to initiate enforcement action against AECI in accordance with the NERC Rules of Procedure in the event that AECI fails to comply with any of the terms or conditions of this Agreement. AECI retains all rights to defend against such action in accordance with the NERC Rules of Procedure.
23. AECI 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 AECI'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 AECI 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 AECI consent to the use of this Agreement by any other party in any other action or proceeding.
24. AECI 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 AECI to SERC during any AECI interaction with SERC relating to the subject matter of this Agreement.
25. Upon execution of this Agreement, the Parties stipulate that the Possible Violations addressed herein constitute Alleged Violations. The Parties further stipulate that all required, applicable information listed in Section 5.3 of the CMEP is included within this Agreement.
26. 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.
27. 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.
28. The Agreement may be signed in counterparts.
29. This Agreement is executed in duplicate, each of which so executed shall be deemed

to be an original.

**Agreed to and accepted by:**

  
\_\_\_\_\_  
David J. Tudor  
Chief Executive Officer and General Manager  
**ASSOCIATED ELECTRIC  
COOPERATIVE, INC.**

6/11/20

\_\_\_\_\_  
Date

  
\_\_\_\_\_  
Jason Blake  
President and Chief Executive Officer  
**SERC RELIABILITY CORPORATION**

6/17/20

\_\_\_\_\_  
Date

**Attachment A**

**I. ALLEGED VIOLATION – SERC2016016486**

**A. EOP-008-1 R1**

1. EOP-008-1 Ensures continued reliable operations of the Bulk Electric System (BES) in the event that a control center becomes inoperable.
2. EOP-008-1 R1 states:

**R1.** Each Reliability Coordinator, Balancing Authority, and Transmission Operator shall have a current Operating Plan describing the manner in which it continues to meet its functional obligations with regard to the reliable operations of the BES in the event that its primary control center functionality is lost. This Operating Plan for backup functionality shall include the following, at a minimum:

**1.1.** The location and method of implementation for providing backup functionality for the time it takes to restore the primary control center functionality.

**1.2.** A summary description of the elements required to support the backup functionality. These elements shall include, at a minimum:

**1.2.1.** Tools and applications to ensure that System Operators have situational awareness of the BES.

**1.2.2.** Data communications.

**1.2.3.** Voice communications.

**1.2.4.** Power source(s).

**1.2.5.** Physical and cyber security.

**1.3.** An Operating Process for keeping the backup functionality consistent with the primary control center.

**1.4.** Operating Procedures, including decision authority, for use in determining when to implement the Operating Plan for backup functionality.

**1.5.** A transition period between the loss of primary control center functionality and the time to fully implement the backup functionality that is less than or equal to two hours.

**1.6.** An Operating Process describing the actions to be taken during the transition period between the loss of primary control center functionality and the time to fully implement backup functionality

**Attachment A**

elements identified in Requirement R1, Part 1.2. The Operating Process shall include at a minimum:

- 1.6.1.** A list of all entities to notify when there is a change in operating locations.
- 1.6.2.** Actions to manage the risk to the BES during the transition from primary to backup functionality as well as during outages of the primary or backup functionality.
- 1.6.3.** Identification of the roles for personnel involved during the initiation and implementation of the Operating Plan for backup functionality.

*Description of the Alleged Violation and Risk Assessment*

- 3. During a Compliance Audit conducted from July 12, 2016 to October 31, 2016, SERC determined that AECI, as a Balancing Authority and Transmission Operator, was in violation of EOP-008-1 R1, R1.1 – R1.6. AECI did not have a current Operating Plan describing the manner in which it would continue to meet its functional obligations with regard to the reliable operations of the Bulk Electric System (BES) in the event that its generation and transmission (G&T) cooperative primary Regional Dispatch Centers (RDCs) functionality is lost.
- 4. AECI has six G&T cooperatives within its structure for which it is responsible for the TOP functions. AECI and the six G&Ts, which are considered RDCs, have agreements that define a concept of “jurisdictional control,” which states that, absent “emergency situations, where failure to act immediately would likely result in property damage or injury to employees or the general public,”<sup>3</sup> a “device over which AECI has Jurisdictional Control will not be operated by [the six G&T RDCs] without notification to and receipt of instruction from AECI System Operator personnel.”<sup>4</sup> Thus, these Jurisdictional Control Agreements explicitly state that the G&T RDCs are expected to perform TOP functions during emergency situations. However, despite these agreements, the G&T RDCs maintained exclusive functional control of TOP functions for certain BES elements<sup>5</sup>, and on a daily basis, each G&T RDC operated BES elements in the capacity of a TOP in both emergency and non-emergency situations.

<sup>3</sup> See G&T Bulk Electric System Jurisdictional Control Agreements.

<sup>4</sup> *Id.*

<sup>5</sup> Northeast Missouri Electric Power Cooperative has exclusive functional control of 345 kV and 161 kV BES elements, Sho-Me Power Electric Cooperative has exclusive functional control of 345 kV and 161 kV BES elements, NW Electric Power Cooperative has exclusive functional control of 161 kV BES elements, M&A Electric Power Cooperative has exclusive functional control of 345 kV and 161 kV BES elements, KAMO Power has exclusive functional control of 345 kV, 161 kV, and 138 kV BES elements, Central Electric Power Cooperative has exclusive functional control of 345 kV, and 161 kV BES elements, and AECI has exclusive functional control of 500 kV, 345 kV, and 161 kV BES elements.



## Attachment A

5. Because AECI and its G&T RDCs operated BES elements, they were required to, but did not have Operating Plans describing the manner in which they would continue to meet their functional obligations with regard to the reliable operations of the BES in the event that their primary control centers become inoperable.
6. The primary cause of this Alleged Violation was management oversight by failing to ensure the implementation of an organizational model that reflected the G&T RDC's role of performing TOP functions both within and outside the terms of the jurisdictional control agreements. Despite the agreements providing that the G&T RDCs would act and operate BES elements in the capacity of a TOP, according to AECI, AECI nonetheless maintained exclusive BES jurisdictional control of all TOP functions, which excluded the G&T RDCs from being required to have Operating Plans addressing the requirements of EOP-008-1 R1.
7. A contributing cause of this Alleged Violation was AECI's erroneous belief that a complete loss of anything less than all six G&T RDCs would only amount to a partial loss of the AECI primary control center or back-up control center, and; thus, the Operating Plans were not required by the G&T RDCs. However, each G&T RDC maintained functional control of TOP functions for certain BES elements, and each G&T RDC operated BES elements daily in the capacity of a TOP. Additionally, although AECI had a backup control center, none of the G&Ts had backup control centers. Accordingly, each G&T RDC was required to implement an Operating Plan per EOP-008-1 R1.
8. The Alleged Violation started on July 1, 2013, when the Standard became mandatory and enforceable, and will end on December 31, 2020, when AECI committed to completing its Mitigation Plan.
9. SERC determined that the Alleged Violation posed a serious risk to the reliability of the bulk power system.<sup>6</sup> Loss of a G&T RDC would result in an inability to monitor and control certain 345 kV, 161 kV, and 138 kV BES elements. The loss of functional control could create an unknown operating condition for a portion of the AECI footprint and a possible inability to respond to conditions identified by the RC. The six G&Ts had exclusive functional control over certain BES elements and performed TOP functions, but none of these G&Ts had backup control centers. Thus, in the event of a complete or partial operational loss of control at a G&T RDC, AECI could have to request the G&T RDC operator to dispatch personnel to substations to manually operate a BES element. Instead of being able to respond to a system condition in

---

<sup>6</sup> EOP-008-1 R1 has a VRF of "Medium" pursuant to the VRF Matrix. According to the VSL Matrix, this noncompliance warranted a "Severe" VSL.





## Attachment A

seconds, it could take significantly longer to respond. Depending on what that system condition was, AECI and the G&T RDCs may have lost one or more system(s) by the time they could respond.

### *Mitigating Actions*

10. On September 10, 2019, AECI submitted a Mitigation Plan addressing the Alleged Violation of EOP-008-1 R1.<sup>7</sup> See Mitigation Plan SERCMIT014783. On October 4, 2019, SERC accepted the Mitigation Plan.

11. To mitigate the Alleged Violation, AECI:

- a. revised the “AECI Loss of Control Center Functionality Plan” to address the AECI member G&T cooperative RDCs’ ability to perform the functional obligations of the TOP, specifically monitoring and functional control of BES assets. AECI trained impacted staff on the revised plan;
- b. installed workstations at the primary RDC locations of KAMO and Sho-Me Power (SMP) to allow access to an AECI hosted EMS. These workstations allow KAMO and SMP to perform the functional obligations of the TOP, specifically monitoring and functional control of BES assets; and
- c. the Central Electric Power Cooperative (Central) RDC developed a loss of RDC plan and implemented all EOP-008 requirements at a backup RDC location operated by Central via an EMS system maintained by Central. Central has tested the loss of RDC plan and conducted training of applicable staff.
- d. SMP & Northeast Power have developed loss of RDC plans and implemented all EOP-008 requirements at their respective backup RDC location which will be operated by the respective G&T and maintained by AECI EMS. The two G&Ts tested the loss of RDC plans and conducted training of applicable staff; and
- e. the M&A Electric Power Cooperative and KAMO RDCs have developed loss of RDC plans and implemented all EOP-008 requirements at backup RDCs location operated by AECI and maintained by AECI EMSs. The G&Ts tested the loss of RDC plans conducted training of applicable staff.
- f. To mitigate the Alleged Violation, AECI committed to completing the following activities by December 31, 2020:

---

<sup>7</sup> AECI originally submitted its Mitigation Plan on November 8, 2018. However, SERC requested a revision to include additional clarifying details surrounding AECI’s milestones.

**Attachment A**

- g. the Northwest Electric Power Cooperative RDC has developed loss of RDC plans and will implement all EOP-008 requirements at its backup RDC location which will be operated by the Northeast and maintained by AECI EMSs. Northeast will test the loss of RDC plans and conduct training of applicable staff.
12. Upon completion of these Mitigating Activities, AECI shall promptly provide evidence supporting the completion to SERC. SERC will verify AECI's completion of the Mitigating Activities and promptly report its successful completion to NERC.

**II. ALLEGED VIOLATION – SERC2016016487**

**A. EOP-008-1 R4**

13. EOP-008-1 Ensures continued reliable operations of the Bulk Electric System (BES) in the event that a control center becomes inoperable.

14. EOP-008-1 R4 states:

**R4.** Each Balancing Authority and Transmission Operator shall have backup functionality (provided either through a facility or contracted services staffed by applicable certified operators when control has been transferred to the backup functionality location) that includes monitoring, control, logging, and alarming sufficient for maintaining compliance with all Reliability Standards that depend on a Balancing Authority and Transmission Operator's primary control center functionality respectively. To avoid requiring tertiary functionality, backup functionality is not required during:

- Planned outages of the primary or backup functionality of two weeks or less
- Unplanned outages of the primary or backup functionality

*Description of the Alleged Violation and Risk Assessment*

15. During a Compliance Audit conducted from July 12, 2016 to October 31, 2016, SERC determined that AECI, as a Balancing Authority (BA) and Transmission Operator (TOP), was in violation of EOP-008-1 R4.
16. AECI has six generation and transmission (G&T) cooperatives within its structure for which it is responsible for the TOP functions. AECI and the six G&Ts, which are considered Regional Dispatch Centers (RDCs), have agreements that define a concept of "jurisdictional control," which states that, absent "emergency situations, where failure to act immediately would likely result in property damage or injury to



## Attachment A

employees or the general public,”<sup>8</sup> a “device over which AECI has Jurisdictional Control will not be operated by [the six G&T RDCs] without notification to and receipt of instruction from AECI System Operator personnel.”<sup>9</sup> Despite these agreements, the G&T RDCs maintained exclusive functional control of TOP functions for certain BES elements<sup>10</sup>, and each G&T RDC operated BES elements in the capacity of a TOP in both emergency and non-emergency situations. As a result, AECI and its G&Ts were required to have backup functionality per EOP-008-1 R4. While AECI has a primary and back-up control center, the six G&Ts do not. SERC determined that AECI’s lack of backup functionality for the RDCs did not provide control capability of the BES elements for which the RDCs had exclusive functional control.

17. The primary cause of this Alleged Violation was management oversight by failing to ensure the implementation of an organizational model that reflected the G&T RDC’s role of performing TOP functions per the jurisdictional control agreements. Despite the agreements providing that the G&T RDCs would act and operate BES elements in the capacity of a TOP under limited circumstances, and the G&T RDC Transmission Operators had been performing TOP functions in both emergency and non-emergency situations, according to AECI, it nonetheless maintained exclusive BES jurisdictional control of all TOP functions, which excluded the G&T RDCs from being required to have back up functionality addressing the requirements of EOP-008-1 R4.
18. The Alleged Violation started on July 1, 2013, when the Standard became mandatory and enforceable, and will end on December 31, 2020 when AECI committed to complete its Mitigation Plan.
19. SERC determined that the Alleged Violation posed a serious risk to the reliability of the bulk power system.<sup>11</sup> Loss of a G&T RDC would result in an inability to monitor and control certain 345 kV, 161 kV, and 138 kV BES elements. The loss of functional control could create an unknown operating condition for a portion of the AECI footprint and a possible inability to respond to conditions identified by the RC. The six G&Ts had exclusive functional control over certain BES elements and performed TOP functions, but none of these G&Ts had backup controls centers. Thus, in the event of

---

<sup>8</sup> See G&T Bulk Electric System Jurisdictional Control Agreements.

<sup>9</sup> *Id.*

<sup>10</sup> Northeast Missouri Electric Power Cooperative has exclusive functional control of 345 kV and 161 kV BES elements, Sho-Me Power Electric Cooperative has exclusive functional control of 345 kV and 161 kV BES elements, NW Electric Power Cooperative has exclusive functional control of 161 kV BES elements, M&A Electric Power Cooperative has exclusive functional control of 345 kV and 161 kV BES elements, KAMO Power has exclusive functional control of 345 kV, 161 kV, and 138 kV BES elements, Central Electric Power Cooperative has exclusive functional control of 345 kV, and 161 kV BES elements, and AECI has exclusive functional control of 500 kV, 345 kV, and 161 kV BES elements.

<sup>11</sup> EOP-008-1 R4 has a VRF of “High” pursuant to the VRF Matrix. According to the VSL Matrix, this noncompliance warranted a “Severe” VSL.

## Attachment A

a complete or partial operational loss of control at a G&T RDC, AECI could have to request the G&T RDC operator to dispatch personnel to substations to manually operate a BES element. Instead of being able to respond to a system condition in seconds, it could take significantly longer to respond to a system condition. Depending on what that system condition was, AECI and the G&Ts may have lost the system by the time they could respond.

### *Mitigating Actions*

20. On September 10, 2019, AECI submitted a Mitigation Plan addressing the Alleged Violation of EOP-008-1 R4.<sup>12</sup> See Mitigation Plan SERCMIT014783. On October 4, 2019, SERC accepted the Mitigation Plan.
21. To mitigate the Alleged Violation, AECI:
  - a. revised the "AECI Loss of Control Center Functionality Plan" to address the AECI member G&T cooperative RDCs' ability to perform the functional obligations of the TOP, specifically monitoring and functional control of BES assets. AECI trained impacted staff on the revised plan;
  - b. installed workstations at the primary RDC locations of KAMO Power (KAMO) and Sho-Me Power (SMP) to allow access to an AECI hosted EMS. These workstations allow KAMO and SMP to perform the functional obligations of the TOP, specifically monitoring and functional control of BES assets;
  - c. the Central Electric Power Cooperative (Central) RDC developed a loss of RDC plan and implemented all EOP-008 requirements at a backup RDC location operated by Central via an EMS system maintained by Central. Central has tested the loss of RDC plan and conducted training of applicable staff;
  - d. SMP & Northeast Power have developed loss of RDC plans and implemented all EOP-008 requirements at their respective backup RDC location which will be operated by the respective G&T and maintained by AECI EMS. The two G&Ts tested the loss of RDC plans and conducted training of applicable staff; and
  - e. the M&A Electric Power Cooperative and KAMO RDCs have developed loss of RDC plans and implemented all EOP-008 requirements at backup RDCs location operated by AECI and maintained by AECI EMSs. The G&Ts tested the loss of RDC plans conducted training of applicable staff.
22. To mitigate the Alleged Violation, AECI committed to completing the following activities by December 31, 2020:

---

<sup>12</sup> AECI originally submitted its Mitigation Plan on November 8, 2018. However, SERC requested a revision to include additional clarifying details surrounding AECI's milestones.



**Attachment A**

- f. the Northwest Electric Power Cooperative RDC has developed loss of RDC plans and will implement all EOP-008 requirements at its backup RDC location which will be operated by the Northeast and maintained by AECI EMSs. Northeast will test the loss of RDC plans and conduct training of applicable staff.
23. Upon completion of these Mitigating Activities, AECI shall promptly provide evidence supporting the completion to SERC. SERC will verify AECI's completion of the Mitigating Activities and promptly report its successful completion to NERC.

**III. ALLEGED VIOLATION – SERC2016016489**

**A. FAC-009-1 R1**

24. FAC-009-1 Ensures ensure that Facility Ratings used in the reliable planning and operation of the Bulk Electric System (BES) are determined based on an established methodology or methodologies.

25. FAC-009-1 R1 states:

**R1.** The Transmission Owner and Generator Owner shall each establish Facility Ratings for its solely and jointly owned Facilities that are consistent with the associated Facility Ratings Methodology.

*Description of the Alleged Violation and Risk Assessment*

26. During a Compliance Audit conducted from July 12, 2016 to October 31, 2016, SERC determined that AECI, as a Transmission Owner, was in violation of FAC-008-3 R6. SERC determined that FAC-009-1 R1 was the applicable Standard and Requirement due to the duration of the noncompliance. AECI did not have Facility Ratings for its solely and jointly owned Facilities that were consistent with its associated Facility Ratings Methodology (FRM).
27. As a result of this audit finding, SERC issued a request for information, which required AECI to evaluate all Transmission and Generation Facilities. The evaluation included a walk-down of Facilities to verify the accuracy of the physical components against the current drawings. It also included an identification of the series elements for Facilities subject to FAC-008-3 R6 compliance, including jointly owned facilities, where applicable. AECI used one-line diagrams and other documentation to complete its verification that each Facility Rating and Most Limiting Element (MLE) was determined in accordance with AECI's FRM. AECI also verified that the Facility Ratings used for EMS operator alarms were consistent with the rating of the MLE for each Facility. AECI completed an assessment of 415 Transmission Facilities and 25 Generation Facilities and identified incorrect Transmission Facility Ratings for 101 of the 415 Transmission Facilities (24% incorrect). As a result, AECI derated 76

## Attachment A

Transmission Facilities when it rated the Facilities in accordance with its FRM. AECI identified incorrect Generation Facility Ratings for eight of the 25 Generation Facilities (32%). As a result, AECI derated five Generation Facilities when it rated the Facilities in accordance with its FRM.

28. This noncompliance started on June 18, 2007, when the Standard became mandatory and enforceable, and ended on June 1, 2019, when AECI implemented all Ratings in accordance with its FRM.
29. The cause of this noncompliance was management oversight by failing to verify the implementation of effective processes. When AECI performed its initial evaluation and physical verification of equipment ratings, it did not have the processes in place to ensure it considered all relevant equipment.
30. This noncompliance posed a moderate risk and did not pose a serious or substantial risk to the reliability of the bulk power system.<sup>13</sup> Failure to establish accurate Facility Ratings and accurately identify MLEs increases the potential risk for AECI to operate the Facilities in excess of their operating limits, thereby, creating the opportunity for equipment damage and Facility outages. Of the identified discrepancies that impacted the transmission MLE, the largest MLE derate was an 86.59% winter rating derate on a 161 KV Facility. No harm is known to have occurred.

### *Mitigating Actions*

31. On August 22, 2019, AECI submitted an informal Mitigation Plan addressing the Alleged Violation of FAC-009-1 R1.<sup>14</sup> On November 7, 2019, SERC accepted the informal Mitigation Plan.
32. To mitigate the Alleged Violation, AECI:
  - a. established all Transmission Facility and Generation Facility Ratings in accordance with the AECI FRM;
  - b. created and implemented AECI - Ratings Application Procedure (RAP) to document the process to ensure AECI maintains accurate ratings per its FRM and trained the appropriate personnel on the AECI - RAP;

---

<sup>13</sup> FAC-009-1 R1 has a VRF of "Medium" pursuant to the VRF Matrix. According to the VSL Matrix, this noncompliance warranted a "Severe" VSL.

<sup>14</sup> AECI originally submitted its Mitigation Plan on June 1, 2018. However, SERC requested a revision to include additional clarifying details surrounding AECI's milestones.



## Attachment A

- c. created and implemented AECI - Asset Database Procedure (ADP) to document consistent database management processes. Training was issued to SMEs when the procedure was approved by management;
- d. deployed new asset management software and conducted training for appropriate personnel;
- e. entered accurate Ratings data in asset management software and the transmission planning database;
- f. automated model synchronization for near term and long term planning and conducted training for appropriate personnel; and
- g. implemented and trained appropriate personnel on completing 13 additional internal controls which include corrective, detective, and preventative controls to manage the new process:
  - i. training and annual review of AECI FAC-008 FRM, RAP, and ADP by each G&T – preventative control;
  - ii. training and annual review of AECI FAC-008 FRM, RAP, and ADP by applicable AECI generation staff – preventative control;
  - iii. quarterly validation of asset management software accuracy by each G&T – detective control;
  - iv. quarterly verification that reliability related data requests have been fulfilled by each G&T – preventative control;
  - v. quarterly verification that reliability related data requests have been fulfilled by all applicable AECI generation staff – preventative control;
  - vi. quarterly verification that AECI reliability related data request email account inbox is being leveraged to manage data requests – preventative control;
  - vii. quarterly verification that changes to the transmission planning database are accurately logged – detective control;
  - viii. quarterly verification by management that reliability related data requests from other entities are processed within 30 days by individual contributors – preventative control;
  - ix. quarterly verification by management that the transmission planning database change management process is being implemented by individual contributors as designed – preventative control;
  - x. quarterly verification that facilities that require a temporary ratings change have been entered in the Reliability Coordinator tool properly – corrective control;
  - xi. quarterly audit of 25% of transmission planning database facilities to ensure consistency in near term and long term planning models – detective control;
  - xii. quarterly audit of transmission planning database facilities to verify the FRM and RAP are implemented correctly – detective control; and

**Attachment A**

- xiii. monthly verification that automated model synchronization process is working as designed – detective control.
33. Upon completion of these Mitigating Activities, AECI shall promptly provide evidence supporting the completion to SERC. SERC will verify AECI's completion of the Mitigating Activities and promptly report its successful completion to NERC.

**IV. ALLEGED VIOLATION – SERC2017017277**

**A. TOP-004-2 R6**

34. TOP-004-2 ensures that the transmission system is operated so that instability, uncontrolled separation, or cascading outages will not occur as a result of the most severe single Contingency and specified multiple Contingencies.

35. TOP-004-2 states:

**R6.** Transmission Operators, individually and jointly with other Transmission Operators, shall develop, maintain, and implement formal policies and procedures to provide for transmission reliability. These policies and procedures shall address the execution and coordination of activities that impact inter- and intra-Regional reliability, including:

....

**R6.2.** Switching transmission elements.

....

*Description of the Alleged Violation and Risk Assessment*

36. On March 23, 2017, AECI submitted a Self-Report stating that, as a Transmission Operator (TOP), it was in violation of TOP-004-2 R6. AECI did not implement its formal policies and procedures to provide for transmission reliability as it relates to switching transmission elements.
37. AECI is registered as a TOP on behalf of KAMO, and five other electric generation and transmission (G&T) cooperatives, per a Joint Registration Organization Agreement. As such, KAMO retains functional control of Jamesville 161kV CB 5020. AECI and G&Ts jointly developed the AECI Switching Order Procedure, which required KAMO to contact AECI immediately in the event of an inadvertent operation so AECI could determine whether the device should be returned back to service or operated to a previous configuration.



**Attachment A**

38. On January 9, 2017, at 9:03 a.m., a KAMO Relay Technician (KAMO Technician) notified the AECI System Operator (AECI Operator) that it was going to conduct relay testing at the Jamesville 161kV Substation. At 11:34 a.m., the KAMO Technician inadvertently tripped the Jamesville 161kV circuit breaker open. At 11:35 a.m., the KAMO Technician called the KAMO Regional Dispatch Center (RDC) Operator (KAMO Operator) who verified that Supervisory Control and Data Acquisition (SCADA) indicated that the circuit breaker was open. The KAMO Technician then requested the KAMO Operator to close Jamesville 161kV circuit breaker by SCADA control. At 11:36 a.m., the KAMO Operator closed the Jamesville 161kV circuit breaker via the SCADA system. At 11:37 a.m., the KAMO Operator called the AECI Operator and notified the AECI Operator that a KAMO Operator returned the Jamesville 161kV circuit breaker to service. However, the KAMO Operator failed to follow the AECI Switching Order Procedure, which required the KAMO Operator to contact the AECI Operator prior to returning the circuit breaker to service.
39. The cause of this Alleged Violation was management oversight by failing to verify that all needed controls were implemented to prevent the KAMO RDC operation of a Bulk Electric System (BES) element without the prior approval of the AECI Operator. To address this oversight, AECI implemented a restrictive software tag that states the RDC operator must contact the AECI System Operator prior to operating the BES element. The RDC operator must remove this restrictive tag prior to operating each BES element.
40. This Alleged Violation started on January 9, 2017, at 11:36 a.m., when the KAMO Operator closed the Jamesville 161kV circuit breaker without approval from the AECI Operator, and ended on January 9, 2017, at 11:37 a.m., when the KAMO Operator notified the AECI Operator that the KAMO Operator had returned the Jamesville 161kV circuit breaker to service.
41. SERC determined that the Alleged Violation posed a moderate risk and did not pose a serious or substantial risk to the reliability of the bulk power system.<sup>15</sup> AECI's Operator could have been unaware of the operation of a BES element (that had been performed by KAMO) for which the AECI Operator was responsible, which could have caused the AECI Operator to make incorrect operational decisions. Because the KAMO RDC Operator operated the BES element, without prior approval from the AECI System Operator, the System Operator did not evaluate the BPS system impacts prior to the Jamesville 161 kV circuit breaker returning to service. However, the Jamesville 161 kV bus is in a ring bus configuration which provides a higher degree of reliability. Therefore, a fault or failure of a single component isolates only that

---

<sup>15</sup> TOP-004-2 R6 has a VRF of "Medium" pursuant to the VRF Matrix. According to the VSL Matrix, this noncompliance warranted a "Lower" VSL

**Attachment A**

single component. The operation of the Jamesville circuit breaker did not change flows on any lines or transformers on the transmission system. No harm is known to have occurred.

42. SERC considered AECI's compliance history in determining the disposition track. AECI's relevant prior noncompliance with TOP-004-2 R6 includes NERC Violation ID SERC2015015266. In SERC2015015266, an RDC Operator failed to notify the AECI System Operator prior to operating a BES element. The underlying cause of the prior noncompliance was similar, and the mitigation for the prior noncompliance should have prevented the instant noncompliance.

*Mitigating Actions*

43. On September 13, 2019, AECI submitted a Mitigation Plan addressing the Alleged Violation of TOP-004-2 R6. On October 4, 2019, SERC accepted the Mitigation Plan.
44. To mitigate the Alleged Violation, AECI:
- h. performed training for all AECI member G&T relay technicians on the AECI Jurisdiction Control Agreement and the AECI Switching Order Procedure. All six G&T cooperatives train RDC Operators twice a year on the AECI Jurisdictional Control Agreement and twice a year on the AECI Switching Order Procedure;
  - i. issued additional training by KAMO that detailed the AECI Jurisdictional Control Agreement and the AECI Switching Order Procedure to all KAMO RDC Operators; and
  - j. added preventative controls to BES element control points for which the KAMO, Northeast and Sho-Me Power SCADA systems functionally control. These preventative controls added a restrictive software tag that states the RDC operator must contact the AECI System Operator prior to operating the BES element. The RDC operator must remove this restrictive tag prior to operating each BES element. Central, NW, and M&A did not implement a restrictive software tag as their SCADA control system was not configurable to allow the software tag on BES devices.

45. Upon completion of these Mitigating Activities, AECI shall promptly provide evidence supporting the completion to SERC. SERC will verify AECI's completion of the Mitigating Activities and promptly report its successful completion to NERC.

**V. ALLEGED VIOLATION – SERC2019021901**

**A. PER-003-1 R2**

**Attachment A**

46. PER-003-0 ensures minimum competencies for operating a reliable Bulk Electric System.

47. PER-003-0 states:

R1. Each Transmission Operator, Balancing Authority, and Reliability Coordinator shall staff all operating positions that meet both of the following criteria with personnel that are NERC-certified for the applicable functions:

R1.1. Positions that have the primary responsibility, either directly or through communications with others, for the real-time operation of the interconnected Bulk Electric System.

R1.2. Positions directly responsible for complying with NERC standards.

*Description of the Alleged Violation and Risk Assessment*

48. On July 24, 2019, AECI submitted a Self-Report stating that, as a Transmission Operator (TOP), it was in violation of PER-003-2 R2. SERC determined that the applicable Standard and Requirement is PER-003-0 R1 due to the start date of the Alleged Violation. AECI failed to staff its Real-time operating positions performing TOP reliability-related tasks in its G&Ts' regional dispatch centers (RDCs) with System Operators who have demonstrated minimum competency by obtaining and maintaining one of the valid NERC certificates.

49. AECI has six generation and transmission (G&T) cooperatives within its structure for which it is responsible for the TOP functions. AECI and the six G&Ts, which are considered Regional Dispatch Centers (RDCs), have agreements that define a concept of "jurisdictional control," which states that, absent "emergency situations, where failure to act immediately would likely result in property damage or injury to employees or the general public,"<sup>16</sup> a "device over which AECI has Jurisdictional Control will not be operated by [the six G&T RDCs] without notification to and receipt

---

<sup>16</sup> See G&T Bulk Electric System Jurisdictional Control Agreements.



## Attachment A

of instruction from AECI System Operator personnel.”<sup>17</sup> Despite these agreements, the G&T RDCs maintained exclusive functional control of TOP functions for certain BES elements<sup>18</sup>, and each G&T RDC operated BES elements in the capacity of a TOP in both emergency and non-emergency situations. Because they did operate these elements, AECI and its G&Ts are required to have NERC-certified System Operators per PER 003-0 R1. While AECI System Operators at the AECI control center were NERC-certified, the System Operators for the six G&T were not. Thus, SERC determined that because the G&T System Operators did perform TOP functions, they are required to comply with PER-003-0 R1 and must be NERC-certified.

50. The primary cause of this Alleged Violation was management oversight by failing to ensure the implementation of an organizational model that reflected the G&T RDC’s role of performing TOP functions per the jurisdictional control agreements. Despite the agreements providing that the G&T RDCs would act and operate BES elements in the capacity of a TOP under limited circumstances, and the G&T RDC Transmission Operators had been performing TOP functions in both emergency and non-emergency situations, according to AECI, it nonetheless maintained exclusive BES jurisdictional control of all TOP functions, which excluded the G&T RDCs from being required to staff its Real-time operating positions performing TOP reliability-related tasks in its G&Ts’ regional dispatch centers with System Operators who have demonstrated minimum competency by obtaining and maintaining one of the valid NERC certificates.
51. The Alleged Violation started on June 18, 2007, when the Standard became mandatory and enforceable, and will end on June 24, 2021 when AECI committed to complete its Mitigation Plan.
52. SERC determined that the Alleged Violation posed a serious risk to the reliability of the bulk power system (BPS).<sup>19</sup> AECI’s failure to staff the six G&T RDCs with NERC certified Transmission Operators could have resulted in insufficiently trained System Operators operating the 345 kV, 161 kV, and 138kV transmission systems thus endangering system reliability. Prior to 2012, the RDC Transmission Operators had functional control of BES devices that would interrupt flow of transmission greater

---

<sup>17</sup> *Id.*

<sup>18</sup> Northeast Missouri Electric Power Cooperative has exclusive functional control of 345 kV and 161 kV BES elements, Sho-Me Power Electric Cooperative has exclusive functional control of 345 kV and 161 kV BES elements, NW Electric Power Cooperative has exclusive functional control of 161 kV BES elements, M&A Electric Power Cooperative has exclusive functional control of 345 kV and 161 kV BES elements, KAMO Power has exclusive functional control of 345 kV, 161 kV, and 138 kV BES elements, Central Electric Power Cooperative has exclusive functional control of 345 kV, and 161 kV BES elements, and AECI has exclusive functional control of 500 kV, 345 kV, and 161 kV BES elements.

<sup>19</sup> PER-003-1 R2 has a VRF of “High” pursuant to the VRF Matrix. According to the VSL Matrix, this noncompliance warranted a “Severe” VSL.

**Attachment A**

than 200 kV. After 2012, the RDC System Operators continued to operate devices at and 345 kV, but these devices do not interrupt the networked system flow. No harm is known to have occurred.

*Mitigating Actions*

53. On August 1, 2019, AECI submitted a Mitigation Plan addressing the Alleged Violation of PER-003-0 R1. See Mitigation Plan SERCMIT014751. On September 9, 2019, SERC accepted the Mitigation Plan.

54. To mitigate the Alleged Violation, AECI committed to completing the following activities by June 24, 2021:

- k. work closely with the AECI Board of Directors, member G&T Boards of Directors, and the G&T Operation Committee to establish a G&T NERC certification and training task force;
- l. develop a documented program which will detail the management and implementation of PER-003-2 R2;
- m. revise the AECI NERC Compliance Program Responsibility Matrix to identify each member G&T cooperative as having a responsibility to demonstrate compliance with NERC Standard Requirements PER-003-2 R2;
- n. develop a documented PER-003-2 program for G&T RDC operating staff; and
- o. staff AECI member G&T cooperative RDCs with NERC TOP certified operators per PER-003-2 R2.

55. Upon completion of these Mitigation Activities, AECI shall promptly provide evidence supporting the completion to SERC. SERC will verify completion of the Mitigation Activities and promptly report its successful completion to NERC.

**VI. ALLEGED VIOLATION SERC2019021902**

**A. PER-005-1 R1**

56. PER-005-1 ensure that System Operators performing real-time, reliability-related tasks on the North American Bulk Electric System (BES) are competent to perform those reliability-related tasks.

57. PER-005-1 states:

- R1.** Each Reliability Coordinator, Balancing Authority and Transmission Operator shall use a systematic approach to training to establish a training

**Attachment A**

program for the BES company-specific reliability-related tasks performed by its System Operators and shall implement the program.

**R1.1.** Each Reliability Coordinator, Balancing Authority and Transmission Operator shall create a list of BES company-specific reliability-related tasks performed by its System Operators.

**R.1.1.1.** Each Reliability Coordinator, Balancing Authority and Transmission Operator shall update its list of BES company-specific reliability-related tasks performed by its System Operators each calendar year to identify new or modified tasks for inclusion in training.

**R1.2.** Each Reliability Coordinator, Balancing Authority and Transmission Operator shall design and develop learning objectives and training materials based on the task list created in R1.1.

**R1.3.** Each Reliability Coordinator, Balancing Authority and Transmission Operator shall deliver the training established in R1.2.

**R1.4.** Each Reliability Coordinator, Balancing Authority and Transmission Operator shall conduct an annual evaluation of the training program established in R1, to identify any needed changes to the training program and shall implement the changes identified.

*Description of the Alleged Violation and Risk Assessment*

58. On July 24, 2019, AECI submitted a Self-Report stating that, as a Transmission Owner (TO), it was in violation of PER-005-2 R2. SERC determined that, as a Transmission Operator (TOP), the applicable Standard and Requirement is PER-005-1 R1 due to the start date of the Alleged Violation. AECI failed to establish and implement a systematic approach for its training program for the BES company-specific reliability-related tasks performed by its System Operators.

59. AECI has six generation and transmission (G&T) cooperatives within its structure for which it is responsible for the TOP functions. AECI and the six G&Ts, which are considered Regional Dispatch Centers (RDCs), have agreements that define a concept of “jurisdictional control,” which states that, absent “emergency situations, where failure to act immediately would likely result in property damage or injury to employees or the general public,”<sup>20</sup> a “device over which AECI has Jurisdictional Control will not be operated by [the six G&T RDCs] without notification to and receipt

---

<sup>20</sup> See G&T Bulk Electric System Jurisdictional Control Agreements.



**Attachment A**

of instruction from AECI System Operator personnel.”<sup>21</sup> Despite these agreements, the G&T RDCs maintained exclusive functional control of TOP functions for certain BES elements<sup>22</sup>, and each G&T RDC operated BES elements in the capacity of a TOP in both emergency and non-emergency situations. Because they operated these elements, AECI and its G&Ts were required to use a systematic approach in its training program for the BES company-specific reliability-related tasks performed by its System Operators.

60. The cause of this Alleged Violation was management oversight by failing to ensure the implementation of an organizational model that reflected the G&T RDC’s role of performing TOP functions per the jurisdictional control agreements. Despite the agreements providing that the G&T RDCs would act and operate BES elements in the capacity of a TOP under limited circumstances, and the G&T RDC Transmission Operators had been performing TOP functions in both emergency and non-emergency situations, according to AECI, it nonetheless maintained exclusive BES jurisdictional control of all TOP functions, which excluded the G&T RDCs from being required to establish and implement a systematic approach for its training program for the BES company-specific reliability-related tasks performed by its System Operators.
61. The Alleged Violation started on April 1, 2013, when the Standard became mandatory and enforceable, and will end on September 9, 2020 when AECI committed to complete its Mitigation Plan.
62. SERC determined that the Alleged Violation posed a serious risk to the reliability of the bulk power system (BPS).<sup>23</sup> AECI’s failure to staff the six G&T RDCs with System Operators trained using a systematic approach to training established by a training program for the BES company-specific reliability-related tasks performed could have resulted in insufficiently trained System Operators operating the 345 kV, 161 kV, and 138kV transmission systems thus endangering system reliability. Prior to 2012, the RDC Transmission Operators had functional control of BES devices that would interrupt flow of transmission greater than 200 kV. After 2012, the RDC System Operators continue to operate devices at and 345 kV but these devices do not interrupt the networked system flow. No harm is known to have occurred.

---

<sup>21</sup> *Id.*

<sup>22</sup> Northeast Missouri Electric Power Cooperative has exclusive functional control of 345 kV and 161 kV BES elements, Sho-Me Power Electric Cooperative has exclusive functional control of 345 kV and 161 kV BES elements, NW Electric Power Cooperative has exclusive functional control of 161 kV BES elements, M&A Electric Power Cooperative has exclusive functional control of 345 kV and 161 kV BES elements, KAMO Power has exclusive functional control of 345 kV, 161 kV, and 138 kV BES elements, Central Electric Power Cooperative has exclusive functional control of 345 kV, and 161 kV BES elements, and AECI has exclusive functional control of 500 kV, 345 kV, and 161 kV BES elements.

<sup>23</sup> PER-005-1 R1 has a VRF of “Medium” pursuant to the VRF Matrix. According to the VSL Matrix, this noncompliance warranted a “Severe” VSL.

**Attachment A**

*Mitigating Actions*

63. On September 9, 2019, AECI submitted a Mitigation Plan addressing the Alleged Violation of PER-005-1 R1. See Mitigation Plan SERCMIT014828-1. On February 7, 2020, SERC accepted the Mitigation Plan.
64. To mitigate the Alleged Violation, AECI committed to completing the following activities by September 10, 2020:
- p. work closely with the AECI Board of Directors, member G&T Boards of Directors, and the G&T Operation Committee to establish a G&T NERC certification and training task force
  - q. revise the AECI NERC Compliance Program Responsibility Matrix to identify each member G&T cooperative as having a responsibility to demonstrate compliance with NERC Standard Requirements PER-005-2 R2 & R3;
  - r. create a list of Bulk Electric System (BES) company-specific Real-time reliability-related tasks (RRT) for the G&Ts based on a defined and documented methodology;
  - s. develop a documented program which details the management and implementation of PER-005-2 R1 & R3; which supersedes PER-005-1 R1;
  - t. develop RRT qualification sheet checklists
  - u. verify, at least once, the capabilities of member G&T personnel identified in R1 assigned to perform each of the BES company-specific RRTs identified under R1; and
  - v. add/modify, test, and implement internal controls to ensure the documented program has been implemented correctly.
65. Upon completion of these Mitigation Activities, AECI shall promptly provide evidence supporting the completion to SERC. SERC will verify completion of the Mitigation Activities and promptly report its successful completion to NERC.

Attachment B.1

AECI's Compliance Audit for EOP-008-1 R1 dated October 31, 2016



## Post On-site Audit/Off-site Audit/Spot Check/Investigation Screening Worksheet

---

Prepared By: Steve Hebert

Submittal Date: 11/1/2016

Compliance Monitoring Method (On-site Audit, Off-site Audit, Spot-Check, or Investigation):  
On-Site Audit

---

Registered Entity: Associated Electric Cooperatives Incorporated

NERC Registry ID: NCR01177

Registered Entity Contact Information:

Name: Todd Bennett

Email: tbennett@aeci.org

Standard: EOP-008-1

Requirement: 1

Sub Requirement(s):

Function(s) Applicable to Possible Violation:

<input checked="" type="checkbox"/> BA	<input checked="" type="checkbox"/> TOP	<input type="checkbox"/> TO	<input type="checkbox"/> GO	<input type="checkbox"/> GOP
<input type="checkbox"/> DP	<input type="checkbox"/> TSP	<input type="checkbox"/> PA	<input type="checkbox"/> RP	<input type="checkbox"/> TP
<input type="checkbox"/> RSG	<input type="checkbox"/> RC			

Date violation occurred: 10/31/2016

Date violation discovered (Exit Presentation Date): 10/31/2016

Is the violation still occurring? ☒ Yes ☐ No

Are mitigating activities (including details to prevent reoccurrence) in progress or completed? ☐ Yes ☒ No

If yes, Provide description of Mitigating Activities:

Date Mitigating Activities are expected to be completed or were completed:

**Detailed explanation and cause of violation:** While on-site, the audit team discovered that the AECI Loss of Control Center procedure does not address the loss of it's 6 Regional Dispatch Centers (RDC). The RDCs have exclusive operational control of BES elements on the sub 200KV AECI system. The existing procedure does not account for operational control of the sub 200 KV elements. AECI has 6 RDCs of these 6, 3 have limited backup functionality. All member G&T dispatch facilities have redundant SCADA servers, but not all have backup dispatch facilities. The following member G&T's have backup dispatch facilities:

- Sho-Me
- N.W.
- Northeast

**The remaining G&T backup capabilities are listed below:**

- M&A has backup functionality through a backup SCADA server at Gobbler Knob however there is not a separate a backup dispatch facility.
- Central has the ability to use their backup SCADA server at their backup data center. They are currently working on planning and building a backup dispatch facility.
- KAMO has the ability to use their backup SCADA servers.

**Potential Impact to the Bulk Power System (Minimal, Moderate, or Severe):** Moderate

**Actual Impact to the Bulk Power System (Minimal, Moderate, or Severe):** Minimal

**Detailed description of Potential Risk to Bulk Power System:** Loss of EMS/SCADA control of the sub 200 KV elements controlled by the RDC would result in an inability to control sub 200 KV elements and possibly an unknown operating condition for a portion of the AECI footprint.

**Detailed description of Actual Risk to Bulk Power System:** Loss of EMS/SCADA control of the sub 200 KV elements controlled by the RDC would result in an inability to control sub 200 KV elements and possibly an unknown operating condition for a portion of the AECI footprint. The audit team performed a physical tour of one RDC to confirm that the sub 200 KV elements can only be controlled at the RDC level.

**Additional Comments:**

---

Please complete the form as completely as possible and email to [serccomply@serc1.org](mailto:serccomply@serc1.org).


Attachment B.2  
AECI's Mitigation Plan designated as SERCMIT014783 for EOP-008-1 R1  
submitted September 10, 2019



## VIEW FORMAL MITIGATION PLAN: EOP-008-1 (REGION REVIEWING MITIGATION PLAN)

 This item was signed by Todd Bennett (tbennett@aeci.org) on 9/10/2019



 This item was marked ready for signature by Todd Bennett (tbennett@aeci.org) on 9/10/2019



## MITIGATION PLAN REVISIONS

Requirement	NERC Violation IDs	Regional Violation Ids	Date Submitted	Status	Type	Revision Number
EOP-008-1 R1., EOP-008-1 R4., EOP-008-1 R7.	SERC2016016486, SERC2016016487, SERC2016016488	SERC2016-402523, SERC2016-402524, SERC2016-402525	11/08/2018	Revision Requested	Formal	
EOP-008-1 R1., EOP-008-1 R4., EOP-008-1 R7.	SERC2016016486, SERC2016016487, SERC2016016488	SERC2016-402523, SERC2016-402524, SERC2016-402525	01/31/2019	Revision Requested	Formal	1
EOP-008-1 R1., EOP-008-1 R4.	SERC2016016486, SERC2016016487	SERC2016-402524, SERC2016-402525	09/10/2019	Region reviewing Mitigation Plan	Formal	2

## SECTION A: COMPLIANCE NOTICES &amp; 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: Associated Electric Cooperative, Inc.

Company Address: P.O. Box 754

Springfield, Missouri 65801-0754

Compliance Registry ID: NCR01177

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

Name: Todd Bennett

## 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: EOP-008-1

Requirement	Regional ID	NERC Violation ID	Date Issue Reported
R4.	SERC2016-402524	SERC2016016487	10/31/2016
R1.	SERC2016-402525	SERC2016016486	10/31/2016

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

The AECl Loss of Control Center Functionality Plan did not adequately address the AECl member G&T cooperative Regional Dispatch Centers (RDC)s ability to perform the functional obligations of the Transmission Operator (TOP), specifically monitoring and functional control of Bulk Electric System (BES) assets.

[Attachments \(\)](#)

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

None to provide at this time

## 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:

Many potential solutions were initially identified which have been evaluated and a path forward for each G&T cooperative has been determined:

- AECI revised the "AECI Loss of Control Center Functionality Plan" to address the AECI member G&T cooperative RDCs ability to perform the functional obligations of the TOP, specifically monitoring and functional control of BES assets. Impacted AECI staff was subsequently trained on the revised plan.
- The Central Electric Power Cooperative (Central) RDC has developed a loss of RDC plan and implemented all EOP-008 requirements at a backup RDC location operated by Central via a EMS system maintained by Central. Central has tested the loss of RDC plan and conducted training of applicable staff.
- The KAMO Power (KAMO) RDC has developed a loss of RDC plan and will implement all EOP-008 requirements at a backup RDC location operated by KAMO and maintained by an AECI EMS. KAMO will test the loss of RDC plan and conduct training of applicable staff.
- AECI has installed workstations at the primary RDC locations of KAMO and Sho-Me Power (SMP) to allow access to an AECI hosted EMS. These workstations allow KAMO and SMP to perform the functional obligations of the TOP, specifically monitoring and functional control of BES assets.
- The M&A Electric Power Cooperative (M&A) RDC has developed a loss of RDC plan and will implement all EOP-008 requirements at a backup RDC location operated by AECI and maintained by an AECI EMS. M&A will test the loss of RDC plan and conduct training of applicable staff.
- The Northeast Power (Northeast) RDC has developed a loss of RDC plan and will implement all EOP-008 requirements at a backup RDC location operated by Northeast and maintained by an AECI EMS. Northeast will test the loss of RDC plan and conduct training of applicable staff.
- The NW Electric Power Cooperative (NW) RDC has developed a loss of RDC plan and will implement all EOP-008 requirements at a backup RDC location operated by AECI and maintained by an AECI EMS. NW will test the loss of RDC plan and conduct training of applicable staff.
- The SMP RDC has developed a loss of RDC plan and will implement all EOP-008 requirements at a backup RDC location operated by SMP and maintained by an AECI EMS. SMP will test the loss of RDC plan and conduct training of applicable staff.

### [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:

12/31/2020

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

#### [AECI Hosted EMS Functional Control for 50% of KAMO & SMP Substations](#)

Milestone Pending (Due: 10/8/2019)

KAMO & SMP will transfer functional control of BES assets for 50% of cumulative substations to the AECI hosted EMS.

#### [EOP-008 Compliant SMP Backup RDC Plan](#)

Milestone Pending (Due: 1/8/2020)

SMP will protect the SMP RDC by implementing an AECI hosted EMS and implementing a SMP Loss of RDC Plan. The milestone requires testing, training, and full implementation of this plan.

#### [EOP-008 Compliant M&A Backup RDC Plan](#)

Milestone Pending (Due: 2/17/2020)

M&A will protect the M&A RDC by implementing an AECI hosted EMS and implementing a M&A Loss of RDC Plan. The milestone requires testing, training, and full implementation of this plan.

#### [EOP-008 Compliant KAMO Backup RDC Plan](#)

Milestone Pending (Due: 5/15/2020)

KAMO will protect the KAMO RDC by implementing an AECI hosted EMS and implementing a KAMO Loss of RDC Plan. The milestone requires testing, training, and full implementation of this plan.

#### [EOP-008 Compliant Northeast Backup RDC Plan](#)

Milestone Pending (Due: 7/1/2020)

Northeast will protect the Northeast RDC by implementing an AECI hosted EMS and implementing a Northeast Loss of RDC Plan. The milestone requires testing, training, and full implementation of this plan.

#### [NW all BES Device Functional Control Managed by AECI Hosted EMS](#)

Milestone Pending (Due: 10/1/2020)

NW will transfer functional control to all BES assets to the AECI hosted EMS.

#### [EOP-008 Compliant NW Backup RDC Plan](#)

Milestone Pending (Due: 12/31/2020)

NW will protect the NW RDC by implementing an AECI hosted EMS and implementing a NW Loss of RDC Plan. The milestone requires testing, training, and full implementation of this plan.

## 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):

AECI and its member G&T cooperatives have not been idle in addressing the findings of the audit. Training sessions, presentations, interviews, G&T site visits, analysis, and assessments have been completed during this project so AECI could fully understand the issues at hand and develop a path forward to resolve these potential violations where functional control of BES devices is the root cause. Many potential solutions were initially identified which have been evaluated and reduced to the following options:

- G&T EMS system comply with EOP-008 backup control center requirements.
- G&T transfer functional control of BES assets to AECI EMS and Control Center.
- G&T implement AECI hosted EMS solution

The following timeline and description of events that AECI and the member G&T cooperatives have undertaken is offered to illustrate the complexity inherent in arriving at a cost-effective and reliable solution to the cited potential violations that will work for the AECI system and that respects AECI's governance structure. The net result of these actions was the development of this mitigation plan which is approximately 35% complete.

- August 1, 2017 - An independent consultant conducted a review of the AECI NERC Compliance Program. This review resulted in a report that contained feedback from stakeholders, observations, and recommendations.
- August 23, 2017 - AECI Reliability Compliance department restructured to promote streamlined communication, more defined roles and responsibilities, and efficient use of available resources.
- September 15, 2017 - AECI/G&T Joint GTOC CIP operations presentation and discussion
  - 4 hour educational session at AECI to help each member G&T cooperative better understand the requirements associated with cyber security programs but more specifically the requirements around developing and maintaining a CIP medium impact RDC. This session was attended by personnel including AECI staff, member G&T management, and G&T technical personnel. CIP audit findings, areas of concern, and corrective actions to date were discussed during this session as well.
- November 11, 2017 - AECI/G&T joint GTOC functional control presentation and discussion
  - 4 hour educational session at AECI to help each member G&T cooperative better understand the operating environment of a TOP Control Center and compliance with TOP applicable NERC standards. This session was attended by personnel including AECI staff, member G&T management, and G&T technical personnel. 2016 SERC O&P audit findings, areas of concern, and corrective actions to date were discussed during this session as well. Potential changes to the AECI jurisdictional control model and the G&T RDC project plan were discussed.
- January 15, 2018 - AECI hosted EMS project team established
  - AECI and member G&T joint project team was established to explore the concept of AECI offering a hosted EMS solution to G&T members. This project team will focus on identifying infrastructure, service level agreements, value, cost sharing, and financial reimbursement needed to implement a hosted EMS solution at a G&T RDC.
- January 16 - February 1, 2018 - Functional control assessment site visit conducted for each member G&T cooperative
  - AECI staff evaluated each RDC and backup functionality, compliance with NERC TOP applicable Standards, and compliance with NERC CIP Standards. Current policies, procedures, processes and practices were evaluated to assess the existing level of readiness to comply with current and future CIP & TOP NERC Standards. The information gathered was compiled to generate an assessment of the RDCs compliance with NERC CIP and TOP standards, functions and services provided, and provide cost estimates to comply with requirements contained current NERC Reliability Standards.
- February 9, 2018 - SMP hosted EMS project team site visit
  - AECI hosted EMS project team conducted a site visit at SMP to discuss potential project scope, work plan, database requirements, operator experience, and data communication requirements. Current SMP EMS system architecture, data communication requirements, database requirements, and operator interface was reviewed. AECI hosted EMS solution architecture, data communication, database, maintenance, and user interface requirements were also reviewed.
- February 21, 2018 - AECI/OSI project introduction conference call
  - AECI conducted a conference call with AECI EMS vendor OSI. At this time project scope and potential impacts to current projects were discussed. One specific impact that was discussed was a scheduled NW EMS system upgrade, if an AECI hosted EMS system is implemented this project would be abandoned.
- May 1, 2018 - G&T Compliance Subcommittee Meeting - RDC Agenda Item
  - Reviewed the RDC project mitigation plan, deviations from the initial project plan, future milestones, and policy/procedure revisions needed to implement corrective actions to mitigate CIP and EOP potential violations.
- May 2, 2018 - G&T Relay Subcommittee Meeting - RDC Agenda Item
  - Reviewed the RDC project mitigation plan, deviations from the initial project plan, future milestones, and policy/procedure revisions needed to implement corrective actions to mitigate CIP and EOP potential violations.
- May 2, 2018 - G&T Information Systems Forum - RDC Agenda Item
  - Reviewed the RDC project mitigation plan, deviations from the initial project plan, future milestones, and policy/procedure revisions needed to implement corrective actions to mitigate CIP and EOP potential violations.
- May 7 & 8, 2018 - G&T Operations Committee Meeting - RDC Agenda Item
  - Reviewed the RDC project mitigation plan, deviations from the initial project plan, future milestones, and policy/procedure revisions needed to implement corrective actions to mitigate CIP and EOP potential violations.
- May 21, 2018 - KAMO hosted EMS project team site visit
  - AECI hosted EMS project team conducted a site visit at KAMO to discuss potential project scope, work plan, database requirements, operator experience, and data communication requirements. Current KAMO EMS system architecture, data communication requirements, database requirements, and operator interface was reviewed. AECI hosted EMS solution architecture, data communication, database, maintenance, and user interface requirements were also reviewed.
- May 22-23, 2018 AECI Committee/Board Meetings - RDC discussion
  - Reviewed the RDC project mitigation plan, project plan, future milestones, and policy/procedure revisions needed to implement corrective actions to mitigate CIP and EOP potential violations.
- June 6, 2018 - AECI/Wabash Electric Cooperative conference call
  - Wabash Electric Cooperative recently completed a similar hosted EMS project for members. During this conference call the project value, cost, management, staffing, and technical requirements were discussed. In addition multiple lessons learned were provided by Wabash.
- June 13, 2018 - SMP hosted EMS project team site visit #2
  - AECI hosted EMS project team conducted an additional site visit at SMP to discuss in detail potential project scope, work plan, database requirements, operator experience, and data communication requirements. The primary of this meeting was to discuss and assign tasks related to system sizing (facilities, points, display and application inventories), infrastructure, network performance, alarm philosophy, network architecture and RTU connectivity, scope of hosted control (full hosted vs partial hosting), and service models.
- June 15, 2018 AECI Compliance Steering Committee Meeting - RDC Agenda Item
  - Reviewed the RDC project mitigation plan, deviations from the initial project plan, future milestones, and policy/procedure revisions needed to implement corrective actions to mitigate CIP and EOP potential violations.
- June 18, 2018 - NW hosted EMS project team site visit #2
  - AECI hosted EMS project team conducted an additional site visit at NW to discuss in detail potential project scope, work plan, database requirements, operator experience, and data communication requirements. The primary of this meeting was to discuss and assign tasks related to system sizing (facilities, points, display and application inventories), infrastructure, network performance, alarm philosophy, network architecture and RTU connectivity, scope of hosted control (full hosted vs partial hosting), and service models.
- July 10, 2018 - G&T Operations Committee Call - Scheduled Agenda Item
  - RDC mitigation plan revisions to incorporate the SERC enforcement timeline were an item of discussion. It was communicated that more specific details for implementation could be provided when a decision on mitigation of G&T BES asset functional control had been made.
- July 17, 2018 - KAMO Managers Meeting
  - AECI presented to KAMO distribution cooperative managers on the history of CIP, existing potential violations, and items contained in the RDC Mitigation Plan. AECI's assessment of the KAMO RDC and investment required for compliance options were discussed in addition.
- July 31, 2018 - G&T Compliance Subcommittee Meeting - Scheduled agenda item
  - AECI discussed additional development of the mitigation plan from a financial, operational, and EMS project team perspective. Conveyed to the subcommittee that a detailed project plan will be reviewed at the next quarterly G&T compliance subcommittee meeting for review. This plan would then be presented to the GTOC and AECI board in December for approval.
- August 7-8, 2018 G&T Operations Committee Meeting

- During a scheduled agenda item AECI discussed project near term obligations. This included providing a high level EMS project plan in September, a detailed EMS project plan in October, initial draft G&T financial reimbursement model by September, appropriate G&T committee review, and project package approval by the AECI Board in December.
- September 10, 2018 – AECI cross-departmental team issued draft cost reimbursement structure to G&T CFOs, GTOC members, and IS Forum members. Feedback and comment was requested by AECI which will be incorporated in a revised cost reimbursement structure to be reissued to stakeholders by October 1, 2018.
- September 19, 2018 – AECI Solutions Engineering department compiled and provided a G&T RDC project cost benefit analysis. This analysis details project scope, known risks, project cost and resource impacts, and next actions.
- October 9, 2018 – G&T CFO meeting
  - Reviewed draft RDC Options Summary & RDC Options Summary Feedback documents and solicited additional feedback from the group. Specific focus was given to address how choice of option could impact future potential penalties, labor reimbursement, and load dispatch reimbursement.
- October 9, 2018 – GTOC conference call
  - Reviewed draft RDC Options Summary & RDC Options Summary Feedback documents and solicited additional feedback from the group. Discussed steps required by the mitigation plan prior to the end of 2018.
- October 23–24, 2018 AECI Committee/Board Meetings
  - AECI RDC options & project plan was reviewed with the AECI Board Technical Advisory Committee. The AECI issued a resolution to file a mitigation plan with SERC as presented after review with the GTOC.
- October 24, 2018 - G&T Compliance Subcommittee Meeting
  - AECI RDC options & project plan was reviewed with the committee and feedback was solicited.
- November 5, 2018 G&T Operations Committee Meeting
  - During a scheduled agenda item AECI discussed the AECI Board Resolution with regards to member G&T RDCs. This included a review of the draft mitigation plan and milestones that will be filed with SERC.
- November 7, 2018 G&T IS Forum
  - During a scheduled agenda item AECI discussed the AECI Board Resolution with regards to member G&T RDCs. This included a review of the draft mitigation plan and milestones that will be filed with SERC.

#### 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 successful completion of this Mitigation Plan will prevent or minimize the probability that AECI and its member G&T cooperatives will incur further violations of the same or similar reliability standards requirements in the future by implementing EOP-008 requirements for AECI member G&T RDC facilities that previously had not implemented these requirements. The impacted RDCs will now have documented loss of control center functionality plans that require testing and training. This project plan requires identification of internal controls which will be implemented and automated in the AECI compliance management software tool.

#### 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 Todd Bennett of Associated Electric Cooperative, Inc.
  - I am qualified to sign this Mitigation Plan on behalf of Associated Electric Cooperative, Inc.
  - I understand Associated Electric Cooperative, Inc.'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
  - Associated Electric Cooperative, Inc. 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 C.1  
AECI's Compliance Audit for EOP-008-1 R4  
dated October 31, 2016





## Post On-site Audit/Off-site Audit/Spot Check/Investigation Screening Worksheet

---

Prepared By: Steve Hebert

Submittal Date: 11/1/2016

Compliance Monitoring Method (On-site Audit, Off-site Audit, Spot-Check, or Investigation):  
On-Site Audit

---

Registered Entity: Associated Electric Cooperatives Incorporated

NERC Registry ID: NCR01177

Registered Entity Contact Information:

Name: Todd Bennett

Email: tbennett@aeci.org

Standard: EOP-008-1

Requirement: 4

Sub Requirement(s):

Function(s) Applicable to Possible Violation:

<input checked="" type="checkbox"/> BA	<input checked="" type="checkbox"/> TOP	<input type="checkbox"/> TO	<input type="checkbox"/> GO	<input type="checkbox"/> GOP
<input type="checkbox"/> DP	<input type="checkbox"/> TSP	<input type="checkbox"/> PA	<input type="checkbox"/> RP	<input type="checkbox"/> TP
<input type="checkbox"/> RSG	<input type="checkbox"/> RC			

Date violation occurred: 10/31/2016

Date violation discovered (Exit Presentation Date): 10/31/2016

Is the violation still occurring? ☒ Yes ☐ No

Are mitigating activities (including details to prevent reoccurrence) in progress or completed? ☐ Yes ☒ No

If yes, Provide description of Mitigating Activities:

Date Mitigating Activities are expected to be completed or were completed:

**Detailed explanation and cause of violation:** While on-site, the audit team discovered that the AECI Loss of Control Center procedure does not address the loss of it's 6 Regional Dispatch Centers (RDC). The RDCs have exclusive operational control of BES elements on the sub 200KV AECI system. The existing procedure does not account for operational control of the sub 200 KV elements. AECI has 6 RDCs of these 6, 3 have limited backup functionality. All member G&T dispatch facilities have redundant SCADA servers, but not all have backup dispatch facilities. The following member G&T's have backup dispatch facilities:

- Sho-Me
- N.W.
- Northeast

**The remaining G&T backup capabilities are listed below:**

- M&A has backup functionality through a backup SCADA server at Gobbler Knob however there is not a separate a backup dispatch facility.
- Central has the ability to use their backup SCADA server at their backup data center. They are currently working on planning and building a backup dispatch facility.
- KAMO has the ability to use their backup SCADA servers.

**Potential Impact to the Bulk Power System (Minimal, Moderate, or Severe):** Moderate

**Actual Impact to the Bulk Power System (Minimal, Moderate, or Severe):** Minimal

**Detailed description of Potential Risk to Bulk Power System:** Loss of EMS/SCADA control of the sub 200 KV elements controlled by the RDC would result in an inability to control sub 200 KV elements and possibly an unknown operating condition for a portion of the AECI footprint.

**Detailed description of Actual Risk to Bulk Power System:** Loss of EMS/SCADA control of the sub 200 KV elements controlled by the RDC would result in an inability to control sub 200 KV elements and possibly an unknown operating condition for a portion of the AECI footprint. The audit team performed a physical tour of one RDC to confirm that the sub 200 KV elements can only be controlled at the RDC level.

**Additional Comments:**

---

Please complete the form as completely as possible and email to [serccomply@serc1.org](mailto:serccomply@serc1.org).



Attachment C.2  
AECI's Mitigation Plan designated as SERCMIT014783 for  
EOP-008-1 R4 submitted September 10, 2019

## VIEW FORMAL MITIGATION PLAN: EOP-008-1 (REGION REVIEWING MITIGATION PLAN)

This item was signed by Todd Bennett (tbennett@aeci.org) on 9/10/2019



This item was marked ready for signature by Todd Bennett (tbennett@aeci.org) on 9/10/2019



## MITIGATION PLAN REVISIONS

Requirement	NERC Violation IDs	Regional Violation Ids	Date Submitted	Status	Type	Revision Number
EOP-008-1 R1., EOP-008-1 R4., EOP-008-1 R7.	SERC2016016486, SERC2016016487, SERC2016016488	SERC2016-402523, SERC2016-402524, SERC2016-402525	11/08/2018	Revision Requested	Formal	
EOP-008-1 R1., EOP-008-1 R4., EOP-008-1 R7.	SERC2016016486, SERC2016016487, SERC2016016488	SERC2016-402523, SERC2016-402524, SERC2016-402525	01/31/2019	Revision Requested	Formal	1
EOP-008-1 R1., EOP-008-1 R4.	SERC2016016486, SERC2016016487	SERC2016-402524, SERC2016-402525	09/10/2019	Region reviewing Mitigation Plan	Formal	2

## SECTION A: COMPLIANCE NOTICES &amp; 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:	Associated Electric Cooperative, Inc.
Company Address:	P.O. Box 754
	Springfield, Missouri 65801-0754
Compliance Registry ID:	NCR01177

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

Name: Todd Bennett

## 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: EOP-008-1

Requirement	Regional ID	NERC Violation ID	Date Issue Reported
R4.	SERC2016-402524	SERC2016016487	10/31/2016
R1.	SERC2016-402525	SERC2016016486	10/31/2016

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

The AECl Loss of Control Center Functionality Plan did not adequately address the AECl member G&T cooperative Regional Dispatch Centers (RDC)s ability to perform the functional obligations of the Transmission Operator (TOP), specifically monitoring and functional control of Bulk Electric System (BES) assets.

[Attachments \(\)](#)

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

None to provide at this time

## 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:

Many potential solutions were initially identified which have been evaluated and a path forward for each G&T cooperative has been determined:

- AECI revised the "AECI Loss of Control Center Functionality Plan" to address the AECI member G&T cooperative RDCs ability to perform the functional obligations of the TOP, specifically monitoring and functional control of BES assets. Impacted AECI staff was subsequently trained on the revised plan.
- The Central Electric Power Cooperative (Central) RDC has developed a loss of RDC plan and implemented all EOP-008 requirements at a backup RDC location operated by Central via a EMS system maintained by Central. Central has tested the loss of RDC plan and conducted training of applicable staff.
- The KAMO Power (KAMO) RDC has developed a loss of RDC plan and will implement all EOP-008 requirements at a backup RDC location operated by KAMO and maintained by an AECI EMS. KAMO will test the loss of RDC plan and conduct training of applicable staff.
- AECI has installed workstations at the primary RDC locations of KAMO and Sho-Me Power (SMP) to allow access to an AECI hosted EMS. These workstations allow KAMO and SMP to perform the functional obligations of the TOP, specifically monitoring and functional control of BES assets.
- The M&A Electric Power Cooperative (M&A) RDC has developed a loss of RDC plan and will implement all EOP-008 requirements at a backup RDC location operated by AECI and maintained by an AECI EMS. M&A will test the loss of RDC plan and conduct training of applicable staff.
- The Northeast Power (Northeast) RDC has developed a loss of RDC plan and will implement all EOP-008 requirements at a backup RDC location operated by Northeast and maintained by an AECI EMS. Northeast will test the loss of RDC plan and conduct training of applicable staff.
- The NW Electric Power Cooperative (NW) RDC has developed a loss of RDC plan and will implement all EOP-008 requirements at a backup RDC location operated by AECI and maintained by an AECI EMS. NW will test the loss of RDC plan and conduct training of applicable staff.
- The SMP RDC has developed a loss of RDC plan and will implement all EOP-008 requirements at a backup RDC location operated by SMP and maintained by an AECI EMS. SMP will test the loss of RDC plan and conduct training of applicable staff.

### [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:

12/31/2020

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

#### [AECI Hosted EMS Functional Control for 50% of KAMO & SMP Substations](#)

Milestone Pending (Due: 10/8/2019)

KAMO & SMP will transfer functional control of BES assets for 50% of cumulative substations to the AECI hosted EMS.

#### [EOP-008 Compliant SMP Backup RDC Plan](#)

Milestone Pending (Due: 1/8/2020)

SMP will protect the SMP RDC by implementing an AECI hosted EMS and implementing a SMP Loss of RDC Plan. The milestone requires testing, training, and full implementation of this plan.

#### [EOP-008 Compliant M&A Backup RDC Plan](#)

Milestone Pending (Due: 2/17/2020)

M&A will protect the M&A RDC by implementing an AECI hosted EMS and implementing a M&A Loss of RDC Plan. The milestone requires testing, training, and full implementation of this plan.

#### [EOP-008 Compliant KAMO Backup RDC Plan](#)

Milestone Pending (Due: 5/15/2020)

KAMO will protect the KAMO RDC by implementing an AECI hosted EMS and implementing a KAMO Loss of RDC Plan. The milestone requires testing, training, and full implementation of this plan.

#### [EOP-008 Compliant Northeast Backup RDC Plan](#)

Milestone Pending (Due: 7/1/2020)

Northeast will protect the Northeast RDC by implementing an AECI hosted EMS and implementing a Northeast Loss of RDC Plan. The milestone requires testing, training, and full implementation of this plan.

#### [NW all BES Device Functional Control Managed by AECI Hosted EMS](#)

Milestone Pending (Due: 10/1/2020)

NW will transfer functional control to all BES assets to the AECI hosted EMS.

#### [EOP-008 Compliant NW Backup RDC Plan](#)

Milestone Pending (Due: 12/31/2020)

NW will protect the NW RDC by implementing an AECI hosted EMS and implementing a NW Loss of RDC Plan. The milestone requires testing, training, and full implementation of this plan.

## 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): an attachment).

AECI and its member G&T cooperatives have not been idle in addressing the findings of the audit. Training sessions, presentations, interviews, G&T site visits, analysis, and assessments have been completed during this project so AECI could fully understand the issues at hand and develop a path forward to resolve these potential violations where functional control of BES devices is the root cause. Many potential solutions were initially identified which have been evaluated and reduced to the following options:

- G&T EMS system comply with EOP-008 backup control center requirements.
- G&T transfer functional control of BES assets to AECI EMS and Control Center.
- G&T implement AECI hosted EMS solution

The following timeline and description of events that AECI and the member G&T cooperatives have undertaken is offered to illustrate the complexity inherent in arriving at a cost-effective and reliable solution to the cited potential violations that will work for the AECI system and that respects AECI's governance structure. The net result of these actions was the development of this mitigation plan which is approximately 35% complete.

- August 1, 2017 - An independent consultant conducted a review of the AECI NERC Compliance Program. This review resulted in a report that contained feedback from stakeholders, observations, and recommendations.
- August 23, 2017 - AECI Reliability Compliance department restructured to promote streamlined communication, more defined roles and responsibilities, and efficient use of available resources.
- September 15, 2017 - AECI/G&T Joint GTOC CIP operations presentation and discussion
  - 4 hour educational session at AECI to help each member G&T cooperative better understand the requirements associated with cyber security programs but more specifically the requirements around developing and maintaining a CIP medium impact RDC. This session was attended by personnel including AECI staff, member G&T management, and G&T technical personnel. CIP audit findings, areas of concern, and corrective actions to date were discussed during this session as well.
- November 11, 2017 - AECI/G&T joint GTOC functional control presentation and discussion
  - 4 hour educational session at AECI to help each member G&T cooperative better understand the operating environment of a TOP Control Center and compliance with TOP applicable NERC standards. This session was attended by personnel including AECI staff, member G&T management, and G&T technical personnel. 2016 SERC O&P audit findings, areas of concern, and corrective actions to date were discussed during this session as well. Potential changes to the AECI jurisdictional control model and the G&T RDC project plan were discussed.
- January 15, 2018 - AECI hosted EMS project team established
  - AECI and member G&T joint project team was established to explore the concept of AECI offering a hosted EMS solution to G&T members. This project team will focus on identifying infrastructure, service level agreements, value, cost sharing, and financial reimbursement needed to implement a hosted EMS solution at a G&T RDC.
- January 16 - February 1, 2018 - Functional control assessment site visit conducted for each member G&T cooperative
  - AECI staff evaluated each RDC and backup functionality, compliance with NERC TOP applicable Standards, and compliance with NERC CIP Standards. Current policies, procedures, processes and practices were evaluated to assess the existing level of readiness to comply with current and future CIP & TOP NERC Standards. The information gathered was compiled to generate an assessment of the RDCs compliance with NERC CIP and TOP standards, functions and services provided, and provide cost estimates to comply with requirements contained current NERC Reliability Standards.
- February 9, 2018 - SMP hosted EMS project team site visit
  - AECI hosted EMS project team conducted a site visit at SMP to discuss potential project scope, work plan, database requirements, operator experience, and data communication requirements. Current SMP EMS system architecture, data communication requirements, database requirements, and operator interface was reviewed. AECI hosted EMS solution architecture, data communication, database, maintenance, and user interface requirements were also reviewed.
- February 21, 2018 - AECI/OSI project introduction conference call
  - AECI conducted a conference call with AECI EMS vendor OSI. At this time project scope and potential impacts to current projects were discussed. One specific impact that was discussed was a scheduled NW EMS system upgrade, if an AECI hosted EMS system is implemented this project would be abandoned.
- May 1, 2018 - G&T Compliance Subcommittee Meeting - RDC Agenda Item
  - Reviewed the RDC project mitigation plan, deviations from the initial project plan, future milestones, and policy/procedure revisions needed to implement corrective actions to mitigate CIP and EOP potential violations.
- May 2, 2018 - G&T Relay Subcommittee Meeting - RDC Agenda Item
  - Reviewed the RDC project mitigation plan, deviations from the initial project plan, future milestones, and policy/procedure revisions needed to implement corrective actions to mitigate CIP and EOP potential violations.
- May 2, 2018 - G&T Information Systems Forum - RDC Agenda Item
  - Reviewed the RDC project mitigation plan, deviations from the initial project plan, future milestones, and policy/procedure revisions needed to implement corrective actions to mitigate CIP and EOP potential violations.
- May 7 & 8, 2018 - G&T Operations Committee Meeting - RDC Agenda Item
  - Reviewed the RDC project mitigation plan, deviations from the initial project plan, future milestones, and policy/procedure revisions needed to implement corrective actions to mitigate CIP and EOP potential violations.
- May 21, 2018 - KAMO hosted EMS project team site visit
  - AECI hosted EMS project team conducted a site visit at KAMO to discuss potential project scope, work plan, database requirements, operator experience, and data communication requirements. Current KAMO EMS system architecture, data communication requirements, database requirements, and operator interface was reviewed. AECI hosted EMS solution architecture, data communication, database, maintenance, and user interface requirements were also reviewed.
- May 22-23, 2018 AECI Committee/Board Meetings - RDC discussion
  - Reviewed the RDC project mitigation plan, project plan, future milestones, and policy/procedure revisions needed to implement corrective actions to mitigate CIP and EOP potential violations.
- June 6, 2018 - AECI/Wabash Electric Cooperative conference call
  - Wabash Electric Cooperative recently completed a similar hosted EMS project for members. During this conference call the project value, cost, management, staffing, and technical requirements were discussed. In addition multiple lessons learned were provided by Wabash.
- June 13, 2018 - SMP hosted EMS project team site visit #2
  - AECI hosted EMS project team conducted an additional site visit at SMP to discuss in detail potential project scope, work plan, database requirements, operator experience, and data communication requirements. The primary of this meeting was to discuss and assign tasks related to system sizing (facilities, points, display and application inventories), infrastructure, network performance, alarm philosophy, network architecture and RTU connectivity, scope of hosted control (full hosted vs partial hosting), and service models.
- June 15, 2018 AECI Compliance Steering Committee Meeting - RDC Agenda Item
  - Reviewed the RDC project mitigation plan, deviations from the initial project plan, future milestones, and policy/procedure revisions needed to implement corrective actions to mitigate CIP and EOP potential violations.
- June 18, 2018 - NW hosted EMS project team site visit #2
  - AECI hosted EMS project team conducted an additional site visit at NW to discuss in detail potential project scope, work plan, database requirements, operator experience, and data communication requirements. The primary of this meeting was to discuss and assign tasks related to system sizing (facilities, points, display and application inventories), infrastructure, network performance, alarm philosophy, network architecture and RTU connectivity, scope of hosted control (full hosted vs partial hosting), and service models.
- July 10, 2018 - G&T Operations Committee Call - Scheduled Agenda Item
  - RDC mitigation plan revisions to incorporate the SERC enforcement timeline were an item of discussion. It was communicated that more specific details for implementation could be provided when a decision on mitigation of G&T BES asset functional control had been made.
- July 17, 2018 - KAMO Managers Meeting
  - AECI presented to KAMO distribution cooperative managers on the history of CIP, existing potential violations, and items contained in the RDC Mitigation Plan. AECI's assessment of the KAMO RDC and investment required for compliance options were discussed in addition.
- July 31, 2018 - G&T Compliance Subcommittee Meeting - Scheduled agenda item
  - AECI discussed additional development of the mitigation plan from a financial, operational, and EMS project team perspective. Conveyed to the subcommittee that a detailed project plan will be reviewed at the next quarterly G&T compliance subcommittee meeting for review. This plan would then be presented to the GTOC and AECI board in December for approval.
- August 7-8, 2018 G&T Operations Committee Meeting

- During a scheduled agenda item AECI discussed project near term obligations. This included providing a high level EMS project plan in September, a detailed EMS project plan in October, initial draft G&T financial reimbursement model by September, appropriate G&T committee review, and project package approval by the AECI Board in December.
- September 10, 2018 – AECI cross-departmental team issued draft cost reimbursement structure to G&T CFOs, GTOC members, and IS Forum members. Feedback and comment was requested by AECI which will be incorporated in a revised cost reimbursement structure to be reissued to stakeholders by October 1, 2018.
- September 19, 2018 – AECI Solutions Engineering department compiled and provided a G&T RDC project cost benefit analysis. This analysis details project scope, known risks, project cost and resource impacts, and next actions.
- October 9, 2018 – G&T CFO meeting
  - Reviewed draft RDC Options Summary & RDC Options Summary Feedback documents and solicited additional feedback from the group. Specific focus was given to address how choice of option could impact future potential penalties, labor reimbursement, and load dispatch reimbursement.
- October 9, 2018 – GTOC conference call
  - Reviewed draft RDC Options Summary & RDC Options Summary Feedback documents and solicited additional feedback from the group. Discussed steps required by the mitigation plan prior to the end of 2018.
- October 23–24, 2018 AECI Committee/Board Meetings
  - AECI RDC options & project plan was reviewed with the AECI Board Technical Advisory Committee. The AECI issued a resolution to file a mitigation plan with SERC as presented after review with the GTOC.
- October 24, 2018 - G&T Compliance Subcommittee Meeting
  - AECI RDC options & project plan was reviewed with the committee and feedback was solicited.
- November 5, 2018 G&T Operations Committee Meeting
  - During a scheduled agenda item AECI discussed the AECI Board Resolution with regards to member G&T RDCs. This included a review of the draft mitigation plan and milestones that will be filed with SERC.
- November 7, 2018 G&T IS Forum
  - During a scheduled agenda item AECI discussed the AECI Board Resolution with regards to member G&T RDCs. This included a review of the draft mitigation plan and milestones that will be filed with SERC.

#### 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 successful completion of this Mitigation Plan will prevent or minimize the probability that AECI and its member G&T cooperatives will incur further violations of the same or similar reliability standards requirements in the future by implementing EOP-008 requirements for AECI member G&T RDC facilities that previously had not implemented these requirements. The impacted RDCs will now have documented loss of control center functionality plans that require testing and training. This project plan requires identification of internal controls which will be implemented and automated in the AECI compliance management software tool.

#### 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 Todd Bennett of Associated Electric Cooperative, Inc.
  - I am qualified to sign this Mitigation Plan on behalf of Associated Electric Cooperative, Inc.
  - I understand Associated Electric Cooperative, Inc.'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
  - Associated Electric Cooperative, Inc. 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 D.1

AECl's Compliance Audit for FAC-009-1 R1 dated October 31, 2016



## Post On-site Audit/Off-site Audit/Spot Check/Investigation Screening Worksheet

---

Prepared By: Steve Hebert

Submittal Date: 11/1/2016

Compliance Monitoring Method (On-site Audit, Off-site Audit, Spot-Check, or Investigation):  
On-Site Audit

---

Registered Entity: Associated Electric Cooperatives Incorporated

NERC Registry ID: NCR01177

Registered Entity Contact Information:

Name: Todd Bennett

Email: tbennett@aeci.org

Standard: FAC-008-3

Requirement: 6

Sub Requirement(s):

Function(s) Applicable to Possible Violation:

<input type="checkbox"/> BA	<input type="checkbox"/> TOP	<input checked="" type="checkbox"/> TO	<input checked="" type="checkbox"/> GO	<input type="checkbox"/> GOP
<input type="checkbox"/> DP	<input type="checkbox"/> TSP	<input type="checkbox"/> PA	<input type="checkbox"/> RP	<input type="checkbox"/> TP
<input type="checkbox"/> RSG	<input type="checkbox"/> RC			

Date violation occurred: 10/31/2016

Date violation discovered (Exit Presentation Date): 10/31/2016

Is the violation still occurring? ☐ Yes ☒ No

Are mitigating activities (including details to prevent reoccurrence) in progress or completed? ☐ Yes ☒ No

If yes, Provide description of Mitigating Activities:

Date Mitigating Activities are expected to be completed or were completed:



**Detailed explanation and cause of violation:** While on-site, the audit team discovered that the facility ratings in the EMS for Huben- Coffman line were found to be wrong and did not follow the method in the AECI Facility Ratings Methodology. It was revealed during the review of the difference, that the termination point of the facility had been changed and the change was not conveyed to EMS indicating a weakness in internal controls. In other instances, it was found that PRC-023 Relay Loadability criteria based limits had been applied to the sampled elements to all BES relays (not just 200KV and above as called for in the standard) in the model, but the limits were not conveyed to EMS. This again points to a weakness in internal controls for ratings.

**Potential Impact to the Bulk Power System (Minimal, Moderate, or Severe):** Moderate

**Actual Impact to the Bulk Power System (Minimal, Moderate, or Severe):** Minimal

**Detailed description of Potential Risk to Bulk Power System:** AECI operators responsible for the reliable operation of the transmission could be operating to an incorrect SOL

**Detailed description of Actual Risk to Bulk Power System:** AECI operators responsible for the reliable operation of the transmission could be operating to an incorrect SOL placing undue risk on the BES.

**Additional Comments:**

---

Please complete the form as completely as possible and email to [serccomply@serc1.org](mailto:serccomply@serc1.org).

Attachment D.2  
AECI's Mitigating Activities submitted August 22, 2019



## VIEW INFORMAL MITIGATION PLAN: FAC-008-3 (REGION REVIEWING MITIGATION PLAN)

This item was signed by Todd Bennett (tbennett@aeci.org) on 8/22/2019

## MITIGATION PLAN REVISIONS

Requirement	NERC Violation IDs	Regional Violation Ids	Date Submitted	Status	Type	Revision Number
FAC-008-3 R6.	SERC2016016489	SERC2016-402522	06/01/2018	Revision Requested	Formal	
FAC-008-3 R6.	SERC2016016489	SERC2016-402522	06/28/2018	Replaced with Revision	Formal	1
FAC-008-3 R6.	SERC2016016489	SERC2016-402522	07/18/2018	Replaced with Revision	Formal	2
FAC-008-3 R6.	SERC2016016489	SERC2016-402522	08/22/2019	Region reviewing Mitigation Plan	Informal	3

## SECTION B: REGISTERED ENTITY INFORMATION

## B.1 Identify your organization

Company Name: Associated Electric Cooperative, Inc.

Company Address: P.O. Box 754

Springfield, Missouri 65801-0754

Compliance Registry ID: NCR01177

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

Name: Todd Bennett

## 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-008-3

Requirement	Regional ID	NERC Violation ID	Date Issue Reported
R6.	SERC2016-402522	SERC2016016489	10/31/2016

## 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:

To mitigate this item of noncompliance, AECI:

- 1) Established all Transmission Facility and Generation Facility Ratings in accordance with the AECI Facility Ratings methodology (FRM);
- 2) Created and implemented AECI - Ratings Application Procedure (RAP) to document the process to ensure AECI maintains accurate ratings per its FRM and trained the appropriate personnel on the AECI - RAP;
- 3) Created and implemented AECI - Asset Database Procedure (ADP) to document consistent database management processes. Training was issued to SMEs when the procedure was approved by management.
- 4) Deployed new asset management software and conducted training for appropriate personnel;
- 5) Entered accurate Ratings data in asset management software and the transmission planning database;
- 6) Automated model synchronization for near term and long term planning and conducted training for appropriate personnel;
- 7) Implemented and trained appropriate personnel on completing 13 additional internal controls which include corrective, detective, and preventative controls to manage the new process:
  - a. Training and annual review of AECI FAC-008 FRM, RAP, and ADP by each G&T – preventative control
  - b. Training and annual review of AECI FAC-008 FRM, RAP, and ADP by applicable AECI generation staff – preventative control
  - c. Quarterly validation of asset management software accuracy by each G&T – detective control
  - d. Quarterly verification that reliability related data requests have been fulfilled by each G&T – preventative control
  - e. Quarterly verification that reliability related data requests have been fulfilled by all applicable AECI generation staff – preventative control
  - f. Quarterly verification that AECI reliability related data request email account inbox is being leveraged to manage data requests – preventative control
  - g. Quarterly verification that changes to the transmission planning database are accurately logged – detective control
  - h. Quarterly verification by management that reliability related data requests from other entities are processed within 30 days by individual contributors– preventative control
  - i. Quarterly verification by management that the transmission planning database change management process is being implemented by individual contributors as designed – preventative control
  - j. Quarterly verification that facilities that require a temporary ratings change have been entered in the Reliability Coordinator tool properly – corrective control
  - k. Quarterly audit of 25% of transmission planning database facilities to ensure consistency in near term and long term planning models – detective control
  - l. Quarterly audit of transmission planning database facilities to verify the FRM and RAP are implemented correctly – detective control
  - m. Monthly verification that automated model synchronization process is working as designed – detective control

[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:

6/1/2019

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

No Milestones Defined

#### SECTION G: REGIONAL ENTITY CONTACT

SERC Single Point of Contact (SPOC)

Attachment D.3  
AECI's Certification of Mitigating Activities Completion  
for FAC-009-1 R1

This item was signed by Mark Riley (mriley@aeci.org) on 7/9/2020



#### 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:

Associated Electric Cooperative, Inc.

Name of Standard of mitigation violation(s):

FAC-009-1

Requirement	Tracking Number	NERC Violation ID
R1.	SERC2016-402522	SERC2016016489

Date of completion of the Mitigation Plan:

5/31/2019

No Milestones Defined

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

AECI completed all actions in Part D of the mitigation plan. Please reference the Verification of Mitigation Plan Completion form attached to the mitigation plan for a list of actions.

Description of the information provided to SERC for their evaluation \*

Please reference the Verification of Mitigation Plan Completion form attached to the mitigation plan for a list of documentation provided to SERC for evaluation.

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



Attachment E.1  
AECI's Self-Report for TOP-004-2 R6 dated March 23, 2017

This item was submitted by Todd Bennett (tbennett@aeci.org) on 3/23/2017

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: Associated Electric Cooperative, Inc.

NERC Registry ID: NCR01177

JRO ID: JRO00088

CFR ID:

Entity Contact Information: Todd Bennett

## REPORTING INFORMATION

Applicable Standard: TOP-004-2

Applicable Requirement: R6.

Applicable Sub Requirement(s): R6.2.

Applicable Functions: TOP

Has a Possible violation of this standard and requirement previously been reported or discovered: Yes

If yes, provide NERC Violation ID (if known):

SERC2015015266

Date Reported to Region or Discovered by Region:

10/1/2015

Monitoring Method for previously reported or discovered:

Exception Report

Has the scope of the Possible Violation expanded:

No

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

Date Possible Violation was discovered: 1/9/2017

Beginning Date of Possible Violation: 1/9/2017

End or Expected End Date of Possible Violation: 1/9/2017


Is the violation still occurring? No

Provide detailed description and cause of Possible Violation:

On 1/9/2017, AECI determined that as a TOP AECI had an issue with Jamesville 161kV CB 5020 and TOP-004-6 R6.2 which states: Transmission Operators, individually and jointly with other Transmission Operators, shall develop, maintain, and implement formal policies and procedures to provide for transmission reliability. These policies and procedures shall address the execution and coordination of activities that impact inter- and intra-Regional reliability, including: R6.2. Switching transmission elements. KAMO Power retains functional control of Jamesville 161kV CB 5020 while AECI retains jurisdictional control of Jamesville 161kV CB 5020. To address TOP-004-2 R6.2 AECI jointly developed the AECI Switching Order Procedure with KAMO which states: "Except in the case of an Emergency, in the event of an Inadvertent Operation, the AECI System Operator shall be contacted immediately by the party responsible for the operation. If the AECI System Operator determines the best action is return the device to service and/or equipment that was inadvertently operated to a previous configuration, then the AECI System Operator may provide the approval for those actions using verbal 3-part communication."

AECI is registered as a TOP on behalf of KAMO Electric Power Cooperative (KAMO) per JRO00088. On 1/9/2017 at 9:03 am a KAMO relay technician began relay testing at Jamesville 161kV substation on the 21P-S relay and notified the Southwest Power Administration (SPA) and AECI the mirrored bit channel would be out of service. At 11:34 a KAMO relay technician inadvertently tripped Jamesville 161kV CB 5020 open. At 11:35 am the KAMO relay technician made a phone call to the KAMO regional dispatch operator from the Jamesville 161kV substation and asked if SCADA indicated that CB 5020 was open. The KAMO regional dispatch operator observed Jamesville 161kV CB 5020 as open, at this time the KAMO relay technician requested the KAMO regional dispatch operator to close Jamesville 161kV CB 5020 by SCADA. At 11:36 am the KAMO regional dispatch operator closed Jamesville 161kV CB 5020 via SCADA. At 11:37 the KAMO regional dispatch operator made a phone call to the AECI System Operator and notified them Jamesville 161kV CB 5020 being returned to service. The 161kV portion of the Jamesville substation is a ring bus. The operation of CB 5020 did not change any flows of any BES line or transformer.

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:

AECI is registered as a TOP on behalf of six electric generation and transmission (G&T) cooperatives per JRO00088. All six G&T cooperatives currently train regional dispatch operators two times a year on the AECI Jurisdictional Control Agreement and two times a year on the AECI Switching Order Procedure. KAMO issued additional training detailing the AECI Jurisdictional Control Agreement and the AECI Switching Order Procedure to all KAMO regional dispatch operators in addition to the training that is already being conducted. In addition, all AECI member G&T cooperative relay technicians will receive training on the AECI Jurisdictional Control Agreement and the AECI Switching Order Procedure by 7/1/2017.

Provide details to prevent recurrence:

KAMO issued additional training detailing the AECI Jurisdictional Control Agreement and the AECI Switching Order Procedure to all KAMO regional dispatch operators in addition to the training that is already being conducted. In addition, all AECI member G&T relay technicians will receive training on the AECI Jurisdictional Control Agreement and the AECI Switching Order Procedure by 7/1/2017.

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

7/1/2017

#### MITIGATING ACTIVITIES

Title	Due Date	Description	Prevents Recurrence
KAMO operator training	4/1/2017	KAMO issued additional training detailing the AECI Jurisdictional Control Agreement and the AECI Switching Order Procedure to all KAMO regional dispatch operators in addition to the training that is already being conducted.	Yes
Relay technician training	7/1/2017	All AECI member G and T cooperative relay technicians will receive training on the AECI Jurisdictional Control Agreement and the AECI Switching Order Procedure.	Yes

Potential Impact to the Bulk Power System: Minimal

Actual Impact to the Bulk Power System: Minimal

Provide detailed description of Potential Risk to Bulk Power System:

The potential risk to the BPS was minimal for the following reasons:

- The Jamesville 161 kV bus is in a ring bus configuration. A ring bus provides a higher degree of reliability such that a fault or failure of a single component isolates only that single component. The operation of CB 5020 did not change flows on any lines or transformers on the transmission system. When CB 5020 was closed, the higher degree of reliability of the BES was restored since the ring bus configuration was returned to its normal operating mode.
- TVA RC performs bus/branch modeling used in studies, the operation of Jamesville 161 kV CB 5020 would not have been observed to have any BES system impacts with the device open or closed.
- The AECI TOP System Operator was not allowed the opportunity to evaluate the BES system impacts prior to the Jamesville 161 kV CB 5020 being returned to service. Due to the nature of bus/branch modeling used in studies, this operation would not have been observed to have any BES system impacts with the device open or closed.
- AECI monitors BES conditions and operates to N-1 conditions such that a single planned or unplanned operation would not cause a facility to overload. Due to the nature of bus/branch modeling used in studies, this operation would not have been observed to have any BES system impacts with the device open or closed.

Provide detailed description of Actual Risk to Bulk Power System:

The actual risk to the BPS was minimal for the following reasons:

- AECI monitors BES conditions and operates to N-1 conditions such that a single planned or unplanned operation would not cause a facility to overload.
- The operation of CB 5020 did not change flows on any lines or transformers on the transmission system.
- The Jamesville 161 kV bus is in a ring bus configuration, when CB 5020 was closed the reliability of the BES was increased since the ring bus configuration was restored.
- Load was not shed from the BES as a result of this operation.
- KAMO notified the AECI System Operator shortly after the Jamesville 161 kV CB 5020 was returned to service.

Additional Comments:

Jamesville 161kV Online.docx has been attached to provide a schematic which details the BES network configuration.

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 E.2  
AECI's Mitigating Activities submitted September 13, 2019



## VIEW INFORMAL MITIGATION PLAN: TOP-004-2 (REGION REVIEWING MITIGATION PLAN)

 This item was signed by Todd Bennett (tbennett@aeci.org) on 9/13/2019

## MITIGATION PLAN REVISIONS

Requirement	NERC Violation IDs	Regional Violation Ids	Date Submitted	Status	Type	Revision Number
TOP-004-2 R6.	SERC2017017277	SERC2017-402647	03/23/2017	Replaced with Revision	Informal	
TOP-004-2 R6.	SERC2017017277	SERC2017-402647	03/19/2018	Replaced with Revision	Formal	1
TOP-004-2 R6.	SERC2017017277	SERC2017-402647	09/10/2019	Revision Requested	Informal	2
TOP-004-2 R6.	SERC2017017277	SERC2017-402647	09/13/2019	Region reviewing Mitigation Plan	Informal	3

## SECTION B: REGISTERED ENTITY INFORMATION

## B.1 Identify your organization

Company Name: Associated Electric Cooperative, Inc.

Company Address: P.O. Box 754

Springfield, Missouri 65801-0754

Compliance Registry ID: NCR01177

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

Name: Todd Bennett

## 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: TOP-004-2

Requirement	Regional ID	NERC Violation ID	Date Issue Reported
R6.	SERC2017-402647	SERC2017017277	3/23/2017

## 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:

Description of Mitigation Activities: AECI is registered as a TOP on behalf of six electric generation and transmission (G&T) cooperatives per JRO00088. All six G&T cooperatives currently train regional dispatch center (RDC) operators two times a year on the AECI Jurisdictional Control Agreement and two times a year on the AECI Switching Order Procedure. KAMO issued additional training detailing the AECI Jurisdictional Control Agreement and the AECI Switching Order Procedure to all KAMO RDC operators in addition to the training that is already being conducted. In addition, all AECI member G&T cooperative relay technicians received training on the AECI Jurisdictional Control Agreement and the AECI Switching Order Procedure by 7/1/2017.

## Details to Prevent Recurrence:

1. KAMO issued additional training detailing the AECI Jurisdictional Control Agreement and the AECI Switching Order Procedure to all KAMO RDC operators in addition to the training that was already being conducted.
2. All AECI member G&T relay technicians received training on the AECI Jurisdictional Control Agreement and the AECI Switching Order Procedure by 7/1/2017.
3. AECI added preventative controls to BES element control points for which the KAMO, Northeast and Sho-Me Power SCADA systems functionally control. These preventative controls added a restrictive software tag that states the RDC operator must contact the AECI System Operator prior to operating the BES element. The RDC operator must remove this restrictive tag prior to operating each BES element. Central, NW, and M&A did not implement a restrictive software tag as their SCADA control system was not configurable to allow the software tag on BES devices.

## 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:

7/1/2017

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

No Milestones Defined

SECTION G: REGIONAL ENTITY CONTACT

SERC Single Point of Contact (SPOC)

Attachment E.3  
AECI's Certification of Mitigating Activities Completion for  
TOP-004-2 R6 submitted June 29, 2020

This item was signed by Mark Riley (mriley@aeci.org) on 6/29/2020



## 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:

Associated Electric Cooperative, Inc.

Name of Standard of mitigation violation(s):

TOP-004-2

Requirement	Tracking Number	NERC Violation ID
R6.	SERC2017-402647	SERC2017017277

Date of completion of the Mitigation Plan:

6/30/2017

No Milestones Defined

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

1. KAMO issued additional training detailing the AECI Jurisdictional Control Agreement and the AECI Switching Order Procedure to all KAMO RDC operators in addition to the training that was already being conducted.
2. All AECI member G&T relay technicians received training on the AECI Jurisdictional Control Agreement and the AECI Switching Order Procedure by 7/1/2017.
3. AECI added preventative controls to BES element control points for which the KAMO, Northeast and Sho-Me Power SCADA systems functionally control. These preventative controls added a restrictive software tag that states the RDC operator must contact the AECI System Operator prior to operating the BES element. The RDC operator must remove this restrictive tag prior to operating each BES Element. Central, NW, and M&A did not implement a restrictive software tag as their SCADA control system was not configurable to allow the software tag on BES devices.

### Description of the information provided to SERC for their evaluation \*

Please reference the attached "Verification of Mitigation Plan Completion" form for further details. It provides a list of applicable training logs and documentation describing the control inhibit function that was implemented on the KAMO, Northeast, and Sho-Me Power SCADA systems.

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



Attachment F.1  
AECI's Self-Report for PER-003-0 R1 dated July 24, 2019

This item was submitted by Todd Bennett (tbennett@aeci.org) on 7/24/2019

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: Associated Electric Cooperative, Inc.

NERC Registry ID: NCR01177

JRO ID: JRO00088

CFR ID:

Entity Contact Information: Todd Bennett

## REPORTING INFORMATION

Applicable Standard: PER-003-2

Applicable Requirement: R2.

Applicable Sub Requirement(s): 2.1; 2.2.

Applicable Functions: TOP

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: 7/23/2019

Beginning Date of Possible Violation: 7/1/2019

End or Expected End Date of Possible Violation: 6/24/2021

Is the violation still occurring? Yes

Provide detailed description and cause of Possible Violation:

AECI is a Jointly Registered Organization (JRO) on behalf of 6 member G&T cooperatives (G&Ts). The AECI System Operator had been identified as performing all functions of the Transmission Operator (TOP) and maintained authority over all BES assets functionally operated by each G&T regional dispatch center (RDC) through the execution of multiple jurisdictional control agreements. Items detailed in these agreements had not been identified as Reliability Related Tasks, therefore AECI had not required G&T RDC operating staff to maintain a NERC certification as detailed in PER-003-2 R2.

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:

AECI has worked closely with the AECI Board of Directors, member G&T Boards of Directors, and the G&T Operation Committee to establish a G&T NERC certification and training task force. This task force will develop a documented program which will detail the management and implementation of PER-003-2 R2 & PER-005-2 R2 moving forward. Some G&T RDC operating staff currently maintain a NERC certification per PER-003-2 R2, but not all.

Provide details to prevent recurrence:

AECI will require all G&T RDC operating staff to be NERC certified per PER-003-2 R2. Internal controls and testing will be implemented to ensure the documented program has been implemented correctly.

AECI is a Joint Registered Organization (JRO) on behalf of 6 member G&T cooperatives. As indicated in the AECI NERC Compliance Program Responsibility Matrix each G&T performs very limited actions of the AECI Transmission Operator (TOP). AECI will maintain the current JRO status and each member G&T cooperative will not be independently registered with NERC as a Transmission Owner (TO) or TOP. The AECI JRO will be audited by the SERC Compliance Monitoring and Enforcement Program (CMEP) current practices with member G&T cooperatives performing a subset of TOP requirements as detailed in the AECI NERC Compliance Program Responsibility Matrix.

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

6/24/2021

MITIGATING ACTIVITIES

Title	Due Date	Description	Prevents Recurrence
Establish NERC certification and training task force	10/24/2019	Establish NERC certification training task force purpose statement and charter	Yes
Establish documented PER-003-2 and PER-005-2 Program	1/24/2020	Documented PER-003-2 and PER-005-2 Program approved by GTOC	Yes
PER-005-2 RRT training material developed	4/24/2020	PER-005-2 RRT training material developed	Yes
15% of applicable staff trained and NERC certified	7/24/2020	15% of G and T RDC operating staff completed PER-005-2 RRT training and are NERC certified	Yes
40% of applicable staff trained and NERC certified	10/24/2020	40% of G and T RDC operating staff completed PER-005-2 RRT training and are NERC certified	Yes
65% of applicable staff trained and NERC certified	1/24/2021	65% of G and T RDC operating staff completed PER-005-2 RRT training and are NERC certified	Yes
90% of applicable staff trained and NERC certified	4/24/2021	90% of G and T RDC operating staff completed PER-005-2 RRT training and are NERC certified	Yes
100% of applicable staff trained and NERC certified	6/24/2021	100% of G and T RDC operating staff completed PER-005-2 RRT training and are NERC certified	Yes

Potential Impact to the Bulk Power System: Minimal

Actual Impact to the Bulk Power System: Minimal

Provide detailed description of Potential Risk to Bulk Power System:

The potential risk to the BES is minimal due to the implementation of the jurisdictional control agreement between AECI and each member G&T. These agreements state that each G&T could not operate the BES unless the AECI System Operator issued an Operating Instruction to do such. Through the implementation of these agreements, the AECI NERC certified System Operator maintained the configuration of the BES.

Provide detailed description of Actual Risk to Bulk Power System:

The actual risk is the same as the potential risk to the BES.

Additional Comments:

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 F.2  
AECI's Mitigation Plan designated as SERCMIT014751 for  
PER-003-0 R1 submitted August 1, 2019



This item was signed by Todd Bennett (tbennett@aeci.org) on 8/1/2019

This item was marked ready for signature by Todd Bennett (tbennett@aeci.org) on 8/1/2019

MITIGATION PLAN REVISIONS

Requirement	NERC Violation IDs	Regional Violation Ids	Date Submitted	Status	Type	Revision Number
PER-003-2 R2.	SERC2019021901	SERC2019-404856	07/24/2019	Revision Requested	Informal	
PER-003-2 R2.	SERC2019021901	SERC2019-404856	08/01/2019	Region reviewing Mitigation Plan	Formal	1

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:	Associated Electric Cooperative, Inc.
Company Address:	P.O. Box 754
	Springfield, Missouri 65801-0754
Compliance Registry ID:	NCR01177

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

Name: Todd Bennett

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: PER-003-2

Requirement	Regional ID	NERC Violation ID	Date Issue Reported
R2.	SERC2019-404856	SERC2019021901	7/24/2019

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

AECI is a Jointly Registered Organization (JRO) on behalf of 6 member G&T cooperatives (G&Ts). The AECI System Operator had been identified as performing all functions of the Transmission Operator (TOP) and maintained authority over all BES assets functionally operated by each G&T regional dispatch center (RDC) through the execution of multiple jurisdictional control agreements. Items detailed in these agreements had not been identified as Reliability Related Tasks, therefore AECI had not required G&T RDC operating staff to maintain a NERC certification as detailed in PER-003-2 R2.

[Attachments \(\)](#)

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

Nothing additional to provide.

[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:

AECI has worked closely with the AECI Board of Directors, member G&T Boards of Directors, and the G&T Operation Committee to establish a G&T NERC certification and training task force. This task force will develop a documented program which will detail the management and implementation of PER-003-2 R2 & PER-005-2 R2 moving forward. Specific actions that will be completed during this implementation are as follows:

- 1.) AECI will revise the AECI NERC Compliance Program Responsibility Matrix to identify each member G&T cooperative as having a responsibility to demonstrate compliance with NERC Standard Requirements PER-003-2 R2 and PER-005-2 R2 & R3.
- 2.) AECI will develop member G&T cooperative company specific RRT training material to support the PER-005-2 R2 training program.
- 3.) AECI will develop a documented PER-003-2 and PER-005-2 program for G&T RDC operating staff per PER-005-2 R2.
- 4.) AECI member G&T cooperative RDC will be staffed with NERC TOP certified operators per PER-003-2 R2.

#### [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:

6/24/2021

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

#### [Establish NERC certification and training task force](#)

Milestone Pending (Due: 10/24/2019)

Establish NERC certification training task force purpose statement and charter

#### [Establish documented PER-003-2 and PER-005-2 Program](#)

Milestone Pending (Due: 1/24/2020)

Documented PER-003-2 and PER-005-2 Program approved by GTOC

#### [PER-005-2 RRT training material developed](#)

Milestone Pending (Due: 4/24/2020)

PER-005-2 RRT training material developed

#### [15% of applicable staff trained and NERC certified](#)

Milestone Pending (Due: 7/24/2020)

15% of G and T RDC operating staff completed PER-005-2 RRT training and are NERC certified

#### [40% of applicable staff trained and NERC certified](#)

Milestone Pending (Due: 10/24/2020)

40% of G and T RDC operating staff completed PER-005-2 RRT training and are NERC certified

#### [65% of applicable staff trained and NERC certified](#)

Milestone Pending (Due: 1/24/2021)

65% of G and T RDC operating staff completed PER-005-2 RRT training and are NERC certified

#### [90% of applicable staff trained and NERC certified](#)

Milestone Pending (Due: 4/24/2021)

90% of G and T RDC operating staff completed PER-005-2 RRT training and are NERC certified

#### [100% of applicable staff trained and NERC certified](#)

Milestone Pending (Due: 6/24/2021)

100% of G and T RDC operating staff completed PER-005-2 RRT training and are NERC certified

## 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):

AECI has worked closely with the AECI Board of Directors, member G&T Boards of Directors, and the G&T Operation Committee to establish a G&T NERC certification and training task force. This task force will develop a documented program which will detail the management and implementation of PER-003-2 R2 & PER-005-2 R2 moving forward.

Some G&T RDC operating staff currently maintain a NERC certification per PER-003-2 R2, but not all. This does not imply this subset of personnel have completed training on BES company-specific Real-time reliability-related tasks per PER-005-2 R2, but they have received additional training to maintain a NERC System Operator certification.

All G&T RDC operating personnel have completed training on applicable jurisdictional control agreements.

#### [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):

AECI will require all G&T RDC operating staff to be trained on BES company-specific Real-time reliability-related tasks per PER-003-2 R2. Internal controls and testing of those controls will be implemented to ensure the documented program has been implemented correctly.

[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 Todd Bennett of Associated Electric Cooperative, Inc.
  - I am qualified to sign this Mitigation Plan on behalf of Associated Electric Cooperative, Inc.
  - I understand Associated Electric Cooperative, Inc.'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
  - Associated Electric Cooperative, Inc. 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 G.1  
AECI's Self-Report for PER-005-1 R1 dated July 24, 2019



This item was submitted by Todd Bennett (tbennett@aeci.org) on 7/24/2019

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: Associated Electric Cooperative, Inc.

NERC Registry ID: NCR01177

JRO ID: JRO00088

CFR ID:

Entity Contact Information: Todd Bennett

## REPORTING INFORMATION

Applicable Standard: PER-005-2

Applicable Requirement: R2.

Applicable Sub Requirement(s): 2.1.; 2.2.; 2.3.; 2.4.

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: 7/23/2019

Beginning Date of Possible Violation: 7/1/2016

End or Expected End Date of Possible Violation: 6/24/2021

Is the violation still occurring? Yes

Provide detailed description and cause of Possible Violation:

AECI is a Jointly Registered Organization (JRO) on behalf of 6 member G&T cooperatives (G&Ts). The AECI System Operator had been identified as performing all functions of the Transmission Operator (TOP) and maintained authority over all BES assets functionally operated by each G&T regional dispatch center (RDC) through the execution of multiple jurisdictional control agreements. Items detailed in these agreements had not been identified as Reliability Related Tasks, therefore AECI had not required G&T RDC operating staff to be trained as detailed in PER-005-2 R2.

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:

AECI has worked closely with the AECI Board of Directors, member G&T Boards of Directors, and the G&T Operation Committee to establish a G&T NERC certification and training task force. This task force will develop a documented program which will detail the management and implementation of PER-003-2 R2 & PER-005-2 R2 moving forward.

Provide details to prevent recurrence:

AECI will require all G&T RDC operating staff to be trained on BES company-specific Real-time reliability-related tasks per PER-005-2 R2. Internal controls and testing will be implemented to ensure the documented program has been implemented correctly.

AECI is a Joint Registered Organization (JRO) on behalf of 6 member G&T cooperatives. As indicated in the AECI NERC Compliance Program Responsibility Matrix each G&T performs very limited actions of the AECI Transmission Operator (TOP). AECI will maintain the current JRO status and each member G&T cooperative will not be independently registered with NERC as a Transmission Owner (TO) or TOP. The AECI JRO will be audited by the SERC Compliance Monitoring and Enforcement Program (CMEP) current practices with member G&T cooperatives performing a subset of TOP requirements as detailed in the AECI NERC Compliance Program Responsibility Matrix.

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

6/24/2021

MITIGATING ACTIVITIES

Title	Due Date	Description	Prevents Recurrence
Establish NERC certification and training task force	10/24/2019	Establish NERC certification training task force purpose statement and charter	Yes
Establish documented PER-003-2 and PER-005-2 Program	1/24/2020	Documented PER-003-2 and PER-005-2 Program approved by GTOC	Yes
PER-005-2 RRT training material developed	4/24/2020	PER-005-2 RRT training material developed	Yes
15% of applicable staff trained and NERC certified	7/24/2020	15% of G and T RDC operating staff completed PER-005-2 RRT training and are NERC certified	Yes
40% of applicable staff trained and NERC certified	10/24/2020	40% of G and T RDC operating staff completed PER-005-2 RRT training and are NERC certified	Yes
65% of applicable staff trained and NERC certified	1/24/2021	65% of G and T RDC operating staff completed PER-005-2 RRT training and are NERC certified	Yes
90% of applicable staff trained and NERC certified	4/24/2021	90% of G and T RDC operating staff completed PER-005-2 RRT training and are NERC certified	Yes
100% of applicable staff trained and NERC certified	6/24/2021	100% of G and T RDC operating staff completed PER-005-2 RRT training and are NERC certified	Yes

Potential Impact to the Bulk Power System: Minimal

Actual Impact to the Bulk Power System: Minimal

Provide detailed description of Potential Risk to Bulk Power System:

The potential risk to the BES is minimal due to the implementation of the jurisdictional control agreement between AECI and each member G&T. These agreements state that each G&T could not operate the BES unless the AECI System Operator issued an Operating Instruction to do such. Through the implementation of these agreements, the AECI NERC certified System Operator maintained the configuration of the BES.

Some G&T RDC operating staff currently maintain a NERC certification per PER-003-2 R2, but not all. This does not imply this subset of personnel have completed training on BES company-specific Real-time reliability-related tasks per PER-005-2 R2, but they have received additional training to maintain a NERC System Operator certification.

Provide detailed description of Actual Risk to Bulk Power System:

The actual risk is the same as the potential risk to the BES.

Additional Comments:

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 G.2

AECI's Mitigation Plan designated as SERCMIT014828-1 for  
PER-005-1 R1 submitted February 5, 2020



## VIEW FORMAL MITIGATION PLAN: PER-005-1 (REGION REVIEWING MITIGATION PLAN)

This item was signed by Todd Bennett (tbennett@aeci.org) on 2/5/2020

This item was marked ready for signature by Todd Bennett (tbennett@aeci.org) on 2/5/2020

## MITIGATION PLAN REVISIONS

Requirement	NERC Violation IDs	Regional Violation Ids	Date Submitted	Status	Type	Revision Number
PER-005-1 R1.	SERC2019021902	SERC2019-404857	07/24/2019	Replaced with Revision	Informal	
PER-005-1 R1.	SERC2019021902	SERC2019-404857	08/01/2019	Replaced with Revision	Formal	1
PER-005-1 R1.	SERC2019021902	SERC2019-404857	09/09/2019	Region Accepted MP - Entity Implementing	Formal	2
PER-005-1 R1.	SERC2019021902	SERC2019-404857	11/14/2019	Revision Requested	Formal	3
PER-005-1 R1.	SERC2019021902	SERC2019-404857	02/05/2020	Region reviewing Mitigation Plan	Formal	4

## SECTION A: COMPLIANCE NOTICES &amp; 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: Associated Electric Cooperative, Inc.

Company Address: P.O. Box 754

Springfield, Missouri 65801-0754

Compliance Registry ID: NCR01177

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

Name: Todd Bennett

## 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: PER-005-1

Requirement	Regional ID	NERC Violation ID	Date Issue Reported
R1.	SERC2019-404857	SERC2019021902	7/24/2019

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

AECI is a Jointly Registered Organization (JRO) on behalf of 6 member G&T cooperatives (G&Ts). The AECI System Operator had been identified as performing all functions of the Transmission Operator (TOP) and maintained authority over all BES assets functionally operated by each G&T regional dispatch center (RDC) through the execution of multiple jurisdictional control agreements. Items detailed in these agreements had not been identified as Reliability Related Tasks (RRT)s, therefore AECI had not required G&T RDC operating staff to be trained as detailed in PER-005-1 R1.

[Attachments \(\)](#)

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

Nothing additional to provide.



[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:

AECI has worked closely with the AECI Board of Directors, member G&T Boards of Directors, and the G&T Operation Committee to complete the following:

- 1.) AECI established a G&T NERC certification and training task force.
- 2.) AECI has revised the AECI NERC Compliance Program Responsibility Matrix to identify each member G&T cooperative and having a responsibility to demonstrate compliance with currently enforceable NERC Standard Requirements PER-005-2 R1 & R3.
- 3.) AECI has created a list of Bulk Electric System (BES) company-specific RRTs for member G&Ts based on a defined and documented methodology.
- 4.) The G&T NERC certification and training task force developed a documented program which details the management and implementation of PER-005-2 R1 & R3; which supersedes PER-005-1 R1.

Additional specific actions that will be completed during this implementation plan are as follows:

- 1.) AECI will develop RRT qualification sheet checklists.
- 2.) AECI will verify, at least once, the capabilities of member G&T personnel identified in R1 assigned to perform each of the BES company-specific RRTs identified under R1.
- 3.) AECI will add/modify, test, and implement internal controls to ensure the documented program has been implemented correctly.

[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:

9/10/2020

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

[Develop RRT qualification sheet checklists](#)

Milestone Pending (Due: 4/24/2020)

AECI will develop RRT qualification sheet checklists.

[Verify the capabilities of 50% member G&T cooperative personnel identified in R1 assigned to perform each of the BES company-specific RRTs identified under R1.](#)

Milestone Pending (Due: 7/24/2020)

50% of G and T RDC operating staff completed PER-005-2 RRT training.

[Verify the capabilities of 100% member G&T cooperative personnel identified in R1 assigned to perform each of the BES company-specific RRTs identified under R1.](#)

Milestone Pending (Due: 9/9/2020)

100% of G and T RDC operating staff completed PER-005-2 RRT training.

[AECI will implement internal controls to ensure the documented program has been implemented correctly.](#)

Milestone Pending (Due: 9/10/2020)

AECI will implement internal controls to ensure the documented program has been implemented correctly.

## 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):

AECI has worked closely with the AECI Board of Directors, member G&T Boards of Directors, and the G&T Operation Committee to establish a G&T NERC certification and training task force. This task force has developed a documented program which details the management and implementation of PER-005-2 moving forward. Some G&T RDC operating staff currently maintain a NERC certification per PER-003-2 R2, but not all. This does not imply this subset of personnel have completed training on BES company-specific Real-time reliability-related tasks per PER-005-2, but they have received additional training to maintain a NERC System Operator certification. All G&T RDC operating personnel have completed training on applicable jurisdictional control agreements.

[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):

AECI requires all G&T RDC operating staff to be trained on BES company-specific Real-time reliability-related tasks per PER-005-2.

Internal controls and testing of those controls will be implemented to ensure the documented program has been implemented correctly.

[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 Todd Bennett of Associated Electric Cooperative, Inc.
  - I am qualified to sign this Mitigation Plan on behalf of Associated Electric Cooperative, Inc.
  - I understand Associated Electric Cooperative, Inc.'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
  - Associated Electric Cooperative, Inc. 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 G.3

AECI's Certification of Mitigation Plan Completion for  
PER-005-1 R1 submitted September 10, 2020

 This item was signed by Mark Riley (mriley@aeci.org) on 9/10/2020



 This item was marked ready for signature by Mark Riley (mriley@aeci.org) on 9/10/2020



## 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:

Associated Electric Cooperative, Inc.

Name of Standard of mitigation violation(s):

PER-005-1

Requirement	Tracking Number	NERC Violation ID
R1.	SERC2019-404857	SERC2019021902

Date of completion of the Mitigation Plan:

9/10/2020

### Develop RRT qualification sheet checklists

Milestone Completed (Due: 4/24/2020 and Completed 3/9/2020)

[Attachments \(0\)](#)

AECI will develop RRT qualification sheet checklists.

### Verify the capabilities of 50% member G&T cooperative personnel identified in R1 assigned to perform each of the BES company-specific RRTs identified under R1.

Milestone Completed (Due: 7/24/2020 and Completed 7/20/2020)

[Attachments \(0\)](#)

50% of G and T RDC operating staff completed PER-005-2 RRT training.

### Verify the capabilities of 100% member G&T cooperative personnel identified in R1 assigned to perform each of the BES company-specific RRTs identified under R1.

Milestone Completed (Due: 9/9/2020 and Completed 9/3/2020)

[Attachments \(0\)](#)

100% of G and T RDC operating staff completed PER-005-2 RRT training.

### AECI will implement internal controls to ensure the documented program has been implemented correctly.

Milestone Completed (Due: 9/10/2020 and Completed 9/10/2020)

[Attachments \(0\)](#)

AECI will implement internal controls to ensure the documented program has been implemented correctly.

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

AECI developed RRT qualification sheet checklists and verified the capabilities of all applicable G&T cooperative personnel identified in R1, assigned to perform each of the BES company-specific RRTs. Additionally, internal control tasks were implemented in AECI's compliance management system to ensure continued compliance with PER-005.

## Description of the information provided to SERC for their evaluation \*

AECI provided a list of applicable personnel, completed RRT checklists, example internal control task screenshots, and a query of internal control tasks in the AECI compliance management system.



