

July 31, 2018

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 Alabama Power Company,
FERC Docket No. NP18-_-000**

Dear Ms. Bose:

The North American Electric Reliability Corporation (NERC) hereby provides this Notice of Penalty¹ regarding Alabama Power Company (APC), NERC Registry ID# NCR01166,² with information and details regarding the nature and resolution of the violation³ discussed in detail in the Settlement Agreement attached 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)).⁴

NERC is filing this Notice of Penalty with the Commission because SERC Reliability Corporation (SERC) and APC have entered into a Settlement Agreement to resolve all outstanding issues arising from SERC's determination and findings of a violation of FAC-009-1 R1.

¹ *Rules Concerning Certification of the Electric Reliability Organization; and Procedures for the Establishment, Approval, and Enforcement of Electric Reliability Standards* (Order No. 672), III FERC Stats. & Regs. ¶ 31,204 (2006); *Notice of New Docket Prefix "NP" for Notices of Penalty Filed by the North American Electric Reliability Corporation*, Docket No. RM05-30-000 (February 7, 2008). See also 18 C.F.R. Part 39 (2017). *Mandatory Reliability Standards for the Bulk-Power System*, FERC Stats. & Regs. ¶ 31,242 (2007) (Order No. 693), *reh'g denied*, 120 FERC ¶ 61,053 (2007) (Order No. 693-A). See 18 C.F.R § 39.7(c)(2).

² APC was included on the NERC Compliance Registry as a Distribution Provider, Generator Owner, and Transmission Owner (TO) on May 31, 2007.

³ For purposes of this document, each violation at issue is described as a "violation," regardless of its procedural posture and whether it was a possible, alleged, or confirmed violation.

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

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Atlanta, GA 30326
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According to the Settlement Agreement, APC admits to the violation and agreed to the assessed penalty of two hundred thousand dollars (\$200,000), in addition to other remedies and actions to mitigate the instant violation and facilitate future compliance under the terms and conditions of the Settlement Agreement.

Statement of Findings Underlying the Violation

This Notice of Penalty incorporates the findings and justifications set forth in the Settlement Agreement, by and between SERC and APC. 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 (2018), NERC provides the following summary table identifying each violation of a Reliability Standard resolved by the Settlement Agreement. Further information on the subject violation is set forth in the Settlement Agreement and herein.

* Violation(s) Determined and Discovery Method								
*SR = Self-Report / SC = Self-Certification / CA = Compliance Audit / SPC = Spot Check / CI = Compliance Investigation								
NERC Violation ID	Standard	Req.	VRF/VSL	Applicable Function(s)	Discovery Method*	Violation Start-End Date	Risk	Penalty Amount
SERC2017017283	FAC-009-1	R1	Medium/Severe	TO	SR 3/24/2017	6/18/2007 – 4/13/2018	Moderate	\$200,000

SERC2017017283 FAC-009-1 R1 - OVERVIEW

As part of the mitigation of FAC-009-1 R1 violations by two of APC's affiliates,⁵ Southern Company had all of its operating companies review ratings for a sample of their Facilities. On or about November 1, 2016, APC completed a Facility Rating assessment of 67 of its transmission Facilities (approximately 10 percent of APC's total Facilities), including transmission line Facilities and autobank transformer Facilities. Out of the 67 sampled Facilities, APC identified four instances (5.97 percent) where it misidentified the Most Limiting Element (MLE) for Facility Ratings. After discovering these incorrect Facility Ratings, APC conducted an extent of condition review of 100 percent of its 399 transmission line

⁵ The two violations were SERC2015015061 for Gulf Power Company and SERC2015015062 for Georgia Power Company, which are included in two separate cases being filed concurrently.

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Facilities and 69 autobank transformer Facilities. APC did not identify any discrepancies for the 69 autobank transformer elements that required changes to the MLE or overall Facility Rating. APC identified Facility Rating discrepancies for 78 of its 399 transmission line Facilities (19.55 percent). On March 24, 2017, APC submitted a Self-Report stating that it was in violation of FAC-009-1 R1. After reviewing the Self-Report and additional information, SERC determined APC did not establish Facility Ratings consistent with its Facility Ratings Methodology (FRM) for some of its transmission Facilities. On January 8, 2018, Southern Company Services revised its FRM to reflect a more accurate rating method for transmission line jumpers terminating at substation equipment.

APC attributed 77 of the 78 discrepancies to substation jumpers. APC's FRM generally limited jumpers to 90 degrees Celsius maximum operating temperature, except in situations where jumpers connect an incoming transmission line conductor into a substation. During such exceptions, APC could have considered the maximum operating temperature to be higher depending on the jumper type and construction. APC determined that inconsistent and incorrect application of this exception was a cause for most of the Facility Rating errors. APC determined the cause of the remaining discrepancy was an isolated instance of incorrectly underrating a switch due to an incorrect one-line drawing.

SERC determined that this violation posed a moderate risk to the reliability of the bulk power system (BPS). APC's planning and operating simulation-based studies depend on accurate ratings to plan construction and to establish operating criteria such that the BPS can withstand a variety of pre-determined contingencies. APC used inaccurate Facility Ratings in its planning and operating studies, which compromised the validity of the studies. APC derated a total of 52 transmission line Facilities. Derates ranged from 0.5 percent to 64 percent of the prior incorrect ratings, and the highest derate was 487 MVA. APC determined the majority of the required derates were 15 MVA or less, and only five of the derates exceeded a threshold of a 10 percent difference from the correct MLE. APC typically sets first-level alarms in the energy management system (EMS) at 90 percent of the Facility Rating. Therefore, operators would have been alerted for loadings before exceeding the Facility Rating for 47 of the 52 (90.4 percent) Facilities derated. APC experienced no operational problems due to the incorrect Facility Ratings.

APC reviewed historical loading data from January 1, 2015, through the date of correction for each of the 52 derated Facilities and determined that four of these Facilities exceeded the corrected MLE rating. One 115 kV line experienced loading at 120 percent of the corrected MLE rating for 16 minutes, and another 115 kV line experienced loading at 114 percent of the corrected MLE rating for 17 minutes. Nevertheless, these lines operated in parallel, and neither line served any load. Operators had heightened awareness of these lines, and alarms alerted operators of both exceedances. A third 115 kV line experienced loading at a maximum of 119 percent of the corrected MLE rating intermittently over

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a nine-hour period on a single day. Nevertheless, APC dynamically rated this line, operators received the EMS alarm according to normal practices, and while the actual loading exceeded the published MLE rating, it did not exceed 97 percent of the dynamic rating. All three lines were influenced by an equipment outage associated with a capital upgrade project, which was factored into contingency studies. The fourth 115 kV line exceeded the corrected MLE rating by 110 percent for 10 minutes. APC mitigated this exceedance by incorporating operational guidance and dynamic ratings. APC experienced no operational problems due to the exceedances. Further, APC determined that the majority of the transmission line Facilities identified with discrepancies did not exceed 75 percent of the corrected MLE rating.

APC submitted its Mitigation Plan on December 7, 2017, to address the referenced violation.

To mitigate and prevent recurrence of this violation, APC:

1. Reviewed all autobank transformer Facilities and substation connection Facilities for all Bulk Electric System line Facilities
2. Documented and tracked resolution of identified discrepancies and provided quarterly updates to SERC;
3. Updated APC's Facility Rating database to uniquely identify substation connection elements and their individual ratings;
4. Revised Southern Company's FRM to reflect the change in the assumptions and basis for rating substation connection elements; and
5. Communicated the revised FRM to appropriate personnel.

APC certified that it had completed all mitigation activities. SERC verified that APC had completed all mitigation activities as of April 13, 2018. Attachment B provides specific information on SERC's verification of APC's completion of the activities.

Regional Entity's Basis for Penalty

According to the Settlement Agreement, SERC has assessed a penalty of two hundred thousand dollars (\$200,000) for the referenced violation. In reaching this determination, SERC considered the following factors:

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1. SERC considered the instant violation as repeat noncompliance with the subject NERC Reliability Standard. For the reasons stated in the Settlement Agreement, SERC determined the compliance history should not serve as an aggravating factor;⁶
2. APC had an internal compliance program at the time of the violation, for which SERC did not provide mitigating credit because the controls in place did not detect the inconsistent Facility Ratings;
3. APC submitted a Self-Report four months after discovering the violation, for which SERC awarded minimal credit;
4. APC was cooperative throughout the compliance enforcement process;
5. APC admitted to the violation;
6. there was no evidence of any attempt to conceal a violation nor evidence of intent to do so;
7. the violation posed a moderate and not a serious or substantial risk to the reliability of the BPS, as discussed in Attachment A; and
8. there were no other mitigating or aggravating factors or extenuating circumstances that would affect the assessed penalty.

After consideration of the above factors, SERC determined that, in this instance, the penalty amount of two hundred thousand dollars (\$200,000) is appropriate and bears a reasonable relation to the seriousness and duration of the violation.

Statement Describing the Assessed Penalty, Sanction or Enforcement Action Imposed⁷

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,⁸ the NERC

⁶ APC's relevant prior noncompliance with FAC-009-1 R1 includes NERC Violation ID SERC2016015499.

⁷ See 18 C.F.R. § 39.7(d)(4).

⁸ *North American Electric Reliability Corporation*, "Guidance Order on Reliability Notices of Penalty," 124 FERC ¶ 61,015 (2008); *North American Electric Reliability Corporation*, "Further Guidance Order on Reliability Notices of Penalty," 129 FERC

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BOTCC reviewed the violation on July 12, 2018 and approved the resolution between SERC and APC. 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 violation at issue.

For the foregoing reasons, the NERC BOTCC believes that the assessed penalty of two hundred thousand dollars (\$200,000) is appropriate for the violation and circumstances at issue, and is consistent with NERC's goal to promote and ensure reliability of the BPS.

Pursuant to 18 C.F.R. § 39.7(e), the penalty will be effective upon expiration of the 30-day period following the filing of this Notice of Penalty with FERC, or, if FERC decides to review the penalty, upon final determination by FERC.

Attachments to be Included as Part of this Notice of Penalty

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

1. Settlement Agreement by and between SERC and APC executed April 3, 2018, included as Attachment A;
2. Disposition of Violation, included as Attachment B;
3. APC's Self-Report for FAC-009-1 R1 dated March 24, 2017, included as Attachment C;
4. APC's Mitigation Plan designated as SERCMIT013480 for FAC-009-1 R1 submitted December 11, 2017, included as Attachment D; and
5. APC's Certification of Mitigation Plan Completion for FAC-009-1 R1 submitted April 13, 2018, included as Attachment E.

¶ 61,069 (2009); *North American Electric Reliability Corporation*, "Notice of No Further Review and Guidance Order," 132 FERC ¶ 61,182 (2010).

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

<p>Holly A. Hawkins* General Counsel SERC Reliability Corporation 3701 Arco Corporate Drive, Suite 300 Charlotte, NC 28273 (704) 494-7775 (704) 357-7914 – facsimile hhawkins@serc1.org</p> <p>Rebecca A. Poulsen* Legal Counsel SERC Reliability Corporation 3701 Arco Corporate Drive, Suite 300 Charlotte, NC 28273 (704) 414-5230 (704) 357-7914 – facsimile rpoulsen@serc1.org</p> <p>Gary Taylor* President and Chief Executive Officer SERC Reliability Corporation 3701 Arco Corporate Drive, Suite 300 Charlotte, NC 28273 (704) 940-8205 (704) 357-7914 – facsimile gtaylor@serc1.org</p>	<p>Sonia C. Mendonça* Vice President, Deputy General Counsel, and Director of Enforcement North American Electric Reliability Corporation 1325 G Street N.W. Suite 600 Washington, DC 20005 (202) 400-3000 (202) 644-8099 – facsimile sonia.mendonca@nerc.net</p> <p>Edwin G. Kichline* Senior Counsel and Director of Enforcement Oversight North American Electric Reliability Corporation 1325 G Street N.W. Suite 600 Washington, DC 20005 (202) 400-3000 (202) 644-8099 – facsimile edwin.kichline@nerc.net</p> <p>Alexander Kaplen* Associate Counsel North American Electric Reliability Corporation 1325 G Street N.W. Suite 600 Washington, DC 20005 (202) 400-3000 (202) 644-8099 – facsimile alexander.kaplen@nerc.net</p>
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Southern Company Services
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(205) 257-5795 – facsimile
tdself@southernco.com

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

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Conclusion

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

Respectfully submitted,

/s/ Alexander Kaplen

Sonia C. Mendonça
Vice President, Deputy General Counsel,
and Director of Enforcement
Edwin G. Kichline
Senior Counsel and Director of
Enforcement Oversight
Alexander Kaplen
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cc: Alabama Power Company
SERC Reliability Corporation

Attachments

Attachment A

Settlement Agreement by and between SERC and APC

Executed April 3, 2018

SETTLEMENT AGREEMENT

OF

SERC RELIABILITY CORPORATION

AND

ALABAMA POWER COMPANY

I. INTRODUCTION

1. SERC Reliability Corporation (SERC) and Alabama Power Company (APC) enter into this Settlement Agreement (Settlement Agreement) to resolve all outstanding issues arising from a preliminary and non-public assessment resulting in SERC's determination and findings, pursuant to the North American Electric Reliability Corporation (NERC) Rules of Procedure, of one confirmed violation.

Reliability Standard	Requirement	SERC Tracking No.	NERC Tracking No.
FAC-009-1	R1	SERC2017-402650	SERC2017017283

2. APC **admits** the one violation and has agreed to the proposed penalty of **\$200,000** in addition to other remedies and actions to mitigate the instant violation and to ensure future compliance under the terms and conditions of the Settlement Agreement.

II. STIPULATION

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

Background

4. See Section I of the Disposition document (Attachment A) for a description of APC.

Violation of NERC Reliability Standards

5. See Section II of the Disposition document (Attachment A) for the description of the violation.

III. PARTIES' SEPARATE REPRESENTATIONS

Statement of SERC and Summary of Findings

6. SERC determined that APC was in violation of FAC-009-1 R1 because APC did not establish Facility Ratings consistent with its Facility Rating Methodology (FRM) for 16.7% of its transmission Facilities. There was one violation included in the Disposition document, Attachment A.
7. SERC agrees that this Settlement Agreement is in the best interest of the parties and in the best interest of bulk power system reliability.

Statement of APC

8. APC **admits** the facts set forth and agreed to by the parties for purposes of this Settlement Agreement constitute a violation of the Standard and Requirement listed in the table above.
9. APC has agreed to enter into this Settlement Agreement with SERC to avoid extended litigation with respect to the matters described or referred to herein, to avoid uncertainty, and to effectuate a complete and final resolution of the issues set forth herein. APC agrees that this Settlement Agreement is in the best interest of the parties and in the best interest of BPS reliability.

IV. MITIGATING ACTIONS, REMEDIES AND SANCTIONS

10. SERC and APC agree that APC will complete the mitigating actions and SERC will verify the completion of the mitigating actions set forth in Section IV of the Disposition document (Attachment A). The Mitigating Actions, Remedies and Sanctions are discussed in detail in the Disposition document (Attachment A).
11. SERC staff also considered the specific facts and circumstances of the violation and APC's actions in response to the violation in determining a proposed penalty that meets the requirement in Section 215 of the Federal Power Act that "[a]ny penalty imposed under this section shall bear a reasonable relation to the seriousness of the violation and shall take into consideration the efforts of an entity to remedy the violation in a timely manner."¹ The factors considered by SERC staff in the determination of the appropriate penalty are set forth in Section V of the Disposition document.
12. Based on the above factors, as well as the mitigation actions and preventative measures taken, APC shall pay **\$200,000** to SERC as set forth in this Settlement

¹ 16 U.S.C. § 824o(e)(6).

Agreement. APC shall remit the payment to SERC via check, or by wire transfer to an account to be identified by SERC within thirty days after the Agreement is either approved by the Federal Energy Regulatory Commission (Commission) or by operation of law. SERC shall notify NERC, and NERC shall notify the Commission, if the payment is not timely received. If APC does not remit the payment by the required date, interest payable to SERC will begin to accrue pursuant to the Commission's regulations at 18 C.F.R. §35.19a(a)(2)(iii) from the date that payment is due, and shall be payable in addition to the payment.

13. Failure to make a timely penalty payment or to comply with any of the terms and conditions agreed to herein, or any other conditions of this Settlement Agreement shall be deemed to be either the same alleged violations that initiated this Settlement Agreement and/or additional violations and may subject APC to new or additional enforcement, penalty or sanction actions in accordance with the NERC Rules of Procedure. APC shall retain all rights to defend against such additional enforcement actions in accordance with NERC Rules of Procedure.

V. ADDITIONAL TERMS

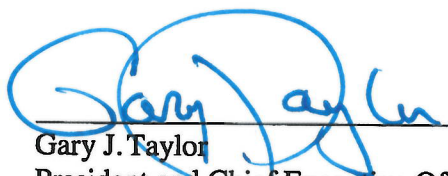
14. The signatories to the Settlement Agreement agree that they enter into the Settlement Agreement voluntarily and that, other than the recitations set forth herein, no tender, offer or promise of any kind by any member, employee, officer, director, agent or representative of SERC or APC has been made to induce the signatories or any other party to enter into the Settlement Agreement. The signatories agree that the terms and conditions of this Settlement Agreement are consistent with the Commission's regulations and orders, and NERC's Rules of Procedure.
15. SERC shall report the terms of all settlements of compliance matters to NERC. NERC will review the settlement for the purpose of evaluating its consistency with other settlements entered into for similar violations or under other, similar circumstances. Based on this review, NERC will either approve the settlement or reject the settlement and notify SERC and APC of changes to the settlement that would result in approval. If NERC rejects the settlement, NERC will provide specific written reasons for such rejection and SERC will attempt to negotiate a revised settlement agreement with APC including any changes to the settlement specified by NERC. If a settlement cannot be reached, the enforcement process shall continue to conclusion. If NERC approves the settlement, NERC will (i) report the approved settlement to the Commission for the Commission's review and approval by order or operation of law and (ii) publicly post this Settlement Agreement.
16. This Settlement Agreement shall become effective upon the Commission's approval of the Settlement Agreement by order or operation of law as submitted to it or as modified in a manner acceptable to the parties.
17. APC agrees that this Settlement Agreement, when approved by NERC and the Commission, shall represent a final settlement of all matters set forth herein and APC

waives its right to further hearings and appeal, unless and only to the extent that APC contends that any NERC or Commission action on the Settlement Agreement contains one or more material modifications to the Settlement Agreement. SERC reserves all rights to initiate enforcement, penalty or sanction actions against APC in accordance with the NERC Rules of Procedure in the event that APC does not comply with the Mitigation Plans and compliance program agreed to in this Settlement Agreement. In the event APC fails to comply with any of the stipulations, remedies, sanctions or additional terms, as set forth in this Settlement Agreement, SERC will initiate enforcement, penalty, or sanction actions against APC to the maximum extent allowed by the NERC Rules of Procedure, up to the maximum statutorily allowed penalty. Except as otherwise specified in this Settlement Agreement, APC shall retain all rights to defend against such enforcement actions, also according to the NERC Rules of Procedure.

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

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

Agreed to and accepted:



Gary J. Taylor
President and Chief Executive Officer
SERC RELIABILITY CORPORATION

4-3-18
Date



Alexia B. Borden
Sr. Vice President and General Counsel
ALABAMA POWER COMPANY

3-29-18
Date

Attachment B
Disposition of Violation

DISPOSITION OF VIOLATION¹

April 3, 2018

NERC TRACKING NO.
SERC2017017283

SERC TRACKING NO.
SERC2017-402650

NOC#

REGISTERED ENTITY
Alabama Power Company

NERC REGISTRY ID
NCR01166

REGIONAL ENTITY
SERC Reliability Corporation (SERC)

I. REGISTRATION INFORMATION

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

BA	DP	GO	GOP	PA	RC	RP	RSG	TO	TOP	TP	TSP
	X	X						X			
	5/31/07	5/31/07						5/31/07			

* VIOLATION(S) APPLIES TO SHADED FUNCTIONS

DESCRIPTION OF THE REGISTERED ENTITY

APC is an investor-owned, retail electric service company whose common stock is owned by Atlanta-based Southern Company. APC has a total generation capacity of 13,522 MW. APC has a total of 7,277 miles of transmission line ranging from 115kV to 500kV and 52 interconnections with various entities on the Bulk Electric System (BES).

IS THERE A SETTLEMENT AGREEMENT YES ☒ NO ☐

WITH RESPECT TO THE VIOLATION(S), REGISTERED ENTITY

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

WITH RESPECT TO THE ASSESSED PENALTY OR SANCTION, REGISTERED ENTITY

ACCEPTS IT/ DOES NOT CONTEST IT YES ☒

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

II. VIOLATION INFORMATION

RELIABILITY STANDARD	REQUIREMENT(S)	SUB-REQUIREMENT(S)	VRF(S)	VSL(S)
FAC-009-1 ²	R1		Medium	Severe ³

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

The purpose statement of FAC-009-1 provides:

To 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.

FAC-009-1 R1 provides, in pertinent part:

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.

VIOLATION DESCRIPTION

On March 24, 2017, APC submitted a Self-Report stating that, as a Transmission Owner, it was in violation of FAC-009-1 R1. APC did not establish Facility Ratings for its solely and jointly owned Facilities that were consistent with the associated Facility Ratings Methodology (FRM).

As part of the mitigation of FAC-009-1 R1 violations by two of APC's affiliates, (SERC2015015061 and SERC2015015062), APC's parent company, Southern Company, had all of its operating companies review Ratings for a sample of their Facilities. On or about November 1, 2016, APC completed a Facility Rating assessment of 67 of its transmission Facilities (approximately 10% of APC's total Facilities), including transmission line facilities and autobank transformer facilities. Out of the 67 sampled Facilities, APC identified four instances (5.97%) where it misidentified the Most Limiting Element (MLE) for Facility Ratings. After discovering these incorrect Facility Ratings, APC conducted an extent of condition review of 100% of its 399 transmission line Facilities and 69 autobank transformer Facilities. APC did not identify any discrepancies for the 69 autobank transformer elements that required changes to the MLE or overall Facility Rating. However, APC identified Facility Rating discrepancies for 78 of its total 399 transmission line facilities (19.55%).

² APC's violation spans the effective dates of two Standards. FAC-009-1 was in effect from June 18, 2007 to December 31, 2012. The requirements of FAC-009 were included in FAC-008-3 which became effective on January 1, 2013. In that Standard, R6 requires each "Transmission Owner and Generator Owner shall have Facility Ratings for its solely and jointly owned Facilities that are consistent with the associated Facility Ratings methodology or documentation for determining its Facility Ratings."

³ SERC assessed a Violation Severity Level (VSL) or "Severe" in accordance with the July 3, 2017 VSL Matrix because APC failed to establish Facility Ratings consistent with the associated Facility Rating methodology or documentation for determining the Facility Ratings for more than 15% of its solely owned and jointly owned Facilities.

In November 2017, Southern Company Services (SCS) (on behalf of APC and the other operating companies) and the Electric Power Research Institute (EPRI) concluded a study investigating the heat transfer properties of transmission line terminations as applicable to substation jumper ratings. SCS and EPRI determined that sufficient heat is dissipated at connections to allow the operating temperature, and therefore the ratings, of jumpers to be increased. Therefore, on January 8, 2018, SCS revised its FRM to reflect a more accurate rating method for transmission line jumpers terminating to substation equipment. Following the update to the FRM, APC determined it would not rerate additional discrepancies that would otherwise be appropriate under the updated FRM. APC identified a total of 78 discrepancies based on application of the former FRM and de-rated 52 transmission line Facilities. Derates ranged from 0.5% to 64.0% of the prior incorrect ratings and the highest derate was 487 MVA. APC rerated two transmission line Facilities higher, with the increases ranging from 8.8% to 20.0% of the prior incorrect ratings. However, 24 of the discrepancies required no rating change under the revised FRM.

APC attributed 77 of the 78 discrepancies to substation jumpers. APC's FRM generally limited jumpers to 90°C maximum operating temperature, except for applications where jumpers were used in the first termination of an incoming transmission line conductor into a substation. In those cases, APC could have considered the maximum operating temperature to be higher depending on the jumper type and construction. APC determined that inconsistent and incorrect application of this exception was a cause for most of the Facility Rating errors. APC determined the cause of the remaining discrepancy was an isolated instance of incorrectly underrating a switch due to an incorrect one-line drawing.

RELIABILITY IMPACT STATEMENT- POTENTIAL AND ACTUAL

This violation posed a moderate risk and did not pose a serious or substantial risk to the reliability of the bulk power system (BPS). APC's planning and operating simulation-based studies depend on accurate ratings to plan construction and to establish operating criteria such that the BPS can withstand a variety of pre-determined contingencies. APC used inaccurate Facility Ratings in its planning and operating studies, which compromised the validity of the studies. APC derated a total of 52 transmission line Facilities. Derates ranged from 0.5% to 64.0% of the prior incorrect ratings and the highest derate was 487 MVA. APC determined the majority of the derates required were 15 MVA or less, and only five of the derates exceeded a threshold of 10% difference from the correct MLE. APC typically sets first-level alarms in the energy management system at 90% of the Facility Rating. Therefore, operators would have been alerted for loadings prior to exceeding the Facility Rating for 47 of the 52 (90.4%) Facilities derated. APC experienced no operational problems due to the incorrect Facility Ratings.

APC reviewed historical loading data from January 1, 2015 through the date of correction for each of the 52 derated Facilities and determined that four of these Facilities exceeded the actual MLE rating. One 115 kV line experienced loading at 120% of the actual MLE rating for 16 minutes and another 115 kV line experienced loading at 114% of the actual MLE rating for 17 minutes. However, these lines operated in parallel and neither line served any load. Operators had heightened awareness of these lines and alarms alerted operators of both exceedances. A third 115 kV line experienced loading at a maximum of 119% of the actual MLE rating intermittently over a 9-hour period on a single day. However, APC dynamically rated this line,

operators received the EMS alarm according to normal practices, and while the actual loading exceeded the published MLE rating it did not exceed 97% of the dynamic rating. All three lines were influenced by an equipment outage associated with a capital upgrade project which was factored into contingency studies. The fourth and final 115kV line exceeded the actual MLE rating by 110% for 10 minutes. APC mitigated this exceedance by incorporating operational guidance and dynamic ratings. APC experienced no operational problems due to the exceedances. Further, APC determined that the majority of the transmission line Facilities identified with discrepancies did not exceed 75% of the actual MLE rating. No harm is known to have occurred.

III. DISCOVERY INFORMATION

METHOD OF DISCOVERY

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

DURATION DATE(S)

6/18/2007 (when the Standard became mandatory and enforceable on APC) until mitigated.

DATE DISCOVERED BY OR REPORTED TO REGIONAL ENTITY 3/24/2017

IS THE VIOLATION STILL OCCURRING	YES	<input type="checkbox"/>	NO	<input checked="" type="checkbox"/>
IF YES, EXPLAIN				
REMEDIAL ACTION DIRECTIVE ISSUED	YES	<input type="checkbox"/>	NO	<input checked="" type="checkbox"/>
PRE TO POST JUNE 18, 2007 VIOLATION	YES	<input type="checkbox"/>	NO	<input checked="" type="checkbox"/>

IV. MITIGATION INFORMATION

FOR FINAL ACCEPTED MITIGATION PLAN:

MITIGATION PLAN NO.	SERCMIT013480
DATE SUBMITTED TO REGIONAL ENTITY	12/11/2017
DATE ACCEPTED BY REGIONAL ENTITY	1/5/2018
DATE APPROVED BY NERC	1/25/2018
DATE PROVIDED TO FERC	1/26/2018

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

MITIGATION PLAN COMPLETED YES ☒ NO ☐

EXPECTED COMPLETION DATE	4/13/2018
EXTENSIONS GRANTED	N/A
ACTUAL COMPLETION DATE	4/13/2018
DATE OF CERTIFICATION LETTER	4/13/2018
CERTIFIED COMPLETE BY REGISTERED ENTITY AS OF	4/13/2018
VERIFIED COMPLETE BY REGIONAL ENTITY ON	4/25/2018

ACTIONS TAKEN TO MITIGATE THE ISSUE AND PREVENT RECURRENCE

To mitigate this violation, APC:

1. Completed a review of all autobank transformer facilities and substation connection facilities for all BES Transmission line Facilities at APC;
2. Documented and tracked resolution of identified discrepancies and provided quarterly updates to SERC, including any new causes identified and actions taken to address newly identified causes;
3. Updated APC's Facility Rating database to uniquely identify substation connection elements and their individual ratings; and
4. Revised Southern's FRM to reflect the changes in the assumptions and basis for rating substation connection elements and communicate the revised FRM to appropriate personnel.

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

SERC reviewed the following evidence submitted by APC to evaluate completion of its Mitigation Plan:

1. A document describing APC's methodology to assess Facility Ratings for 100% of its autobanks and transmission line facilities;
2. Periodic reports indicating APC's progress in assessing 100% of its autobanks and transmission line facilities;
3. An example of records developed as APC performed its assessment;
4. A document and an email describing changes APC made to its database as a result of the assessment;
5. An updated version of Southern's FRM clarifying conductor and jumper rating methodology and limits on usage of transformer ratings above nameplate; and
6. A screenshot of Southern's policy website showing the updated policy posted for use.

V. PENALTY INFORMATION

TOTAL ASSESSED PENALTY OR SANCTION OF TWO HUNDRED THOUSAND DOLLARS (\$200,000) FOR ONE VIOLATION OF RELIABILITY STANDARDS.

(1) REGISTERED ENTITY'S COMPLIANCE HISTORY

PREVIOUSLY FILED VIOLATIONS OF ANY OF THE INSTANT RELIABILITY STANDARD(S) OR REQUIREMENT(S) THEREUNDER IN THE SERC REGION
YES ☒ NO ☐

LIST VIOLATIONS AND STATUS

SERC considered APC's and its affiliates' FAC-009-1 R1 compliance history in determining the penalty. SERC determined APC's affiliates had no relevant instances of noncompliance. APC's relevant prior noncompliance with FAC-009-1 R1 includes NERC violation ID SERC2016015499.⁴ SERC determined that APC's compliance history should not serve as a basis for aggravating the penalty. In SERC2016015499, after relocating a transmission support structure of a line, APC did not reevaluate the line's Facility Rating and failed to review the line's LiDAR data. To mitigate the violation, APC corrected the line's Facility Rating, reviewed span data for its higher voltage lines, and reinforced its change management process. None of APC's actions to mitigate its prior non-compliance would have identified or prevented the current violation.

ADDITIONAL COMMENTS

Not applicable.

PREVIOUSLY FILED VIOLATIONS OF OTHER RELIABILITY STANDARD(S) OR REQUIREMENTS THEREUNDER IN THE SERC REGION
YES ☒ NO ☐

LIST VIOLATIONS AND STATUS

APC had previously filed violations of other NERC Reliability Standards and Requirements in the SERC Region.

A Settlement Agreement covering a violation of FAC-003-1 R2 was filed with FERC under NP09-37-000 on September 25, 2009.⁵ On October 23, 2009, FERC issued an order stating that it would not engage in further review of the Notice of Penalty.

A Settlement Agreement covering a violation of PRC-005-1 R2 was filed with FERC under NP10-34-000 on December 30, 2009.⁶ On March 15, 2010, FERC issued an order stating that it would not engage in further review of the Notice of Penalty.

A Settlement Agreement covering three violations of PRC-005-1 R2 was filed with FERC under NP11-169-000 on April 29, 2011.⁷ On May 27, 2011, FERC issued an order stating that it would not engage in further review of the Notice of Penalty.

⁴ FERC Docket number NP17-19-000 (February 28, 2017).

⁵ NERC Violation ID SERC200700088.

⁶ NERC Violation ID SERC200800237.

⁷ NERC Violation IDs SERC200900258, SERC200900282, and SERC200900301.

A Settlement Agreement covering a violation of PRC-023-1 R1 was filed with FERC under NP12-27-000 on May 30, 2012.⁸ On June 29, 2012, FERC issued an order stating that it would not engage in further review of the Notice of Penalty.

A Settlement Agreement covering a violation of PRC-005-1 R2 was filed with FERC under NP-13-33-000 on April 30, 2013.⁹ On May 30, 2013, FERC issued an order stating that it would not engage in further review of the Notice of Penalty.

A Settlement Agreement covering a violation of FAC-003-2 R2 and a violation of FAC-009-1 R1 was filed with FERC under NP17-19-000 on February 28, 2017.¹⁰ On April 3, 2017, FERC issued a notice stating that the Notice of Penalty became effective on March 31, 2017 by operation of law.

SERC determined that APC's prior compliance history should not serve as a basis for aggravating the penalty. Aside from the FAC-009-1 R1 violation discussed above, the prior violations are unrelated to the FAC-009-1 R1 violation at issue in this enforcement action.

APC's affiliates also had previously filed violations of other NERC Reliability Standards and Requirements in the SERC Region.¹¹ SERC determined that the prior compliance history of APC's affiliates should not serve as a basis for aggravating the penalty because they are unrelated to the FAC-009-1 R1 violation at issue in this enforcement action.

ADDITIONAL COMMENTS

Not applicable.

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

FULL COOPERATION YES ☒ NO ☐

⁸ NERC Violation ID SERC2011007638.

⁹ NERC Violation ID SERC2012010332.

¹⁰ NERC Violation IDs SERC2016015498 and SERC2016015499.

¹¹ FERC Docket numbers for previously filed violations:

- a) Georgia Power Company: NP09-40-000 (September 25, 2009), NP11-20-000 (November 5, 2010), NP12-27-000 (May 30, 2012), NP12-44-000 (August 31, 2012), and NP14-35-000 (March 31, 2014).
- b) Gulf Power Company: NP10-32-000 (December 30, 2009) and RC13-1-000 (October 31, 2012).
- c) Mississippi Power Company: NP10-33-000 (December 30, 2009), NP12-27-000 (May 30, 2012), NP14-14-000 (December 30, 2013), and NP17-15-000 (February 28, 2017).
- d) Southern Company Services, Inc. – Gen.: NP12-27-000 (May 30, 2012) and NP13-27-000 (February 28, 2013).
- a) Southern Company Services, Inc. – Trans: NP15-7-000 (October 30, 2014) and FFT publicly posted (August 31, 2015).
- b) Southern Power Company: NP10-35-000 (December 30, 2009) and NP12-27-000 (May 31, 2012).

IF NO, EXPLAIN

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

IS THERE A DOCUMENTED COMPLIANCE PROGRAM

YES ☒ NO ☐

EXPLAIN

APC is a retail operating company under its parent holding company, Southern Company. APC follows Southern Company's compliance framework manual, which has been in place since January 8, 2001. Details of the internal compliance program (ICP) are available internally through the corporate intranet. Compliance-related information is regularly communicated through various means including email, newsletters, web-based, and/or classroom training sessions. The ICP is approved by the Southern Company ethics and compliance council, which consists of the compliance officers from each Southern Company operating company and major affiliates and the Southern Company compliance officer.

In 2016, Southern Company formally implemented a compliance monitoring and testing (CMAT) program for internal controls. The CMAT program identifies and documents Southern Company's strong internal controls across its business units and functions. The CMAT program includes performing and documenting independent testing of key controls, developing action plans to address any deficiencies identified during testing, and tracking completion of those action plans.

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

APC has a compliance officer, who reports directly to the chief executive officer of APC as well as to the chairman of the compliance and controls committee of the APC board of directors. Southern Company's ICP is fully supported by company officers and senior management. Southern Company's ICP is regularly reviewed by senior management and is subject to internal and external audits on a periodic basis. The individual performance of employees is evaluated on a regular basis. These evaluations include an assessment of how the employee complied with laws, regulations and company policies.

In 2017, Southern Company restructured its Reliability Steering Committee (RSC), an executive oversight committee, to add members at the general manager level or higher from each business unit across its NERC functional areas. The RSC reviews all Southern Company violations of NERC Reliability Standards

and identifies trends that may indicate broader compliance vulnerabilities across business units or operating companies.

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

YES ☐ NO ☒
IF YES, EXPLAIN

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

YES ☐ NO ☒
IF YES, EXPLAIN

(6) ANY OTHER MITIGATING FACTORS FOR CONSIDERATION

YES ☐ NO ☒
IF YES, EXPLAIN

(7) ANY OTHER AGGRAVATING FACTORS FOR CONSIDERATION

YES ☐ NO ☒
IF YES, EXPLAIN

(8) ANY OTHER EXTENUATING CIRCUMSTANCES

YES ☐ NO ☒
IF YES, EXPLAIN

OTHER RELEVANT INFORMATION:

NOTICE OF ALLEGED VIOLATION AND PROPOSED PENALTY OR SANCTION
ISSUED

DATE: OR N/A ☒

SETTLEMENT DISCUSSIONS COMMENCED

DATE: 1/9/2018 OR N/A ☐

NOTICE OF CONFIRMED VIOLATION ISSUED

DATE: OR N/A ☒

SUPPLEMENTAL RECORD INFORMATION

DATE(S) OR N/A ☒

REGISTERED ENTITY RESPONSE CONTESTED

FINDINGS ☐ PENALTY ☐ BOTH ☐ NO CONTEST ☒

HEARING REQUESTED

YES ☐ NO ☒

DATE

OUTCOME

APPEAL REQUESTED

SETTLEMENT AGREEMENT EXECUTED

DATE: 4/3/2018

EXHIBITS:

SOURCE DOCUMENT

APC Self-Report dated March 24, 2017

MITIGATION PLAN

APC Mitigation Plan submitted on December 11, 2017

CERTIFICATION BY REGISTERED ENTITY

APC Certification of Completed Mitigation Plan dated April 13, 2018

VERIFICATION BY REGIONAL ENTITY

This Disposition Document serves as SERC's Verification of Mitigation Plan Completion.

Attachment C

APC's Self-Report for FAC-009-1 R1
Dated March 24, 2017

VIEW SELF-REPORT: FAC-009-1 R1. (COMPLETED)

This item was submitted by Mark Pratt (mapratt@southernco.com) on 3/24/2017

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: Alabama Power Company

NERC Registry ID: NCR01166

JRO ID:

CFR ID:

Entity Contact Information: Mark Pratt

REPORTING INFORMATION

Applicable Standard: FAC-009-1

Applicable Requirement: R1.

Applicable Sub Requirement(s):

Applicable Functions: TO

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

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

SERC2016015499

Date Reported to Region or Discovered by Region:

2/2/2016

Monitoring Method for previously reported or discovered:

Self-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: 11/18/2016

Beginning Date of Possible Violation: 6/18/2007

End or Expected End Date of Possible Violation: 12/31/2017

Is the violation still occurring? Yes

Provide detailed description and cause of Possible Violation:

As part of the mitigation of an affiliate company's violation of FAC-009-1 (SERC2015-402229), SCS Operations Compliance performed an independent assessment of Alabama Power Company's (APC's) compliance with FAC-008-3. SCS Operations Compliance randomly sampled 67 transmission facilities in APC ($\pm 10\%$ of total population) including both transmission line facilities and autotransformer facilities. Four instances out of the selected sample indicated possible misidentification of the Most Limiting Element (MLE) in the operational database of record for APC's Transmission Facility Ratings.

It is believed that the issues identified in APC pre-date the enforcement of the NERC Reliability Standards. Therefore, the issue is being reported as a possible violation of FAC-009-1, R1 with a start date of 6/18/2007.

Are Mitigating Activities in progress or completed? No

Potential Impact to the Bulk Power System: Moderate

Actual Impact to the Bulk Power System: Minimal

Provide detailed description of Potential Risk to Bulk Power System:

The issue appears to be focused primarily on jumpers in substation applications with individual errors in Facility Ratings typically $<5\%$. However, the number of Facilities impacted is unknown at this time. Therefore, the potential risk is viewed as "Moderate".

Provide detailed description of Actual Risk to Bulk Power System:

The actual risk to the BPS is minimal as there have been no failures of transmission line facilities or autobank transformer facilities in APC due to errors in Facility Ratings.

Additional Comments:

SCS Operations Compliance is working with APC to complete a 100% review of transmission line facilities and autobank transformer facilities in APC to determine the extent of errors.

The four errors identified during the assessment conducted by SCS Operations Compliance have been corrected, and any additional errors identified during the Extent of Condition (EoC) review will be promptly corrected as they are identified.

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 D

APC's Mitigation Plan designated as SERCMIT013480 for FAC-009-1 R1
Submitted December 11, 2017

VIEW FORMAL MITIGATION PLAN: FAC-009-1 (REGION REVIEWING MITIGATION PLAN)

 A [previous version](#) of this Mitigation Plan exists

 This item was signed by Russ Ward (rdward@southernco.com) on 12/11/2017

 This item was marked ready for signature by Mark Pratt (mapratt@southernco.com) on 12/7/2017

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: Alabama Power Company

Company Address: 600 North 18th Street

Birmingham, Alabama 35291

Compliance Registry ID: NCR01166

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

Name: Mark Pratt

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-009-1

Requirement	Regional ID	NERC Violation ID	Date Issue Reported
R1.	SERC2017-402650	SERC2017017283	3/24/2017

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

As part of the mitigation of an affiliate company's violation of FAC-009-1 (SERC2015-402229), SCS Operations Compliance performed an independent assessment of Alabama Power Company's (APC's) compliance with FAC-008-3 in Q3 2016. SCS Operations Compliance randomly sampled 67 transmission facilities in APC ($\pm 10\%$ of total population) including both transmission line facilities and autobank transformer facilities. Four instances out of the selected sample indicated possible misidentification of the Most Limiting Element (MLE) in the operational database of record (Energy Management System or EMS) for APC's Transmission Facility Ratings. Alabama Power initiated a 100% review of autobank transformer series elements and substation connection facilities for transmission lines and has identified 35 discrepancies (through approximately 57% completion of the 100% review), all related to substation connection facilities. No discrepancies have been identified for autobank transformer series elements.

The primary cause of this violation is the misapplication of the Facility Rating Methodology (FRM) regarding an allowance for higher operating temperatures for jumpers.

[Attachments \(\)](#)

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

Southern Company has concluded a review of the assumptions and basis for substation connection facility ratings, and has determined that sufficient technical basis exists for increasing the maximum temperature rating for these elements. The results of this review are reflected in the mitigation actions identified in section D.1.

[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:

Alabama Power Company will complete the following mitigating actions to correct the alleged violation identified in Section C.1:
1. Complete the review of the remaining autobank transformer facilities and substation connection facilities for all BES Transmission line Facilities in Alabama Power

- Company
2. Document and track resolution of identified discrepancies and provide quarterly updates to SERC, including any new causes identified and actions taken to address newly identified causes
3. Update Alabama Power's Facility Rating Database to uniquely identify substation connection elements and their individual ratings
4. Revise Southern's FRM to reflect the changes in the assumptions and basis for rating substation connection elements and communicate the revised FRM to appropriate personnel

The rationale for the areas of focus for the ongoing review associated with this mitigation plan is as follows:

Facility Ratings for autobank transformers in Alabama Power are generally established based on the autobank transformer nameplate rating with consideration of the established design practice of specifying associated connection facilities to meet 130% of the transformer nameplate rating. No issues were identified for the sample of autobank transformer facilities reviewed for Alabama Power. However, the concept of an inherent design margin built into the connection facilities is a shared philosophy among the four operating companies and is specified in the shared Facility Ratings Methodology (FRM). Since issues were identified in some of the other operating companies based on application of this philosophy, Alabama Power will review 100% of the autobank transformer series elements.

All the errors identified in the initially reported issues in Alabama were the result of misapplication of correct information contained in Alabama Power's Facility Rating Database to EMS alarm points. Alabama Power created the database in 2008, and has maintained the database through application of an established change management process. The change management process ensures that management review is included for changes to the Transmission system. Therefore, unlike the root cause of the issues that were identified in several of the other operating companies (i.e., lack of an adequate Facility Ratings database and lack of adequate change management), the issues in Alabama (at least initially) appeared to be related to application of the Facility Ratings in the EMS. Thus, EMS alarms are included in the scope of the review.

Additionally, it has been determined that the philosophy described earlier for autobank transformer series elements is also applied to connection facilities for transmission lines into substations. So, while there is reasonable assurance that Alabama Power's Facility Rating Database is accurate based on the absence of errors identified through limited sampling and continued application of their change management process, the database does not, in fact, uniquely identify substation connection elements since these are/have been assumed to adhere to the established design practice that connection facilities meet or exceed line element ratings. Thus, the findings in our limited sampling challenge this assumption, and it appears that a full review of substation connection facilities associated with all the transmission line facilities is also warranted to ensure they do not further limit the facilities beyond the MLE identified in the database.

All BES Transmission Facilities in APC are included in the ongoing review.

[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:

4/13/2018

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

[Quarterly Update](#)

Milestone Pending (Due: 12/31/2017)

Quarterly update to SERC on progress of on-going review of Alabama Power Company's autobank transformer series elements and substation connection facilities for transmission lines.

[Quarterly Update](#)

Milestone Pending (Due: 3/31/2018)

Quarterly update to SERC on progress of on-going review of Alabama Power Company's autobank transformer series elements and substation connection facilities for transmission lines.

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):

(i) Alabama Power Company asserts that the reliability of the Bulk Power Supply (BPS) does not remain at higher risk and will not be negatively impacted prior to full completion of the action items in this Mitigation Plan based on the following:

1. Management's review of greater than 50% of facilities to-date has not identified any discrepancies that pose a substantial risk based on percentage error in rating or based on magnitude and duration of facility loading in excess of the published MLE ratings.
2. Management's review of the assumptions and basis for rating substation connection facilities (~97% of discrepancies identified to-date) has resulted in a change in philosophy for rating certain connection elements, and the corrective action for these will be administrative in nature (i.e., changes in the FRM) with no impacts to operational limits.

(ii) Therefore, Alabama Power Company does not plan or propose to implement any additional interim mitigating actions.

[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):

Successful completion of this Mitigation Plan will minimize the probability that Alabama Power Company incurs further violations of FAC-008-3 (FAC-009-1) by ensuring the following:

1. That all substation connection elements are uniquely identified and accounted for in the determination of Facility Ratings for BES Transmission Lines.
2. That assumptions and basis for rating substation connection elements are reinforced (i.e., communicated) with appropriate personnel.

[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 Russ Ward of Alabama Power Company
 - I am qualified to sign this Mitigation Plan on behalf of Alabama Power Company
 - I understand Alabama Power Company's obligations to comply with Mitigation Plan requirements and ERO remedial action directives as well as ERO documents, including, but not limited to, the NERC Rules of Procedure, including Appendix 4 (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
 - Alabama Power Company 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 E

APC's Certification of Mitigation Plan Completion for FAC-009-1 R1
Submitted April 13, 2018

VIEW MITIGATION PLAN CLOSURE: FAC-009-1 (MITIGATION PLAN CLOSURE COMPLETED)

 This item was signed by Russ Ward (rdward@southernco.com) on 4/13/2018



 This item was marked ready for signature by Mark Pratt (mapratt@southernco.com) on 4/13/2018

**MEMBER MITIGATION PLAN CLOSURE**

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

Name of Registered Entity submitting certification:

Alabama Power Company

Name of Standard of mitigation violation(s):

FAC-009-1

Requirement	Tracking Number	NERC Violation ID
R1.	SERC2017-402650	SERC2017017283

Date of completion of the Mitigation Plan:

4/13/2018

Quarterly Update

Milestone Completed (Due: 12/31/2017 and Completed 12/29/2017)

Attachments (1)

Quarterly update to SERC on progress of on-going review of Alabama Power Company's autobank transformer series elements and substation connection facilities for transmission lines.

Quarterly Update

Milestone Completed (Due: 3/31/2018 and Completed 3/23/2018)

Attachments (1)

Quarterly update to SERC on progress of on-going review of Alabama Power Company's autobank transformer series elements and substation connection facilities for transmission lines.

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

Alabama Power Company completed the following mitigating actions to correct the alleged violation identified in Section C.1:

1. Completed the review of the remaining autobank transformer facilities and substation connection facilities for all BES Transmission line Facilities in Alabama Power Company
2. Documented and tracked resolution of identified discrepancies and provided quarterly updates to SERC, including any new causes identified and actions taken to address newly identified causes
3. Updated Alabama Power's Facility Rating Database to uniquely identify substation connection elements and their individual ratings
4. Revised Southern's FRM to reflect the changes in the assumptions and basis for rating substation connection elements and communicated the revised FRM to appropriate personnel

Description of the information provided to SERC for their evaluation *

Evidence is attached that directly supports completion of each of the activities described in Part D of the Mitigation Plan.

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.