

August 31, 2021

**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 Pacific Gas and Electric Company,  
FERC Docket No. NP21-\_-000**

Dear Ms. Bose:

The North American Electric Reliability Corporation (NERC) hereby provides this Notice of Penalty<sup>1</sup> regarding Pacific Gas and Electric Company (PG&E), and referred to herein as the Entity, NERC Registry ID# NCR05299,<sup>2</sup> in accordance with the Federal Energy Regulatory Commission's (Commission or FERC) rules, regulations, and orders, as well as NERC's Rules of Procedure including Appendix 4C (NERC Compliance Monitoring and Enforcement Program (CMEP)).<sup>3</sup>

NERC is filing this Notice of Penalty, with information and details regarding the nature and resolution of the violations,<sup>4</sup> with the Commission because the Western Electricity Coordinating Council (WECC) and the Entity have entered into a Settlement Agreement to resolve all outstanding issues arising from WECC's determination and findings of the violations of the CIP Reliability Standards listed below.

According to the Settlement Agreement, the Entity neither admits nor denies the violations, but has agreed to the assessed penalty of two million two hundred thousand dollars (\$2,200,000), in addition to

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<sup>1</sup> *Rules Concerning Certification of the Electric Reliability Organization; and Procedures for the Establishment, Approval, and Enforcement of Electric Reliability Standards, Order No. 672, 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> The Entity was included on the NERC Compliance Registry as a Distribution Provider (DP), Generator Owner (GO), Generator Operator (GOP), Resource Planner (RP), Transmission Owner (TO), Transmission Operator (TOP), and Transmission Planner (TP) on June 17, 2007.

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

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

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202-400-3000 | [www.nerc.com](http://www.nerc.com)

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other 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 WECC and the Entity. The details of the findings and basis for the penalty are set forth in the Settlement Agreement and herein.

In accordance with Section 39.7 of the Commission’s regulations, 18 C.F.R. § 39.7 (2021), 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 and herein.

<b>Violation(s) Determined and Discovery Method</b>								
<small>*SR = Self-Report / SC = Self-Certification / CA = Compliance Audit / SPC = Spot Check / CI = Compliance Investigation</small>								
NERC Violation ID	Standard	Req.	VRF/VSL	Applicable Function(s)	Discovery Method* & Date	Violation Start-End Date	Risk	Penalty Amount
WECC2018020493	FAC-009-1	R1	Medium/ Severe	GO, TO	CA 9/27/18	6/18/07- 4/30/21	Serious	\$2.2M and non- monetary sanctions
WECC2018020786	FAC-501- WECC-1	R3	Medium/ Moderate	TO	SR 12/5/18	7/15/14- 10/10/18	Serious	
WECC2018018998	PRC-005-6	R3	High/ Severe	DP, GO, TO	SR 1/12/18	1/15/16- 1/24/19	Serious	
WECC2020023337	PRC-005-1a	R2	High/ Severe	DP, TO	SR 5/6/20	1/1/12- 4/26/21	Serious	
WECC2020023453	PRC-004-5(i)	R5	High/ Severe	TO	SR 5/22/20	6/25/19- 2/24/21	Moderate	

Overview of the Entity

Pacific Gas and Electric Company (PG&E), incorporated in California in 1905, is one of the largest combination natural gas and electric utilities in the United States. There are approximately 24,000 employees who carry out PG&E's primary business of transmission and delivery of energy. The company provides natural gas and electric service to approximately 16 million people throughout a 70,000-square-mile service area in northern and central California.

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PGAE owns, operates and maintains approximately 12,811 miles of transmission lines. This includes 6,148.53 miles of 115 kV, 5,335.19 miles of 230 kV and 1,327.67 miles of 500 kV Transmission lines. PGAE operates four WECC Major Transfer Paths--Path 15, Path 24, Path 26, and Path 66. PGAE has 29 Interconnection points with the following nine Transmission Operators: Western Area Power Administration-Sierra Nevada Region (WASN), Sacramento Municipal Utility District (SMUD), Modesto Irrigation District (MID), Turlock Irrigation District (TID), Sierra Pacific Power Company (SPCC), Pacific Wind (PACWN), Bonneville Power Administration (BPA), Southern California Edison Company (SCEC), and City of Palo Alto (CYPL).

PGAE owns and operates 8,021 MW of generation and also has 10,179 MW of power through Power Purchase Agreements. PGAE has 12 generation units identified as Blackstart Resources with a combined nameplate capacity of 684 MW. Additionally, PGAE has 2,000 MW available to use through imports. As part of these generation resources, PGAE owns a nuclear facility which has a capacity of 2,600 MVA. PGAE is responsible for delivering a maximum real power capacity of 19,876 MW. The peak capacity that PGAE is responsible for monitoring or operating on its transmission system is 22,468 MW. PGAE has approximately 80 percent of CISO's load within its footprint.

FAC-009-1 R1 (WECC2018020493)

WECC determined that the Entity did not have all its current carrying series elements included in its Facility Rating database for its 1,020 Facilities across its entire footprint. Without including every current carrying element in its ratings database, the Entity could not determine which element was the most limiting for each Facility, making the calculation of each System Operating Limit (SOL) inaccurate. This resulted in the de-rate of 40 Facilities. Attachment 1 includes additional facts regarding the violation.

The cause of this violation was attributed to poorly defined management and guidance regarding how to maintain a comprehensive Facility Ratings program. A contributing cause was related to an incomplete process design; specifically, the Entity did not have a process in place to maintain the Facility Ratings database. Another contributing cause was a less than adequate process for the identification of equipment applicable to Facility Ratings as changes occurred on the Entity's system, specifically the most limiting element and every current carrying element for each affected Facility.

WECC determined that this violation posed a serious and substantial risk to the reliability of the bulk power system (BPS). Attachment 1 includes the facts regarding the violation that WECC considered in its risk assessment.

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The Entity submitted its Mitigation Plan to address the referenced violation. Attachment 1 includes a description of the mitigation activities the Entity took to address this violation. A copy of the Mitigation Plan is included as Attachment 3. The expected completion date of the Mitigation Plan is June 10, 2022.

FAC-501-WECC-1 R3 (WECC2018020786)

WECC determined that the Entity had not inspected ten steel support towers per its Transmission Maintenance and Inspection Plan (TMIP) spanning inspections in 2014, 2017, and 2018. Attachment 1 includes additional facts regarding the violation.

The cause of this violation was attributed to less than adequate process design.

WECC determined that this violation posed a serious and substantial risk to the reliability of the BPS. Attachment 1 includes the facts regarding the violation that WECC considered in its risk assessment.

The Entity submitted its Mitigation Plan to address the referenced violation. Attachment 1 includes a description of the mitigation activities the Entity took to address this violation. A copy of the mitigation Plan is included as Attachment 5.

The Entity certified that it had completed all mitigation activities. WECC verified that the Entity had completed all Mitigation activities. Attachments 1 and 7 provide specific information on WECC's verification of the Entity's completion of the activities.

PRC-005-6 R3 (WECC2018018998)

Regarding the first issue, WECC determined that the Entity did not use the correct internal Ohmic baselines values for station battery resistance testing conducted the previous year on June 22, 2016, which resulted in an incorrect assessment that the results were adequate. If the correct baseline values had been used, the battery bank would have failed the test and, according to the Entity's procedures, would have been re-tested and subjected to an equalization charge. The Entity's extent of condition found that, beginning January 15, 2016, it had used the wrong baseline to verify 58 battery banks at 19 Bulk Electric System (BES) generation stations and 20 transmission and distribution stations. Attachment 1 includes additional facts regarding the violation.

Regarding the second issue, WECC determined that the Entity had not completed all maintenance and testing activities for four electromechanical relays at a 230kV Bus Differential at one substation, as required every six calendar years. Attachment 1 includes additional facts regarding the violation.

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The cause of the first issue of the violation was attributed to personnel not following documented instructions.

The cause of the second issue of the violation was attributed to process design flaws in that complex clearances were required for an Application for Work (APW), which increased the lead time to perform the maintenance tasks. In addition, a contributing cause was that the bus differential protection scheme at the substation had a single level of protection, preventing the Entity from performing maintenance activities without clearing the bus and all associated protection.

WECC determined that this violation posed a serious and substantial risk to the reliability of the BPS. Attachment 1 includes the facts regarding the violation that WECC considered in its risk assessment.

The Entity submitted its Mitigation Plan to address the referenced first issue of the violation. Attachment 1 includes a description of the mitigation activities the Entity took to address this violation. A copy of the Mitigation Plan is included as Attachment 9.

The Entity certified that it had completed all mitigation activities. WECC verified that the Entity had completed all Mitigation activities. Attachments 1 and 11 provide specific information on WECC's verification of the Entity's completion of the activities.

PRC-005-1a R2 (WECC2020023337)

WECC determined that the Entity did not maintain and test five Protection System relays within defined intervals at two BES substations.

The cause of this violation was attributed to ineffective controls to adequately track PRC-005 maintenance activities. There was a gap in the process for the Entity's Asset and Maintenance Planners that did not detect a discrepancy between the software database inventories.

WECC determined that this violation posed a serious and substantial risk to the reliability of the BPS. Attachment 1 includes the facts regarding the violation that WECC considered in its risk assessment.

The Entity submitted its Mitigation Plan to address the referenced violation. Attachment 1 includes a description of the mitigation activities the Entity took to address this violation. A copy of the Mitigation Plan is included as Attachment 13.

The Entity certified that it had completed all mitigation activities, which is pending WECC's verification.

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PRC-004-5(i) R5 (WECC2020023453)

WECC determined that one of the Entity's substation 230/115 kV Transformer Bank tripped out-of-section due to a Protection System Misoperation, that resulted in a momentary interruption to another substation 115/12 kV Transformer.

The cause of this violation was attributed to the Entity's lack of sufficient controls to ensure its personnel evaluated Misoperations completely, using its Transmission Operations Tracking and Logging (TOTL) system. The Misoperation was evaluated via email and outside of TOTL.

WECC determined that this violation posed a moderate risk and did not pose a serious and substantial risk to the reliability of the BPS. Attachment 1 includes the facts regarding the violation that WECC considered in its risk assessment.

The Entity submitted its Mitigation Plan to address the referenced violation. Attachment 1 includes a description of the mitigation activities the Entity took to address the violation. A copy of the Mitigation Plan is included as Attachment 16.

The Entity certified that it had completed all mitigation activities, which is pending WECC's verification.

Regional Entity's Basis for Penalty

According to the Settlement Agreement, WECC has assessed a penalty of two million two hundred thousand dollars (\$2,200,000) for the referenced violations. In reaching this determination, WECC considered the following factors:

1. The Entity's systemic failures in the implementation of its Protection System Maintenance Program (PSMP) have gone unaddressed at a root cause level and have led to a programmatic failure as evidenced by its compliance history spanning multiple years and its current serious risk violations of the Standard Requirement;
2. The Entity's systemic failures of its Facility Ratings program have gone unaddressed at a root cause level and led to a programmatic failure as evidenced by its compliance history and current serious risk violations of the Standard Requirement;
3. The Entity did not have any relevant compliance history with FAC-501-WECC-1;
4. The Entity was not awarded mitigating credit for its internal compliance program as it was last reviewed by WECC in 2013 and therefore not relevant to the discovery of the current violations,

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and the Entity lacked internal controls that could have detected the current violations as discussed in Attachment 1;

5. The Entity self-reported the PRC-005-6 R3, PRC-005-1a R2, PRC-004-5(i) R5, FAC-501-WECC-1 R3 violations in a timely manner from the date of discovery;
6. The Entity was cooperative throughout the compliance enforcement process;
7. The Entity accepted responsibility and admits to the violations;
8. The Entity agreed to settle these violations and penalty;
9. The Entity did not fail to complete any applicable compliance directives, there was no evidence of any attempt to conceal the violation, no evidence the violation was intentional, and the Entity submitted all requested documentation and/or mitigation plans timely;
10. The violation of PRC-004-5(i) R5 posed a moderate and not a serious or substantial risk to the reliability of the BPS, as discussed in Attachment 1;
11. The violations of FAC-009-1 R1, FAC-501-WECC-1 R3, PRC-005-6 R3, and PRC-005-1a R2 posed a serious or substantial risk to the reliability of the BPS, as discussed in Attachment 1; and
12. There were no other mitigating or aggravating factors or extenuating circumstances that would affect the assessed penalty.

The Settlement Agreement includes the following non-monetary sanctions:

1. The Entity's CEO will sign the Settlement Agreement;
2. The Entity's Board of Directors will be briefed on the key terms of, and violations underlying, the Settlement Agreement; and
3. The Entity will adequately address its programmatic failures and the root cause of those failures with FAC-008 and PRC-005 by participating with WECC in its mitigation efforts.

After consideration of the above factors, WECC determined that, in this instance, the penalty amount of two million two hundred thousand dollars (\$2,200,000) and associated non-monetary sanctions 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**

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

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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> NERC Enforcement staff reviewed the applicable requirements of the violations at issue, and considered the factors listed above.

For the foregoing reasons, NERC Enforcement staff approved the resolution between WECC and the Entity and believes that the assessed penalty of two million two hundred thousand dollars (\$2,200,000) and associated non-monetary sanctions 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:

1. Settlement Agreement by and between WECC and the Entity executed 6/24/21, included as Attachment 1;
2. The Entity's Compliance Audit for FAC-009-1 R1 dated 9/27/18, included as Attachment 2;
3. The Entity's Mitigation Plan designated as WECCMIT014742 for FAC-009-1 R1 submitted 8/26/19, included as Attachment 3;
4. The Entity's Self-Report for FAC-501-WECC-1 R3 dated 12/5/18, included as Attachment 4;
5. The Entity's Mitigation Plan designated as WECCMIT014607 for FAC-501-WECC-1 R3 submitted 6/13/19, included as Attachment 5;
6. The Entity's Certification of Mitigation Plan Completion for FAC-501-WECC-1 R3 submitted 1/23/20, included as Attachment 6;
7. WECC's Verification of Mitigation Plan Completion for FAC-501-WECC-1 R3 dated 3/3/20, included as Attachment 7;
8. The Entity's Self-Report for PRC-005-6 R3 dated 1/12/18, included as Attachment 8;

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<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).



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9. The Entity's Mitigation Plan designated as WECCMIT013711-1 for PRC-005-6 R3 submitted 2/26/19, included as Attachment 9;
10. The Entity's Certification of Mitigation Plan Completion for PRC-005-6 R3 submitted 2/26/19, included as Attachment 10;
11. WECC's Verification of Mitigation Plan Completion for PRC-005-6 R3 dated 7/17/19 included as Attachment 11.
12. The Entity's Self-Report for PRC-005-1a R2 dated 5/6/2020, included as Attachment 12;
13. The Entity's Mitigation Plan designated as WECCMIT015212-1 for PRC-005-1a R2 submitted 8/14/20, included as Attachment 13;
14. The Entity's Certification of Mitigation Plan Completion for PRC-005-1a R2 submitted 4/26/21 included as Attachment 14;
15. The Entity's Self-Report for PRC-004-5(i) R5 dated 5/22/20, included as Attachment 15;
16. The Entity's Mitigation Plan designated as WECCMIT015213-1 for PRC-004-5(i) R5 submitted 12/8/20, included as Attachment 16; and
17. The Entity's Certification of Mitigation Plan Completion for PRC-004-5(i) R5 submitted 3/4/21, included as Attachment 17.

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**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>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>Melanie Frye*          President and Chief Executive Officer          Western Electricity Coordinating Council          155 North 400 West, Suite 200          Salt Lake City, UT 84103          (801) 883-6882          (801) 883-6894 – facsimile          mfrye@wecc.org</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>Heather Laws*          Director of Enforcement          Western Electricity Coordinating Council          155 North 400 West, Suite 200          Salt Lake City, UT 84103          (801) 819-7642          (801) 883-6894 – facsimile          hlaws@wecc.org</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>
<p>Wade Smith*          SVP, Electric Operations          Pacific Gas and Electric Company          77 Beale Street          San Francisco, CA 94105          (510) 906-7974          AWSJ@pge.com</p>	

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<p>Ray Grippo* NERC Compliance Program Director Pacific Gas and Electric Company 3655 Cincinnati Avenue Rocklin, CA 95765 (925) 719-1941 R5Gb@pge.com</p>	
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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/ Joshua Yang

Joshua Yang  
Associate Counsel  
James McGrane  
Senior Counsel  
North American Electric Reliability  
Corporation  
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cc: The Entity  
WECC

Attachments



**CONFIDENTIAL**

**Heather M. Laws**  
**Director, Enforcement and Mitigation**  
**801-819-7642 hlaws@wecc.org**

June 24, 2021

Adam Wright  
Executive Vice President, Operations  
Pacific Gas and Electric Company  
77 Beale Street  
San Francisco, CA 94105

Subject: Notice of Expedited Settlement Agreement

Adam Wright,

**I. Introduction**

The Western Electricity Coordinating Council (WECC) hereby notifies Pacific Gas and Electric Company (PG&E) NCR05299 that WECC identified Possible Violations of North American Electric Reliability Corporation (NERC) Reliability Standards (Reliability Standards) in the Preliminary Screen process and based on an assessment of the facts and circumstances of the Possible Violations addressed herein, evidence exists that PG&E has Alleged Violations of the Reliability Standards.

WECC reviewed the Alleged Violations referenced herein and determined that these violations are appropriate for disposition through the Expedited Settlement process. In determining whether to exercise its discretion to use the Expedited Settlement process, WECC considered all facts and circumstances related to the violations. By this Notice, WECC reminds PG&E to retain and preserve all data and records relating to the Alleged Violations.

**II. Alleged Violations**

<b>Standard Requirement</b>	<b>NERC Violation ID</b>
FAC-009-1 R1	WECC2018020493
FAC-501-WECC-1 R3	WECC2018020786
PRC-005-6 R3	WECC2018018998
PRC-005-1a R2	WECC2020023337
PRC-004-5(i) R5	WECC2020023453

The attached Expedited Settlement Agreement includes a summary of the facts and evidence supporting each Alleged Violation, as well as the basis on which the monetary and nonmonetary sanctions were determined<sup>1</sup>.

### **III. Proposed Monetary and Nonmonetary Sanction**

Pursuant to the Federal Energy Regulatory Commission's (FERC or Commission) regulations and orders, NERC Rules of Procedure, and the NERC Sanction Guidelines, WECC assesses monetary and nonmonetary sanctions for the violations of the Reliability Standards referenced in the attached Settlement Agreement.

In determining a monetary and/or nonmonetary sanction, WECC considers various factors that may include, but are not limited to: (1) Violation Risk Factor; (2) Violation Severity Level; (3) risk to the reliability of the Bulk Electric System (BES)<sup>2</sup>, including the seriousness of the violation; (4) Violation Time Horizon and timeliness of remediation; (5) the violation's duration; (6) the Registered Entity's compliance history; (7) the timeliness of the Registered Entity's self-report; (8) the degree and quality of cooperation by the Registered Entity in the audit or investigation process, and in any remedial action; (9) the quality of the Registered Entity's Internal Compliance Program; (10) any attempt by the Registered Entity to conceal the violation or any related information; (11) whether the violation was intentional; (12) any other relevant information or extenuating circumstances; (13) whether the Registered Entity admits to and takes responsibility for the violation; (14) "above and beyond" actions and investments made by the Registered Entity in an effort to prevent recurrence of this issue and/or proactively address and reduce reliability risk due to similar issues; and (15) the Registered Entity's ability to pay a monetary sanction, as applicable.

WECC's determination of monetary sanctions is guided by the statutory requirement codified at 16 U.S.C. § 824o(e)(6) that any monetary sanctions imposed "shall bear a reasonable relation to the seriousness of the violation and shall take into consideration the efforts of [the Registered Entity] to

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<sup>1</sup> The attached agreement references the version of the Reliability Standard in effect at the time each Alleged Violation began. The entity, however, committed to perform mitigating actions to comply with the most recent version of each Reliability Standard Requirement.

<sup>2</sup> "The Commission, the ERO, and the Regional Entities will continue to enforce Reliability Standards for facilities that are included in the Bulk Electric System." (*Revision to Electric Reliability Organization Definition of Bulk Electric System*, 113 FERC ¶ 61,150 at P 100 (Nov. 18, 2010))



June 24, 2021

remedy the violation in a timely manner.” In addition, WECC considers all other applicable guidance from NERC and FERC.

**IV. Procedures for Registered Entity’s Response**

If PGAE accepts WECC’s proposal that the violations listed in the Settlement Agreement be processed through the Expedited Settlement process, PGAE must sign the attached Settlement Agreement and submit it through the WECC Enhanced File Transfer (EFT) Server Enforcement folder **within 15 calendar days from the date of this Notice**.

If PGAE does not accept WECC’s proposal, PGAE must submit a written rejection, through the EFT Server, **within 15 calendar days from the date of this Notice**, informing WECC of the decision not to accept WECC’s proposal.

If PGAE rejects this proposal or does not respond **within 15 calendar days**, WECC will issue a Notice of Alleged Violation and Proposed Penalty or Sanction.

**V. Conclusion**

In all correspondence, please provide the name and contact information of a representative from PGAE who is authorized to address the above-listed Alleged Violation and who is responsible for providing the required Mitigation Plan. Please also list the relevant NERC Violation Identification Number in any correspondence.

Responses or questions regarding the Settlement Agreement should be directed to Heather Laws at 801-819-7642 or [hlaws@wecc.org](mailto:hlaws@wecc.org).

Sincerely,



Heather M. Laws

Director, Enforcement and Mitigation

cc: NERC Enforcement

Attachment I: Expedited Settlement Agreement

Attachment II: Violation Facts



## ATTACHMENT I

### EXPEDITED SETTLEMENT AGREEMENT OF WESTERN ELECTRICITY COORDINATING COUNCIL AND PACIFIC GAS AND ELECTRIC COMPANY

Western Electricity Coordinating Council (WECC) and Pacific Gas and Electric Company (PG&E) (individually a “Party” or collectively the “Parties”) agree to the following:

1. PG&E admits to and takes responsibility for the violation of the NERC Reliability Standard listed below.
2. On January 29, 2019 (the “Petition Date”), PG&E, as a debtor and debtor in possession commenced with the United States Bankruptcy Court for the Northern District of California (the “Bankruptcy Court”) a voluntary case for relief under chapter 11 of title 11 of the United States Code, which Chapter 11 Case has been consolidated for procedural purposes only under the lead case styled: *PG&E Corporation and Pacific Gas and Electric Company., Case No. 19-30088* (the “Bankruptcy Case”). The violation addressed herein relates at least in part to conduct occurring before the Petition Date. Accordingly, on July 15, 2020, WECC filed under seal proof of claim number 106206 (the “Proof of Claim”), attached as Exhibit A hereto, pertaining to these violations.
3. PG&E’s *Joint Chapter 11 Plan of Reorganization Dated June 19, 2020* [Docket No. 8048] (as may be modified, amended, or supplemented from time to time, and together with all scheduled and exhibits thereto, the “Plan”) was confirmed by order of the Bankruptcy Court entered June 20, 2020 [Docket No. 8053] (the “Confirmation Order”). Under Section 7.2 of the Plan, PG&E is authorized to, among other things, compromise, settle, otherwise resolve, or withdraw any objections to Disputed Claims (as defined in the Plan) and to compromise, settle, or otherwise resolve any Disputed Claims without approval of the Bankruptcy Court.
4. The violation addressed herein will be considered a Confirmed Violation as set forth in the NERC Rules of Procedure.
5. The terms of this Settlement Agreement, including the agreed upon payment, are subject to review and possible revision by NERC and FERC. Upon NERC approval of the Settlement Agreement, NERC will file a full Notice of Penalty with FERC and will post the Settlement Agreement publicly. If either NERC or FERC rejects the Settlement Agreement, then WECC will attempt to negotiate a revised Settlement Agreement with PG&E that includes any changes to the Settlement Agreement specified by NERC or FERC. If the Parties cannot reach a Settlement Agreement, the CMEP governs the enforcement process.





## Expedited Settlement Agreement

6. The Parties have agreed to enter into this Settlement Agreement 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 identified herein as alleged in the Proof of Claim. The Parties agree that this Settlement Agreement is in the best interest of each Party and in the best interest of Bulk Power System (BPS) reliability.
7. WECC hereby warrants and represents that it owns all of the claims asserted in the Proof of Claim and has not assigned or in any way transferred or conveyed all or any portion of such claim, and that WECC has the sole right and exclusive authority to execute this Agreement and receive the sums specified or reference in this Agreement.
8. This Settlement Agreement represents a full and final disposition of the violations listed herein, and further subject to approval or modification by NERC and FERC. PGAE waives its right to further hearings and appeal; unless and only to the extent that PGAE contends that any NERC or FERC action on this Settlement Agreement contains one or more material modifications to this Settlement Agreement.
9. In the event PGAE fails to comply with any of the terms set forth in this Settlement Agreement, WECC will initiate enforcement, monetary sanction, and/or non-monetary sanction actions against PGAE to the maximum extent allowed by the NERC Rules of Procedure, up to the maximum statutorily allowed monetary sanction. Except as otherwise specified in this Settlement Agreement, PGAE shall retain all rights to defend against such enforcement actions, in accordance with the NERC Rules of Procedure.
10. This Settlement Agreement shall be governed by and construed under federal law.
11. This Settlement Agreement contains the full and complete understanding of the Parties regarding all matters set forth herein. The Parties agree that this Settlement Agreement reflects all terms and conditions regarding all matters described herein and no other promises, oral or written, have been made that are not reflected in this Settlement Agreement.
12. Each of the undersigned warrants that he or she is an authorized representative of the Party identified, is authorized to bind such Party, and accepts the Settlement Agreement on that Party's behalf.
13. Each party shall bear his, her or its own attorney fees and costs arising from this Agreement, the Proof of Claim and the matters and documents referred to herein, and all related matters.
14. The undersigned representative of each Party affirms that he or she has read the Settlement Agreement, that all representations 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 each Party in express reliance on those representations.

15. To resolve the Proof of Claim, the parties agree that WECC shall have an allowed claim against PGAE in the amount(s) and classification(s) set forth in Exhibit B attached hereto (the “Allowed Claim”), which Allowed Claim shall be satisfied pursuant to, and in accordance with, the Plan and Confirmation Order. For the avoidance of doubt, the Allowed Claim is in addition to the amount previously distributed to WECC (\$2,268,812.44) pursuant to the Order Pursuant to 11 U.S.C. §§ 363(b) and 105(a) and Fed. R. Bankr. P. 9019 Authorizing the Debtors to Establish Procedures to Settle and Compromise Certain Claims and Causes of Action [Docket No. 3855]. The agreed amount of the Allowed Claim is inclusive of any right or entitlement of Claimant for or on account of post-petition interest; and notwithstanding any provision of the Plan or Confirmation Order or other applicable law, Claimant shall not have any additional right or entitlement to post-petition interest on the Allowed Claim.
16. In addition, PGAE must submit a Mitigation Plan within 30 calendar days from the date of this Settlement Agreement if it has not already done so previously.
17. In consideration of the allowance of the Allowed Claim, as of the Effective Date of the Plan, WECC releases PGAE and its predecessors, successors, parents, direct subsidiaries, indirect subsidiaries, affiliates, assigns, agents, their current and former directors, officers, employees, representatives, insurers, attorneys, and shareholders, (collectively the “Released Parties”), from any and all claims, proofs of claim, debts, demands, damages, attorneys' fees, judgments, liabilities, causes of action, or controversies of any kind whatsoever (including, without limitation, any claim for post-petition interest), whether at law or in equity, whether matured or unmatured, whether before a local, state, or federal court or state or federal administrative agency or commission, or arbitration administrator, and whether now known or unknown, liquidated or unliquidated, that WECC has, may have had, asserted, and/or may have asserted, against the Released Parties on behalf of itself, or any other person or entity, with respect to the Proof of Claim. The provisions of this Paragraph 17 are in addition to and shall in no way be deemed to limit or modify, the release, discharge, injunction and other provisions of the Plan and Confirmation Order. Nothing contained in this release shall prevent the Parties from asserting or pursuing any claim to enforce the terms of this Agreement. Notwithstanding anything in this Agreement to the contrary, WECC has also filed proof of claim number 106205 (under seal), attached as Exhibit C to this Agreement (the “Second Claim”)—which claim, the Parties agree, is, as of the date of payment of the Allowed Claim, the only WECC proof of claim that has not been fully satisfied—and nothing in this Agreement shall release, discharge, relinquish, or affect in any manner the Second Claim.



18. WECC acknowledges and agrees that PGAE or its agents are authorized to adjust the claims register to reflect allowance of the Allowed Claim and the disallowance and expungement of the Proof of Claim.
19. WECC understands that by the execution of this document, no further claims may be asserted by WECC or its assigns against the Released Parties for the Proof of Claim (although notwithstanding anything in this Settlement Agreement to the contrary, the Second Claim may be and is asserted by WECC after the execution of this Settlement Agreement). Accordingly, to the extent applicable (and, for the avoidance of doubt, the parties agree that this Settlement Agreement does not constitute a release of the Second Claim), WECC hereby waives any and all rights based upon the provisions, rights, and benefits conferred by any law of any state or territory that is similar, comparable, or equivalent to the California Civil Code section 1542, which reads as follows:

“A GENERAL RELEASE DOES NOT EXTEND TO CLAIMS THAT THE CREDITOR OR RELEASING PARTY DOES NOT KNOW OR SUSPECT TO EXIST IN HIS OR HER FAVOR AT THE TIME OF EXECUTING THE RELEASE AND THAT, IF KNOWN BY HIM OR HER, WOULD HAVE MATERIALLY AFFECTED HIS OR HER SETTLEMENT WITH THE DEBTOR OR RELEASED PARTY.”

20. WECC understands and acknowledges that it may have sustained or in the future may sustain additional injuries, damages or losses which may manifest themselves and which are presently unknown, but nevertheless it deliberately intends to, and hereby does, release the Released Parties and all other entities described in this Agreement from the Proof of Claim in consideration of the allowance of the Allowed Claim, and such injuries, damages and losses occurring before the Petition Date on account of the Proof of Claim. WECC understands and agrees that this waiver is an essential and material term of this Agreement and the settlement which leads to it and that, without such waiver, the settlement would not have been entered into by PGAE. PGAE agrees that notwithstanding this paragraph, nothing in this Settlement Agreement releases the Second Claim.
21. The Parties agree that other than the identification of the Proof of Claim resolved hereby, the terms of this Agreement, including the amount of the Allowed Claim, are strictly confidential. The Parties agree to keep all of the terms of this settlement completely confidential and agree not to disclose any information concerning this Agreement, the terms of the settlement, or the settlement communications between the Parties, to any person or entity, unless such



## Expedited Settlement Agreement

disclosure is: (a) necessary to report the settlement to their respective lawyers, tax advisors, accountants, and/or insurers; (b) lawfully required by any governmental agency; (c) otherwise required to be disclosed by law; (d) necessary in any legal proceeding to enforce any provision of this Agreement; or (e) as permitted or required by FERC Rules of Practice and Procedure or NERC Rules of Procedure (including without limitation NERC Rule of Procedure Section 1506.2, which permits the terms of a settlement to be disclosed to NERC and the Regional Entities [as that term is defined by the NERC Rules of Procedure]).


22. NOW, THEREFORE, in consideration of the terms set forth herein the Parties hereby agree and stipulate to the following:

**[Remainder of page intentionally left blank - signatures affixed to following page]**



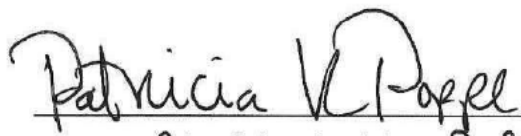
Agreed to and Accepted by:

WESTERN ELECTRICITY COORDINATING COUNCIL

  
Heather Laws (Jun 24, 2021 12:57 MDT)  
Heather M. Laws  
Director, Enforcement and Mitigation

Jun 24, 2021  
Date

PACIFIC GAS AND ELECTRIC COMPANY

  
Name: PATRICIA K. POPPE  
Title: CEO, PG&E CORP.

6/24/21  
Date

## ATTACHMENT II VIOLATION FACTS

### A. NERC RELIABILITY STANDARD FAC-009-1 REQUIREMENT 1

NERC VIOLATION ID: WECC2018020493

#### STANDARD

1. NERC Reliability Standard FAC-009-1 Requirement 1 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.*

#### VIOLATION FACTS

2. During a Compliance Audit conducted September 17, 2018, through September 28, 2018, WECC determined PG&E, as a Generator Owner and Transmission Owner, was in potential noncompliance with FAC-009-1 R1.
3. WECC identified many discrepancies in PG&E's Facility Ratings for its generation and transmission Facilities. Specifically, PG&E did not have all its current carrying series elements included in its Facility Rating database for its 1,020 Facilities across its entire footprint. Without including every current carrying element in its ratings database, PG&E could not determine which element was the most limiting for each Facility, making the calculation of each System Operating Limit (SOL) inaccurate.
4. During the Compliance Audit, the following discrepancies and incorrect Facility Ratings were found from the sample set.
  - a. For a 60 kV jointly owned transmission Facility, the Facility Rating documentation was missing three switches and one circuit breaker;
  - b. For a 115 kV Facility, a data request response to WECC listed the generator as the most limiting element, but the Facility Rating documentation listed the switch as the most limiting element; though inconsistent, the Facility Rating was not incorrect;
  - c. For another 115 kV Facility, the Facility Rating documentation should have listed the generator disconnect switch as the most limiting element, but the transformer had been incorrectly identified as the most limiting element;
  - d. For another 115 kV jointly owned transmission Facility on a Major WECC Transfer Path, the Facility Rating documentation did not include information about the breaker or five switches;
  - e. For another 115 kV transmission Facility, the Facility Rating documentation listed the Facility Rating as 397 Amps, however the most limiting element was not marked;



- f. For a 230 kV Facility, the Facility Rating documentation listed a transformer as its most limiting element at 70 MVA, however the 3-phase rating of the same Facility was identified as 63 MVA, therefore the Facility Rating was incorrect by 7 MVA;
  - g. For another 230kV Facility, the Facility Rating documentation had a component description of circuit breakers and switches that did not match its single line diagram which indicated that not all elements had been considered correctly in its Facility Rating for that Facility and not having proper Facility Rating documentation and would not have been accounted for in the Facility Ratings;
  - h. For another 230 kV transmission Facility, the Facility Rating documentation was missing one breaker;
  - i. For another 230 kV transmission line Facility, the Facility Rating documentation identified a switch and terminal equipment as the most limiting element in the Facility Ratings, but the wave trap had an equal rating, however it was not listed. The Facility Rating was correct, but each element had not been identified;
  - j. For a 500 kV transmission Facility on a Major WECC Transfer Path, the Facility Rating documentation was missing three disconnect switches;
  - k. For another 500 kV transmission Facility, the Facility Rating documentation was missing four disconnect switches;
  - l. For another 500 kV transmission Facility, that is jointly owned on a Major WECC Transfer Path, the Facility Rating documentation did not list the current transformer (CT) as the most limiting element. The CT is not owned by PG&E but is located within its substation. The Facility Rating for this Facility was incorrect by 478 AMPS; and
  - m. For another 500 kV transmission Facility on a Major WECC Transfer Path, the Facility Rating documentation identified the terminal equipment at 2230 Amps and the most limiting element. However, PG&E did not take into account the transmission line and conductors that have a Facility Rating. In the Facility Rating documentation, the circuit breaker leg and CT were listed as the most limiting element at 2000 Amps, resulting in an incorrect Facility Rating, 230 Amps higher than the correct Facility Rating.
5. Regarding the generation Facilities, WECC identified that PG&E did not have all the current carrying series elements included in its database. The Facility Ratings Methodology stated that PG&E calculated its Facility Ratings by evaluating all current-carrying elements including CTs), but the Facility Ratings form did not mention CTs.
  6. Additionally, for PG&E's transmission and generation Facilities placed in service before June 18, 2007, PG&E did not have all series elements documented within its Facility Ratings database for each Facility.

7. The root cause of the violation was attributed to poorly defined management and guidance regarding how to maintain a comprehensive Facility Ratings program. A contributing cause was related to an incomplete process design; specifically, PGAE did not have a process in place to maintain the Facility Ratings database. As well, another contributing cause was a less than adequate process for the identification of equipment applicable to Facility Ratings as changes occurred on PGAE's system, specifically the most limiting element and every current carrying element for each affected Facility.
8. This violation began on June 18, 2007, when the Standard became mandatory and enforceable, and is still ongoing. Given the extent of the of the Facility Rating discrepancies, WECC has determined PGAE's entire transmission and generation system is under review and is expected to be remediated and mitigated to the current version of the Standard by April 30, 2021, for a total of 5,066 days of noncompliance.

### RELIABILITY RISK ASSESSMENT

9. WECC determined this violation posed a serious and substantial risk to the reliability of the BPS. In this instance, PGAE failed to establish Facility Ratings for its solely and jointly owned Facilities that were consistent with the associated Facility Ratings Methodology, as required by FAC-009-1 R1, as described herein. During the process of performing an extent of condition in its Mitigation Plan, by March 26, 2021, PGAE has de-rated one 70 kV Facility, twenty-four 115 kV Facilities, twelve 230 kV Facilities and two 500 kV Facilities, for a total of 40 de-rated Facilities.
10. Such failure resulted in PGAE not correctly determining the SOL of each affected Facility. Failure to determine the correct SOL resulted in the operation of at least 40 Facilities above the appropriate rating, which could have led to equipment damage or failure, unplanned or cascading outages, unplanned contingencies, unacceptable post-contingency flow, voltage instability, uncontrolled frequency, incorrect planning models and inefficient planning studies. Subject to the extent of condition of the violation, PGAE owned, operated, and maintained approximately 18,000 miles of transmission lines; including 6,000 miles of 115 kV, 5,500 miles of 230 kV, and 1,300 miles of 500 kV transmission lines; operated four Major WECC Transfer Paths; owned and operated 8,000 MW of generation with 12 generation units identified as Blackstart Resources with a combined nameplate capacity of 7600 MW. PGAE is responsible for delivering a maximum load of approximately 20,500 MW and for monitoring or operating approximately 22,500 MW of load and transfers. PGAE's generation is critical in serving its load.
11. PGAE did not have effective preventative or detective controls in place during the period of this violation. However, as compensation, PGAE typically operates its equipment under Facilities-





allowed emergency ratings and operates its Facilities at emergency limits during emergency conditions.

12. At the time of this settlement agreement, PGAE's mitigation is not complete. Therefore, WECC expects the full extent of condition for the violation to be determined, remediated, root cause mitigated by the established mitigation milestone dates, and finalized in the certification of the Completion of Mitigation. The following compensating measures address the interim risk:
  - a. PGAE will remediate any errors it finds in its Facility Ratings as soon as they are discovered during mitigation;
  - b. PGAE will continue to regularly execute existing maintenance practices such as infrared inspections. Infrared inspections help minimize risk by detecting heat-producing connections and other thermal patterns in equipment that may provide an early indication of abnormal conditions or equipment failure;
  - c. PGAE will continue to actively manage its Corrective Action Program (CAP) tool, which allows personnel to proactively communicate issues including operational concerns;
  - d. PGAE will provide quarterly updates to WECC that summarize Facility Ratings assessments, errors and corrections; and
  - e. Additionally, PGAE will conduct additional training, participate in industry and NERC events and perform periodic reviews, and engage in other identified continuous improvement efforts within their lines of business as related to the Standard.

### REMEDATION AND MITIGATION

13. On August 26, 2019, PGAE submitted a Mitigation Plan to address its violation and on September 17, 2019, WECC accepted PGAE's Mitigation Plan.
14. To mitigate this violation, PGAE has:
  - a. updated WECC on a quarterly basis regarding gap closure results and status;
  - b. performed a document review, identified gaps, and generated a report of the most limiting equipment for 61 Facilities by October 31, 2019.
    - i. identified and corrected 143 issues with those 61 Facilities including lack of proper documentation, missed elements or incorrectly identified most limiting element.
  - c. performed a document review, identified gaps, and generated a report for 263 additional Facilities by January 31, 2020.
    - i. identified and corrected 970 issues with those 263 Facilities including lack of proper documentation, missed elements or incorrectly identified most limiting element.
  - d. performed a document review, identified gaps, and generated a report for 127 additional Facilities by April 30, 2020.



- i. identified and corrected 769 issues with those 127 Facilities including lack of proper documentation, missed elements or incorrectly identified most limiting element.
  - e. performed a document review, identified gaps, and generated a report for 44 additional Facilities by July 31, 2020.
    - i. identified and corrected 189 issues with those 44 Facilities including lack of proper documentation, missed elements or incorrectly identified most limiting element.
  - f. performed a document review, identified gaps, and generated a report for 95 additional Facilities by October 31, 2020.
    - i. identified and corrected 494 issues with those 95 Facilities including lack of proper documentation, missed elements or incorrectly identified most limiting element.
  - g. performed a document review, identify gaps, and generate a report for 17 Facilities by January 31, 2021.
    - i. identified and corrected 51 issues with those 17 Facilities including lack of proper documentation, missed elements or incorrectly identified most limiting element.
15. To mitigate this violation, PG&E will complete the following mitigation steps:
  - a. continue to update WECC on a quarterly basis regarding gap closure results and status for all Facilities;
  - b. perform a document review, identify gaps, and generate a report for the remaining 430 Facilities by April 30, 2021;
  - c. update its Facility Ratings guidance documents by May 31, 2021; and
  - d. develop and implement an Asset Register for Electric Transmission (ARET):
    - i. create an internal database for PG&E transmission asset Facility Ratings by August 31, 2021;
    - ii. migrate the Transmission Register (TR) into the Electric Transmission Geographic Information System (ET GIS) by November 30, 2021;
    - iii. enable functionality to: edit the elements of the Facility Ratings, view the current Facility Ratings, view the historical Facility Ratings, report/export Facility Ratings to the TR and the other data requests, migrate Independent System Operator (ISO) registry and Systems Applications and Products information into ET GIS by February 28, 2022; and
    - iv. link the Facility Ratings to the source forms, create ET Substation assets in GIS and implement connectivity, create linkage between GIS and SAP records, develop capability to provide corrections and automate forms used to provide updates to the ISO on Facility Ratings changes, identify transmission assets with data inconsistencies, implement an automated process that manages the past, current and future changes, capture BPS and Balancing Authority control within the data set, design a process to update data using field corrections and other tools by May 31, 2022.



16. PG&E has not yet submitted its Mitigation Plan Completion Certification. The expected remediation date is April 30, 2021 and completion of the Mitigation Plan is expected by May 31, 2022.

### **B. NERC RELIABILITY STANDARD FAC-501-WECC-1 REQUIREMENT 3**

NERC VIOLATION ID: WECC2018020786

#### **STANDARD**

17. NERC Reliability Standard FAC-501-WECC-1 Requirement 3 states:

*R3. Transmission Owners shall implement and follow their TMIP.*

#### **VIOLATION FACTS**

18. On December 5, 2018, PG&E submitted a Self-Report stating, as a Transmission Owner, it was in potential noncompliance with FAC-501-WECC-1 R3.
19. In September 2018, PG&E conducted a quality control review of its steel support structures on two parallel 500 kV transmission lines, per its Transmission Maintenance and Inspection Plan (TMIP). PG&E discovered that ten towers had not been inspected per its TMIP spanning inspections in 2014, 2017 and 2018. This violation began on July 15, 2014, when five 500 kV steel towers were not inspected, and ended on October 10, 2018, when all ten affected 500 kV steel towers were inspected, for a total of 1,549 days of noncompliance.
20. The root cause of this violation was attributed to less than adequate process design. The July 2017 physical inspection of the steel towers was unable to be completed because one tower was in a seasonal corn field and another in an irrigated agricultural field that did not allow access for personnel to complete a ground inspection. The supervisor signed off on the routine scheduled work orders to state that the towers were not visually inspected in 2014 and 2017. However, in both instances, the supervisor did not create a new corrective notification for the additional work to be completed later.

#### **RELIABILITY RISK ASSESSMENT**

21. WECC determined this violation posed a serious and substantial risk to the reliability of the BPS. In this instance, PG&E failed to implement and follow its TMIP for its inspection of ten 500 kV steel towers, as required by FAC-501-WECC-1 R3.



22. The parallel 500 kV transmission lines associated with these steel towers were part of a Major WECC Transfer Path which had a maximum transfer limit of 4,000 MW in one direction and 3,000 MW in the opposing direction. The Major WECC Transfer Path also had a Remedial Action Scheme (RAS). The Facility Ratings of these transmission lines could have been affected by load and generation from the north. Such failure could have resulted in the loss of that Major WECC Transfer Path and tripping up to 1,400 MW of generation and 600 MW of load.
23. PG&E did not implement effective detective or preventative controls. However, as compensation, the affected 500 kV steel towers associated with this violation showed no signs of degradation during the instant violation. None of the affected steel towers and power lines contributed to any incidents or fires during the violation duration.

### REMEDIATION AND MITIGATION

24. On June 13, 2019, PG&E submitted a Mitigation Plan to address its violation and on March 3, 2020, WECC accepted PG&E's Mitigation Plan.
25. To mitigate this violation, PG&E has:
  - a. completed non-routine detailed inspections of the ten affected 500 kV steel towers, per the requirements of PG&E's TMIP;
  - b. divided the 500 kV transmission lines into two distinct line inspections which will compensate for seasonal challenges and allow PG&E to inspect the entire transmission line per the requirements of its TMIP;
  - c. modified the management of its assets and inspection tracking in its software tracking system;
  - d. modified its processes to incorporate improved controls to account for situations when inspections cannot be completed; and
  - e. developed a procedure to identify and document inaccessible structures during inspections.
26. On January 23, 2020, PG&E submitted a Mitigation Plan Completion Certification and on March 3, 2020, WECC verified PG&E's completion of its Mitigation Plan.

### C. NERC RELIABILITY STANDARD PRC-005-6 REQUIREMENT 3 NERC VIOLATION ID: WECC2018018998

#### STANDARD

27. NERC Reliability Standard PRC-005-6 Requirement 3 states:



*R3. Each Transmission Owner, Generator Owner, and Distribution Provider that utilizes time-based maintenance program(s) shall maintain its Protection System, Automatic Reclosing, and Sudden Pressure Relaying Components that are included within the Page 4 of 40 Standard PRC-005-6 – Protection System, Automatic Reclosing, and Sudden Pressure Relaying Maintenance time-based maintenance program in accordance with the minimum maintenance activities and maximum maintenance intervals prescribed within Tables 1-1 through 1-5, Table 2, Table 3, Table 4-1 through 4-3, and Table 5.*

### **VIOLATION FACTS**

28. On January 12, 2018, PGAE submitted a Self-Report stating, as a Distribution Provider, Generator Owner, Transmission Owner, it was in potential noncompliance with PRC-005-6 R3. Additionally, on April 15, 2019, PGAE submitted a Self-Report stating, as a Distribution Provider, Generator Owner and Transmission Owner, it was in potential noncompliance with PRC-005-6 R3. WECC determined that the potential noncompliance in the Self-Reports were the same instance and consolidated them under NERC Violation ID WECC2018018998.
29. Regarding the first issue, during an internal compliance review on October 10, 2017, PGAE discovered that it did not use the correct internal Ohmic baseline values for station battery resistance testing conducted the previous year on June 22, 2016, which resulted in an incorrect assessment that the results were adequate. If the correct baseline values had been used, the battery bank would have failed the test and, according to PGAE's procedures, would have been re-tested and subjected to an equalization charge. When PGAE performed station battery resistance testing on June 14, 2017, it used the correct baseline and determined that the test values exceeded the allowable maximum internal cell resistance by 27 percent. PGAE then performed an extent of condition review to determine whether testing for any other station battery banks used incorrect baselines and found that beginning January 15, 2016, it had used the wrong baseline to verify 58 battery banks at 19 BES generation stations and 20 transmission and distribution stations.
30. Regarding the second issue, PGAE discovered it had not completed all maintenance and testing activities for four electromechanical relays at a 230 KV Bus Differential at one substation, as required every six calendar years, per Table 1-1 of the Standard. Maintenance and testing had been completed on December 12, 2012 for the affected relays, so the next maintenance activities were due December 31, 2018. Though the maintenance and testing activities were scheduled for January 30, 2018, storms and operational concerns led PGAE's Grid Operations to recommend moving the maintenance and testing activities to the fall of 2018. However, PGAE's Protection System group experienced an unusual delay in approving its Application for Work (APW), thus the group completed the maintenance and testing tasks that did not need formal clearance on December 28, 2018 including: researching scheme isolation and creating the Trip Cut Out lists,

verifying the relay nameplate data against the Electric Transmission Substation datasheets to ensure accuracy with the SAP database, verifying relay settings, and completing meter checks against the relays. On March 22, 2019, PGAE performed an extent of condition review by reviewing the maintenance plans and test records for all equipment subject to PRC-005-6 maintenance requirements within its database of record, to determine whether any other 2018 maintenance activities had not been completed timely, and no additional maintenance items were found.

31. This violation began on January 15, 2016, when PGAE did not verify the battery banks against the correct station battery baseline, and ended on January 24, 2019, when PGAE completed testing on all batteries bank appropriately, for a total of 1,106 days of noncompliance.
32. The root cause of the first issue was attributed to personnel not following documented instructions. An instruction in 2017 was issued that stated PGAE personnel were to use the initial battery resistance test report on file as a baseline to compare subsequent resistance testing data for trending. Internal reviews at PGAE revealed that the initial baseline was not always used for trending, as instructed. A contributing cause was attributed to unqualified personnel performing the various tests in the PSMP. Specifically, operators were incorrectly performing the tests instead of electricians.
33. The root cause of the second issue was attributed to process design flaws in that complex clearances were required for an APW, which increased the lead time to perform the maintenance tasks. In addition, a contributing cause was that the bus differential protection scheme at the substation had a single level of protection. This lack of redundant bus differential protection prevented PGAE from performing maintenance activities without clearing the bus and all associated protection. Specifically, operational constraints (e.g. seasonal loading, inclement weather patterns, facility ratings) only allowed for clearance-related work in Q1 and Q4 of any given calendar year for work on systems that did not have redundancy.

### RELIABILITY RISK ASSESSMENT

34. WECC determined this violation posed a serious and substantial risk to the reliability of the BPS given PGAE's systemic problems with the Standard. In the first issue, PGAE failed to adequately maintain 58 battery banks at 19 BES generation stations and 20 transmission and distribution substations that were included within the time-based maintenance program in accordance with the minimum maintenance activities and maximum maintenance intervals prescribed within Tables 1-1 through 1-5, as required by PRC-005-6 R3. Twelve of the transmission stations were 115 kV and eight transmission stations were 230 kV. The generation stations had a combined



capacity of 4,700 MVA. Two of these generation stations were Blackstart units. The battery banks at the transmission and distribution substations provided DC power for protective relaying and controls.

35. A failure to verify the performance of the battery banks could have led to a potential failure of the batteries, resulting in a lack of power needed to perform the Protective System functions. However, as compensation, none of the substation battery banks were part of the Major WECC Transfer Paths. Additionally, certain maintenance tasks were completed before the December 31, 2018 deadline. When all the maintenance activities were performed, no required changes were noted.
36. In the second issue, PGAE failed to utilize its time-based maintenance program to maintain four electromechanical relays at a 230 kV Bus Differential at one substation that were included within the time-based maintenance program in accordance with the minimum maintenance activities and maximum maintenance intervals prescribed within Tables 1-1, as required by PRC-005-6 R3.
37. This Bus Differential was paired in a double bus single breaker configuration with sectionalizing. The four relays were connected to the two bus segments at a 225 MVAR capacitor bank, four 230 kV transmission lines, and a transformer connecting to the 500 kV buses at the substation. Two of these transmission lines formed part of a Major WECC Transfer Path. Loss of these lines was not listed as a critical disturbance that limits the path's transfer capability. However, a failure to operate correctly of even one of the four affected relays could have resulted in the loss of any or all of the BPS Facilities, systems or equipment associated with this issue.

### REMEDIATION AND MITIGATION

38. On January 12, 2018, PGAE submitted a Mitigation Plan to address the first issue, which WECC rejected and version 2 was submitted on February 26, 2019. On March 11, 2019, WECC accepted PGAE's Mitigation Plan.
39. To remediate and mitigate the first issue, PGAE has:
  - a. completed a 72-hour equalization test, cleaning and re-torquing connectors to specifications, and replaced the battery bank that failed the test;
  - b. conducted spot checks of battery records across its footprint and reviewed 33 percent of BES battery bank resistance resting records to verify that the testing had been performed accurately and completely;
  - c. performed an extent of condition review and found additional substation and generation battery banks were not using the correct baseline;



- d. re-tested the battery banks identified in the extent of condition review;
  - e. revised battery maintenance program to clarify roles and responsibilities for all battery testing and review activities to ensure battery maintenance tasks align with job classification and supervisory role to prevent unqualified personnel such as electricians from performing tasks outside their job responsibilities; and
  - f. delivered this revised battery maintenance program in a communication and education plan in a presentation to all Power Generation personnel conducting and supervision battery testing, which included:
    - i. a description of what happened in the instance herein and how the issue was discovered to ensure future Power Generation personnel would use the initial battery resistance test on file as a baseline;
    - ii. training on what actions needed to be taken if batteries fail resistance tests, how to perform the corrective notification, ensured that the correct baseline are calculated and used, and reviewed the steps that are required before the approval of the battery test records; and
    - iii. incorporated battery record reviews into an annual internal audit scope for future audits by describing how the operations review was conducted, issues that were addressed and how the issues were resolved.
40. On February 26, 2019, PGAE submitted a Mitigation Plan Completion Certification and on July 17, 2019, WECC verified PGAE's completion of the Mitigation Plan.
41. On January 16, 2020, PGAE submitted a Mitigation Plan to address the second issue and on February 13, 2020, WECC accepted the PGAE's Mitigation Plan.
42. To remediate and mitigate the second issue, PGAE has:
- a. completed all maintenance activities for all four electromechanical relays;
  - b. identified all bus differential schemes at 115 kV and above with a single level of protection schemes during the first quarter of the year so that it could routinely monitor the progress of clearance scheduling more frequently for complex clearances;
  - c. added System Protection and Testing personnel to the quarterly Transmission Outage Planning (TOP) Meetings, which will take place after the Monthly TOP Report has been populated;
  - d. identified specific operational parameters to support the scheduling work that requires clearance during the second or third quarter of the year (e.g. temperature thresholds, night work, etc.) and created a meeting to communicate the work that will be completed during the second or third quarter of the year to the relevant personnel;



- e. generated job-aid with guidelines for submitting clearances in support of compliance related work to System Protection, Substation Test, and Grid Operations;
  - f. created System Protection and Test scheduling job-aid and trained System Protection Asset & Maintenance Planners to refresh and remind them that all remaining clearance requests due in the calendar year are initiated by October of any given year moving forward; and
  - g. provided refresher training to System Protection and Test Personnel regarding clearance processes and minimum leads times.
43. On August 5, 2020, PGAE submitted a Mitigation Plan Completion Certification and on August 18, 2020, WECC verified PGAE's completion of the Mitigation Plan.

### **D. NERC RELIABILITY STANDARD PRC-005-1A REQUIREMENT 2** NERC VIOLATION ID: WECC2020023337

#### **STANDARD**

43. NERC Reliability Standard PRC-005-1a Requirement 2 states:

*R2. Each Transmission Owner and any Distribution Provider that owns a transmission Protection System and each Generator Owner that owns a generation Protection System shall provide documentation of its Protection System maintenance and testing program and the implementation of that program to its Regional Reliability Organization on request (within 30 calendar days). The documentation of the program implementation shall include:*

- R2.1. Evidence Protection System devices were maintained and tested within the defined intervals.*
- R2.2. Date each Protection System device was last tested/maintained*

#### **VIOLATION FACTS**

44. On May 6, 2020, PGAE submitted a Self-Report stating, as a Distribution Planner and Transmission Owner, it was in potential noncompliance with PRC-005-1a R2.
45. PGAE reported it did not maintain and test five Protection System relays within defined intervals at two BES substations. Specifically, the five relays consisted of three electromechanical relays at one 230 kV substation that protect voltage support equipment and two microprocessor relays at a 115 kV substation that protect a 115 kV bus with distribution feeders.



46. Prior to 2017, PG&E maintained its relay settings in a database that was operated and maintained independent from its SAP system. In 2017, PG&E began to migrate the relay settings data from its previous database to a new relay settings database program, which was linked and integrated with SAP. Once the relay setting data was transferred from the previous database to the new database, PG&E compared the relay setting data from the previous database with the asset registry data in SAP to confirm that each active relay setting from previous database had a corresponding SAP record. Thus, as a result of this comparison, on October 17, 2019 PG&E discovered these five relays with relay settings in the previous database were never entered into the SAP database. The violation began on January 1, 2012, when PG&E did not test and maintain the first relay and is ongoing because it is performing an extent of condition evaluation to determine if any other relays had not been migrated appropriately into SAP, resulting in missed maintenance and testing intervals and is expected to be completed May 31, 2022, for 3,804 days of noncompliance.
47. The root cause of the violation was attributed to ineffective controls to adequately track PRC-005 maintenance activities. There was a gap in the process for PG&E's Asset and Maintenance Planners that did not detect a discrepancy between the software database inventories.

### RELIABILITY RISK ASSESSMENT

48. WECC determined this violation posed a serious and substantial risk to the reliability of the BPS given PG&E's systemic problems with the Standard, as well as an unconfirmed extent of condition. In this instance, PG&E failed to maintain and test three electromechanical relays at one 230 kV substation that protect voltage support equipment and two microprocessor relays at a different substation that protect a 115 kV bus with distribution feeders within the defined intervals, as required by PRC-005-1a R2.
44. Such failure could have resulted in device malfunction, premature or undetected device failure, and Protection System Misoperation. Protection System issues could have resulted in significant consequences related to equipment damage and power system performance, for example, generating unit or system instability, loss of load or generation, cascading outages, or uncontrolled system separation. Specifically, based on the topology at the two substations of the violation herein this could have resulted in the loss of two buses and up to 300 MVAR of 230 kV voltage support equipment distributed across four capacitor banks at the 230 kV substation or the loss of an entire 115 kV substation primarily serving customer load. Additionally, PG&E's risk factor for Voltage Control is High; therefore, the loss of a large amount of voltage support devices would increase the risk to the BPS. In addition, subject to the extent of condition of the violation, PG&E owned, operated, and maintained approximately 18,000 miles of transmission



lines; including 6,000 miles of 115 kV, 5,500 miles of 230 kV, and 1,300 miles of 500 kV transmission lines; operated four Major WECC Transfer Paths; owned and operated 8,000 MW of generation with 12 generation units identified as Blackstart Resources with a combined nameplate capacity of 7600 MW; and PG&E is responsible for delivering a maximum load of approximately 20,500 MW. PG&E was also responsible for monitoring or operating approximately 22,500 MW of load and transfers. PG&E's generation is critical in serving its load.

49. PG&E did not implement effective detective or preventative controls. However, as compensation, PG&E implemented partial redundancy on the protection of the 230 kV voltage support devices. Specifically, the protection scheme consists of three, single phase relays; therefore, if a single relay were to fail, the other two relays could monitor non-phase to ground faults associated with the failed relay. Additionally, remote terminal breakers monitored the 230 kV substation and could have responded to a Misoperation. At the 115 kV substation, PG&E used microprocessor relays with some redundancy in the protection scheme. Additionally, the microprocessor relays had internal failure alarms with SCADA visibility, so PG&E could have detected and responded to a relay Misoperation sooner.
  
50. PG&E's remediation is not complete. The following compensating measures address the interim risk:
  - a. PG&E has mitigated the root cause of the violation thus preventing future instances of the same cause;
  - b. PG&E is performing additional field validations of physical assets against a random sample of PG&E's protective assets in SAP. The sample size would be sufficiently large enough to ensure a high level of statistical confidence (e.g. minimum 95% confidence interval); and
  - c. PG&E continues to pursue continuous improvement initiatives beyond this mitigation plan to enhance the efficacy of this control.

### REMEDATION AND MITIGATION

51. On August 14, 2020, PG&E submitted a Mitigation Plan to address its violation and on October 13, 2020, WECC accepted PG&E's Mitigation Plan.
  
52. To mitigate this violation, PG&E has:
  - a. generated a job-aid outlining the requirements for reviewing and approving test reports, including guidance on how to validate equipment data in SAP; and
  - b. provided periodic progress update on extent of condition evaluation, which included performing field validations as required against BES protective relay records in PowerBase that are linked to an invalid SAP equipment ID and identified four additional relays in



PowerBase tied to invalid SAP equipment IDs. Field investigations concluded all four relays to be in-service. PAGE validated SAP and PowerBase records. The relays have been tested and maintained in accordance with the Standard.

53. To remediate and mitigate this violation, PGAE will, by the proposed completion date of April 26, 2021:
- a. maintained and tested three electromechanical relays and two microprocessor relays described herein;
  - b. continue to provide periodic progress update on extent of condition evaluation, which includes performing field validations as required against BES protective relay records in PowerBase that are linked to an invalid SAP equipment ID and verifying that the relays have been tested and maintained in accordance with the Standard or testing them; and
  - c. provide refresher training to System Protection and Substation Test Personnel around PGAE's Protective System Maintenance Program and asset registry documentation requirements.

### **E. NERC RELIABILITY STANDARD PRC-004-5(I) REQUIREMENT 5** NERC VIOLATION ID: WECC2020023453

#### **STANDARD**

54. NERC Reliability Standard PRC-004-5(i) Requirement 5 states:

*R5. Each Transmission Owner, Generator Owner, and Distribution Provider that owns the Protection System component(s) that caused the Misoperation shall, within 60 calendar days of first identifying a cause of the Misoperation:*

- *Develop a Corrective Action Plan (CAP) for the identified Protection System component(s), and an evaluation of the CAP's applicability to the entity's other Protection Systems including other locations; or*
- *Explain in a declaration why corrective actions are beyond the entity's control or would not improve BES reliability, and that no further corrective actions will be taken.*

#### **VIOLATION FACTS**

55. On May 22, 2020, PGAE submitted a Self-Report stating that, as a Transmission Owner, it was in potential noncompliance with PRC-004-5(i) R5.
56. Specifically, PGAE reported that on April 12, 2019 at 6:31 AM, one substation 230/115 kV Transformer Bank tripped out-of-section due to a Protection System Misoperation, that resulted in a momentary interruption to another substation 115/12 kV Transformer. On April 25, 2019,



PGAE identified the cause of the Misoperation and submitted a report to PGAE's Corrective Action Plan (CAP) program to document corrective actions.

57. PGAE did develop a CAP for the Misoperation and documented the short-term and long-term correction actions, within 120-calendar days, as required by PRC-004-5(i) R1. PGAE observed that the low-side Current Transformer (CT) contribution to the bank differential relay displayed characteristics of saturation during the Misoperation, thus PGAE issued a setting change to desensitize the differential saturation issues on the low-side CT. For the long-term corrective action, PGAE replaced the low-side oil circuit bank breaker on December 18, 2019.
58. PGAE also determined that the CAP was not applicable to its other Protection Systems, by reviewing all its BES and non-BES Misoperations since 1999. During that time, PGAE attributed only two of 230 Misoperations to poor CT performance and CT saturation, that caused less than 1% of all relay Misoperations. Furthermore, PGAE reviewed all normal relay operations daily, and the reviews indicated no trends in CT saturation. Therefore, PGAE concluded that the CAP for this Misoperation was not applicable to its other Protection Systems. However, PGAE did not make that determination until April 16, 2020, exceeding the 60-calendar day requirement of the Standard. However, this violation began on June 25, 2019, 60 calendar days after PGAE first identified the cause of the Misoperation but did not develop an evaluation of the CAP's applicability to PGAE's other Protection Systems including other locations and during its extent of condition review, PGAE found six additional instances that it did not document the evaluation of the CAP's applicability against other protection systems within 60 calendar days and all were remediated by February 24, 2021, for a total of 611 days of noncompliance.
59. The root cause of the violation was attributed to PGAE's lack of sufficient controls to ensure its personnel evaluated Misoperations completely, using its Transmission Operations Tracking and Logging (TOTL) system. The Misoperation was evaluated via email and outside of TOTL.

### RELIABILITY RISK ASSESSMENT

60. WECC determined this violation posed a moderate risk and did not pose a serious and substantial risk to the reliability of the BPS. In this instance, PGAE failed on seven occasions, within 60 calendar days of first identifying a cause of the Misoperation, to develop an evaluation of the CAP's applicability to PGAE's other Protection Systems including other locations, as required by PRC-004-5(2) R5.
61. Such failure could have resulted in additional Misoperations leading to the loss of a 230/115/13.2 kV BES transformer as a result of low-side CT saturation due to less than adequate settings for



the first reported instance. PGAE’s extent of condition review found six additional instances that could have resulted in additional Misoperations leading to the loss of 115 kV- 500 kV BES elements. PGAE did not implement effective detective or preventative controls. However, as compensation, the first reported Misoperation or its cause would likely not have impacted the reliability of the BPS because other CTs were not at imminent risk of saturation. Furthermore, the additional substation and non-BES transformer impacted by this Misoperation did not experience a sustained outage. Additionally, PGAE began implementing its short-term corrective actions within one week following the discovery of the cause of the first reported Misoperation, which reduced the likelihood of further CT saturation issues. As compensation for the additional instances found during the extent of condition review, three of the instances were remediated quickly. Additionally, PGAE had developed a CAP for these Misoperations.

**REMEDIATION AND MITIGATION**

62. On December 8, 2020, PGAE submitted a Mitigation Plan to address its violation and on December 11, 2020, WECC accepted the PGAE’s Mitigation Plan.

63. To remediate and mitigate this violation, PGAE has:

- a. determined the CAP’s applicability to its other Protection Systems related to the seven identified Misoperations;
- b. provided refresher training to Protection System personnel regarding PRC-004 requirements and associated process documents supporting PGAE’s Protective System Maintenance Program; and
- c. provided monthly updates on the extent of condition review, specifically regarding Misoperation reporting and the evaluation of the CAP’s applicability to PGAE’s other Protection Systems including other locations to other CAPs.

64. On March 4, 2021, PGAE submitted a Mitigation Plan Completion Certification which is pending WECC’s verification.

**PENALTY AND NON-MONETARY SANCTIONS**

65. WECC assesses a monetary sanction of \$2,200,000 for the following reasons.

a. Base factors:

<b>Standard and Requirement</b>	<b>NERC Violation ID</b>	<b>Violation Risk Factor</b>	<b>Violation Severity Level</b>	<b>Risk to the BPS</b>	<b>Violation Duration</b>
FAC-009-1 R1	WECC2018020493	Medium	Severe	Serious	5,066 days



FAC-501-WECC-1 R3	WECC2018020786	Medium	Moderate	Serious	1,549 days
PRC-005-6 R3	WECC2018018998	High	Severe	Serious	1,106 days
PRC-005-1a R2	WECC2020023337	High	Severe	Serious	3,804 days
PRC-004-5(i) R5	WECC2020023453	High	Severe	Moderate	611 days

- i. The PRC-005-6 R3, PRC-005-1a R2, PRC-004-5(i) R5 and FAC-009-1 R1 violations have an Operations Planning violation time horizon expectation for remediation to occur within a day-ahead up to and including seasonal (24 hours to 90 days) to preserve the reliability of the BPS.
  - ii. The FAC-501-WECC-1 R3 violation has an Operations Assessment violation time horizon expectation for remediation to occur within 30 days to preserve the reliability of the BPS.
- b. WECC applied a mitigating credit for the following reasons:
- i. PGAE was cooperative throughout the process.
  - ii. PGAE self-reported the PRC-005-6 R3, PRC-005-1a R2, PRC-004-5(i) R5 and FAC-501-WECC-1 R3 violations in a timely manner from the date of discovery.
  - iii. PGAE accepted responsibility and admits to the violations.
  - iv. PGAE agreed to settle these violations and penalty.
- c. WECC considered the following as aggravating factors:
- i. PGAE’s systemic failures in the implementation of its Protection System Maintenance Program (PSMP) have gone unaddressed at a root cause level and have led to a programmatic failure as evidenced by its compliance history spanning multiple years and its current serious risk violations of the Standard Requirements.
  - ii. PGAE’s systemic failures of its Facility Ratings program have gone unaddressed at a root level cause and led to a programmatic failure as evidenced by its compliance history and current serious risk violations of the Standard Requirement.
- d. Other Considerations:
- i. WECC did not apply a mitigating credit for PGAE’s Internal Compliance Program (ICP). Although PGAE does have a documented ICP, it was last reviewed by WECC in 2013 and therefore not relevant to the discovery of the violations herein. In addition, PGAE lacked internal controls that could have detected these violations timely.
  - ii. The FAC-009-1 R1 violation was discovered during a WECC Compliance Audit, thus PGAE did not receive Self-Report mitigating credit.
  - iii. WECC determined PGAE did not have any relevant compliance history with FAC-501-WECC-1.



- iv. PGAE did not fail to complete any applicable compliance directives. There was no evidence of any attempt by PGAE to conceal the violation. There was no evidence that violation was intentional. PGAE submitted all requested documentation and/or mitigation plans timely.
  - v. WECC determined there were no other aggravating factors warranting a penalty higher than the proposed penalty.
- e. Nonmonetary Sanctions:
- i. PGAE's CEO will sign this settlement agreement;
  - ii. PGAE's Board of Directors will be briefed on the key terms of, and violations underlying, this settlement agreement; and
  - iii. PGAE will adequately address its programmatic failures and the root cause of those failures with FAC-008 and PRC-005 by participating with WECC in its mitigation efforts.



## Violation - Discovery Record

Registered Entity: Pacific Gas and Electric Company

NERC Registry ID: NCR05299

NERC Violation ID: WECC2018020493

Discovery Method: Audit

Date Submitted: October 05, 2018

Region Contact: Mailee Cook

Phone: 801-883-6866 Email: mcook@wecc.biz

Standard: FAC-008-3 - Facility Ratings

Purpose: To ensure that Facility Ratings used in the reliable planning and operation of the Bulk Electric System (BES) are determined based on technically sound principles. A Facility Rating is essential for the determination of System Operating Limits.

Requirement: FAC-008-3 R6.

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.

Violated Sub-Requirement(s):

Violated Function(s): Generator Owner (GO), Transmission Owner (TO)

Init Determ a Vltn:

Begin Date of Vltn: January 01, 2013

End Date:

Notified of Vltn on: September 27, 2018

Potential Impact to BES:

Brief Vltn Descr. & Cause: The entity does not have a complete list of all applicable elements for their BES facilities. This is required to determine the most limiting element therefore PG&E is not following their Facility Ratings Methodology.

Alleged Violation:

Registered Entity Report/Response:

Risk Factor:

Severity Level:

Factual Basis:

## Mitigation Plan

### Mitigation Plan Summary

Registered Entity: Pacific Gas and Electric Company

Mitigation Plan Code: WECCMIT014742

Mitigation Plan Version: 1

<u>NERC Violation ID</u>	<u>Requirement</u>	<u>Violation Validated On</u>
WECC2018020493	FAC-009-1 R1.	07/25/2019

Mitigation Plan Submitted On: August 26, 2019

Mitigation Plan Accepted On:

Mitigation Plan Proposed Completion Date: June 10, 2022

Actual Completion Date of Mitigation Plan:

Mitigation Plan Certified Complete by PG&E On:

Mitigation Plan Completion Verified by WECC On:

Mitigation Plan Completed? (Yes/No): No

## Compliance Notices

Section 6.2 of the NERC CMEP sets forth the information that must be included in a Mitigation Plan. The Mitigation Plan must include:

- (1) The Registered Entity's point of contact for the Mitigation Plan, who shall be a person (i) responsible for filing the Mitigation Plan, (ii) technically knowledgeable regarding the Mitigation Plan, and (iii) authorized and competent to respond to questions regarding the status of the Mitigation Plan. This person may be the Registered Entity's point of contact described in Section B.
  - (2) The Alleged or Confirmed Violation(s) of Reliability Standard(s) the Mitigation Plan will correct.
  - (3) The cause of the Alleged or Confirmed Violation(s).
  - (4) The Registered Entity's action plan to correct the Alleged or Confirmed Violation(s).
  - (5) The Registered Entity's action plan to prevent recurrence of the Alleged or Confirmed violation(s).
  - (6) The anticipated impact of the Mitigation Plan on the bulk power system reliability and an action plan to mitigate any increased risk to the reliability of the bulk power-system while the Mitigation Plan is being implemented.
  - (7) A timetable for completion of the Mitigation Plan including the completion date by which the Mitigation Plan will be fully implemented and the Alleged or Confirmed Violation(s) corrected.
  - (8) Implementation milestones no more than three (3) months apart for Mitigation Plans with expected completion dates more than three (3) months from the date of submission. Additional violations could be determined or recommended to the applicable governmental authorities for not completing work associated with accepted milestones.
  - (9) Any other information deemed necessary or appropriate.
  - (10) The Mitigation Plan shall be signed by an officer, employee, attorney or other authorized representative of the Registered Entity, which if applicable, shall be the person that signed the Self Certification or Self Reporting submittals.
  - (11) This submittal form may be used to provide a required Mitigation Plan for review and approval by regional entity(ies) and NERC.
- The Mitigation Plan shall be submitted to the regional entity(ies) and NERC as confidential information in accordance with Section 1500 of the NERC Rules of Procedure.
  - This Mitigation Plan form may be used to address one or more related alleged or confirmed violations of one Reliability Standard. A separate mitigation plan is required to address alleged or confirmed violations with respect to each additional Reliability Standard, as applicable.
  - If the Mitigation Plan is accepted by regional entity(ies) and approved by NERC, a copy of this Mitigation Plan will be provided to the Federal Energy Regulatory Commission or filed with the applicable governmental authorities for approval in Canada.
  - Regional Entity(ies) or NERC may reject Mitigation Plans that they determine to be incomplete or inadequate.
  - Remedial action directives also may be issued as necessary to ensure reliability of the bulk power system.
  - The user has read and accepts the conditions set forth in these Compliance Notices.

Entity Information

Identify your organization:

Entity Name: Pacific Gas and Electric Company

NERC Compliance Registry ID: NCR05299

Address: 77 Beale Street  
San Francisco CA 94105

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

Name: Manny Munoz

Title: EXPERT COMPLIANCE SPECIALIST

Email: M4Mn@PGE.COM

Phone: 925-786-9043

Violation(s)

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

Violation ID	Date of Violation	Requirement
Requirement Description		
WECC2018020493	06/18/2007	FAC-009-1 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.		

Brief summary including the cause of the violation(s) and mechanism in which it was identified:

The FAC-009-1 R1 PNC was identified by the WECC during the tri-annual audit conducted in 2018. In their findings, the WECC said PGAE was not in compliance with FAC-009-1 R1 stating:

"PGAE does not have a complete list of all applicable elements for their BES facilities. This is required to determine the most limiting element; therefore, PGAE is not following their Facility Ratings Methodology."

Through internal cause evaluations, PGAE has identified NERC Code A4B1C01 ("Management policy guidance and/or expectations are not well defined, understood, or enforced") as the primary cause for PNC. Based on PGAE's internal procedures and standards were drafted on its previous interpretations of FAC-009-1 R1 itself to be compliant prior to the most recent 2018 WECC Audit. Based on the WECC audit finding, PGAE has identified that internal "policy guidance (i.e. standards and procedures) need to be revised to meet and exceed the compliance requirements of FAC-009-1 R1.

Relevant information regarding the identification of the violation(s):

No further relevant information not already identified.

**Plan Details**

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 violation(s) identified above in Section C.1 of this form:

PGAE has completed causal evaluations pertaining to each line of business and their associated guidance documents and processes. Corrective actions have been identified through these evaluations and have been combined to establish a unified mitigation plan in order to correct the PNC and improve the existing processes for documenting and maintaining facility ratings.

PGAE is currently in progress of completing the following mitigations:

1. The PGAE Electric Quality Assurance (eQa) team is conducting an internal review to evaluate Power Generation's and Transmission Asset Management's current compliance status with FAC-009-1 R1 in order to identify any gaps in PGAE's processes, procedures, and standards.
2. Power Generation and Transmission Asset Management will complete an internal process improvement effort to thoroughly review all facility ratings lists. PGAE will ensure that all facility ratings are reviewed for accuracy and completeness, and that each element's supporting documentation is readily available by 4/30/2021. This effort will be completed in incremental milestones with a percentage being completed every 3 months, gap closure for facility ratings will be statused to WECC each quarter. PGAE will then update all facility ratings guidance documents by 5/31/2021.
3. PGAE will develop a database to manage and store all documentation of equipment ratings for each BES facility. The creation of a database will be completed by 8/31/2021 and fully implemented by 5/31/2022.

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

Proposed Completion date of Mitigation Plan: June 10, 2022

Milestone Activities, with completion dates, that your organization is proposing for this Mitigation Plan:

Milestone Activity	Description	*Proposed Completion Date (Shall not be greater than 3 months apart)	Actual Completion Date	Entity Comment on Milestone Completion	Extension Request Pending
Milestone 1 – Facility Ratings review and update	Perform a document review, identify gaps, and generate a report of the most limiting equipment for 6% of facilities.  Note: PGAE will update WECC on gap closure results and status on a quarterly basis.	10/31/2019			No
Milestone 2 – Facility Ratings review and	Perform a document review, identify gaps,	01/31/2020			No

Milestone Activity	Description	*Proposed Completion Date (Shall not be greater than 3 months apart)	Actual Completion Date	Entity Comment on Milestone Completion	Extension Request Pending
update	and generate a report for 31% of facilities.  Note: PGAE will update WECC on gap closure results and status on a quarterly basis.				
Milestone 3 – Facility Ratings review and update	Perform a document review, identify gaps, and generate a report for 58% of facilities.  Note: PGAE will update WECC on gap closure results and status on a quarterly basis.	04/30/2020			No
Milestone 4 – Facility Ratings review and update	Perform a document review, identify gaps, and generate a report for 69% of facilities.  Note: PGAE will update WECC on gap closure results and status on a quarterly basis.	07/31/2020			No
Milestone 5 – Facility Ratings review and update	Perform a document review, identify gaps, and generate a report for 79% of facilities.  Note: PGAE will update WECC on gap closure results and status on a quarterly basis.	10/31/2020			No

Milestone Activity	Description	*Proposed Completion Date (Shall not be greater than 3 months apart)	Actual Completion Date	Entity Comment on Milestone Completion	Extension Request Pending
Milestone 6 – Facility Ratings review and update	Perform a document review, identify gaps, and generate a report for 90% of facilities.  Note: PG&E will update WECC on gap closure results and status on a quarterly basis.	01/31/2021			No
Milestone 7 – Facility Ratings review and update	Perform a document review, identify gaps, and generate a report for 100% of facilities.  Note: PG&E will update WECC on gap closure results and status on a quarterly basis.	04/30/2021			No
Milestone 8 – Update Guidance Documents	Update Facility Ratings Guidance Documents	05/31/2021			No
Milestone 9 – Develop and Implement Asset Register for Electric Transmission (ARET)	Create an internal database for PG&E transmission asset ratings.	08/31/2021			No
Milestone 10 – Develop and Implement Asset Register for Electric Transmission (ARET)	Migrate the Transmission Register (TR) into Electric Transmission Geographic Information System	11/30/2021			No
Milestone 11 – Develop and Implement Asset Register for Electric Transmission (ARET)	Enable functionality to: Edit the asset ratings; View the current asset ratings; View the historical asset ratings; Ability	02/28/2022			No



Milestone Activity	Description	*Proposed Completion Date (Shall not be greater than 3 months apart)	Actual Completion Date	Entity Comment on Milestone Completion	Extension Request Pending
	to report/export asset ratings to the TR and other data requests Migrate ISO registry and SAP information into ET GIS				
Milestone 12 – Develop and Implement Asset Register for Electric Transmission (ARET)	Link the facility ratings to the source forms; Create ET Substation assets in GIS and implement connectivity; Create linkage between GIS and SAP records (sub transmission assets); Develop capability to provide corrections and automate forms used to provide update to ISO on facility rate changes; Identify transmission assets with data inconsistencies (data validation); Implement an automated process that manages the past, current, and known future changes (if any); Capture BES & CAISO control within the data set; Design a process to update data using field corrections and other tools.	05/31/2022			No

Additional Relevant Information

## Reliability Risk

### Reliability Risk

While the Mitigation Plan is being implemented, the reliability of the bulk Power System may remain at higher Risk or be otherwise negatively impacted until the plan is successfully completed. To the extent they are known or anticipated : (i) Identify any such risks or impacts, and; (ii) discuss any actions planned or proposed to address these risks or impacts.

#### Response i:

Since the development and release of the FAC-009-1 R1 standard, PG&E has attempted to maintain compliance based on its interpretation of the standard language and attempted to develop its internal ratings methodology according to that interpretation. Additionally, PG&E has been able to reliably operate the grid without issue regarding facility ratings since the release of FAC-009-1 R1. PG&E understands the reliability concerns regarding any deficiency pertaining to facility ratings and acknowledges gaps in its methodologies. PG&E will work expeditiously to close data gaps as they are identified. PG&E will also provide quarterly updates that will summarize gaps to-date and closures completed.

#### Response ii:

Additional mitigation that minimizes interim risk:

- PG&E regularly executes existing maintenance practices such as infrared inspections.
- PG&E actively manages the Corrective Action Program (CAP) tool which allows personnel to proactively communicate issues including operational concerns.
- PG&E evaluates equipment (legacy and new) as projects are implemented and updates the Transmission Register (TR) as needed per procedure TD-1004P-01.
- PG&E operates equipment under facilities-allowed emergency ratings. PG&E only operates facilities at emergency limits during emergency conditions.

### Prevention

Describe how successful completion of this plan will prevent or minimize the probability further violations of the same or similar reliability standards requirements will occur

Completion of the milestones will result in updated procedures and controls that ensure all BES applicable equipment is included on the facility ratings lists managed independently by PG&E's Power Generation and Transmission Asset Management lines of business. Additionally, the updated procedures and controls will allow for the supporting documentation of all equipment ratings to be accessed and updated in a more efficient and complete manner.

Completion of the milestones will result in updated procedures, standards, controls, and repositories for BES asset identification in order to effectively and reliably operate the BES.

Describe any action that may be taken or planned beyond that listed in the mitigation plan, to prevent or minimize the probability of incurring further violations of the same or similar standards requirements

PG&E intends to conduct additional training, participate in industry events (NERC) and periodic reviews, and engage in other identified continuous improvement efforts within PG&E lines of business as related to FAC-009-1 R1.

Authorization

An authorized individual must sign and date the signature page. By doing so, this individual, on behalf of your organization:

- \* Submits the Mitigation Plan, as presented, to the regional entity for acceptance and approval by NERC, and
- \* if applicable, certifies that the Mitigation Plan, as presented, was completed as specified.

Acknowledges:

1. I am qualified to sign this mitigation plan on behalf of my organization.
2. I have read and understand the obligations to comply with the mitigation plan requirements and ERO remedial action directives as well as ERO documents, including but not limited to, the NERC rules of procedure and the application NERC CMEP.
3. I have read and am familiar with the contents of the foregoing Mitigation Plan.

Pacific Gas and Electric Company Agrees to be bound by, and comply with, this Mitigation Plan, including the timetable completion date, as accepted by the Regional Entity, NERC, and if required, the applicable governmental authority.

Authorized Individual Signature: \_\_\_\_\_  
(Electronic signature was received by the Regional Office via CDMS. For Electronic Signature Policy see CMEP.)

Authorized Individual

Name: Dave Gabbard

Title: Sr. Director, Transmission Asset Mgmt

Authorized On: August 26, 2019

## Self Report

Entity Name: Pacific Gas and Electric Company (PGAE)

NERC ID: NCR05299

Standard: FAC-501-WECC-1

Requirement: FAC-501-WECC-1

Date Submitted: December 05, 2018

Has this violation previously No  
been reported or discovered?:

### Entity Information:

Joint Registration  
Organization (JRO) ID:

Coordinated Functional  
Registration (CFR) ID:

Contact Name: Joshua Carroll

Contact Phone: 5592400077

Contact Email: jdca@pge.com

### Violation:

Violation Start Date: July 26, 2017

End/Expected End Date: October 10, 2018

Reliability Functions: Transmission Owner (TO)

Is Possible Violation still No  
occurring?:

Number of Instances: 1

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

Which Regions:

Date Reported to Regions:

Detailed Description and Cause of Possible Violation: In September 2018, PGAE conducted quality control review relating to the steel support structures of its Midway-Whirlwind 500kV line per PGAE's Transmission Maintenance and Inspection Plan (TMIP) as regulated by FAC-501-WECC-1 R3. During the course of this 2018 review, PGAE discovered that five towers in 2014 and ten towers in 2017 on the Midway-Whirlwind 500kV line were not inspected per the requirements set forth in the PGAE Electric Transmission Preventive Maintenance (ETPM) Manual. The inspection forms PGAE reviewed in 2018 that were generated during PGAE's July 2017 physical inspection of the line indicated PGAE had been unable to inspect 10 steel transmission structures associated with the Midway-Whirlwind 500kV Line during the inspection because the structures were inaccessible during that time. In addition, in reviewing documentation in 2018, PGAE identified five steel towers that were not inspected during the 2014 inspection schedule for the same transmission line.

PGAE Electric Transmission Preventive Maintenance (ETPM) Manual, Section 3.1.1 requires that: "if a condition cannot be assessed properly during a patrol, a follow up inspection must be conducted to assess the condition and assign a priority." PGAE did not create or schedule a non-routine patrol to follow up and inspect these towers after its inability to assess the condition of the five towers in 2014 and seven towers as part of its July 2017 Midway-Whirlwind 500kV line tower inspections.

This issue did not become apparent until the September 2018 review because inspection records were documented as "complete" under the PGAE's ETPM

## Self Report

Manual. PGAE's ETPM Manual, in Section 3.2.1 states that: "the applicable supervisor (or a designee) must review and initial the Qualified Company Representative's (QCR's) patrol logs and sign the notification form in ink before the information is entered in the SAP database." PGAE's September 2018 review of records associated with its July 2017 inspection indicates that the relevant Supervisor did review and sign off on the 2017 inspections but failed to identify the ten towers that PGAE was unable to inspect and failed to schedule a non-routine follow-up air patrol per PGAE standards. The supervisor in 2014 also reviewed and signed off on the 2014 inspections despite the fact that five towers were not inspected.

The failure of PGAE to conduct a detailed ground inspection on a combined twelve structures and its failure to follow up with a non-routine patrol violates PGAE's TMIP and the associated obligations of FAC-501-WECC-1 R3.

### Mitigating Activities:

Description of Mitigating Activities and Preventative Measure: PGAE has taken, and will take, the following steps to remediate the issue and mitigate future recurrence:

Measure:

- Between October 8-10, 2018 PGAE completed non-routine detailed inspections of the 10 towers identified as missing in the internal PGAE audit to satisfy the requirements of PGAE's TMIP. Three of the towers that PGAE failed to inspect in 2014 were also not inspected in 2017. In October 2018, those three towers were inspected via non-routine corrective inspections referenced in the following SAP Notification list. The remaining two steel towers not inspected in 2014 were inspected per schedule in 2017, and therefore did not require a corrective inspection. PGAE's SAP Work Management Corrective Notifications for the inspections are represented by the following document numbers:
  - o 115033331
  - o 115033332
  - o 115047052
  - o 115033645
  - o 115033634
  - o 115033635
  - o 115035654
  - o 115035655
  - o 115035656
  - o 115038959
- PGAE will identify and undertake additional mitigations per its Corrective Action Program (this self report has been assigned CAP Issue #115025378).

Have Mitigating Activities been Completed? No

Date Mitigating Activities Completed:

### Impact and Risk Assessment:

Potential Impact to BPS: Minimal

Actual Impact to BPS: Minimal

Description of Potential and Actual Impact to BPS: Failure to inspect under FAC-501-WECC-1 could lead to oversight of potential points of failure that could exist within the transmission asset. If an unidentified potential point of failure is not addressed, it could ultimately lead to asset failure, causing unknown issues to the stability of the energized transmission line.

Low Risk

## Self Report

Risk Assessment of Impact to BPS: The 2018 corrective inspections of the steel towers PGAE failed to inspect in 2014 and 2017 showed no signs of degradation within the timeframe of the missed inspections. As long as PGAE adheres to its TMIP and inspects all FAC-501-WECC-2 regulated assets according to their current inspection cycles there should be no inherent risk to the BES.

Additional Entity Comments:

Additional Comments		
From	Comment	User Name
No Comments		

Additional Documents			
From	Document Name	Description	Size in Bytes
No Documents			

## Mitigation Plan

### Mitigation Plan Summary

Registered Entity: Pacific Gas and Electric Company

Mitigation Plan Code: WECCMIT014607

Mitigation Plan Version: 1

<u>NERC Violation ID</u>	<u>Requirement</u>	<u>Violation Validated On</u>
WECC2018020786	FAC-501-WECC-1 R3.	01/23/2020

Mitigation Plan Submitted On: June 13, 2019

Mitigation Plan Accepted On:

Mitigation Plan Proposed Completion Date: April 01, 2019

Actual Completion Date of Mitigation Plan:

Mitigation Plan Certified Complete by PG&E On: January 23, 2020

Mitigation Plan Completion Verified by WECC On:

Mitigation Plan Completed? (Yes/No): No

## Compliance Notices

Section 6.2 of the NERC CMEP sets forth the information that must be included in a Mitigation Plan. The Mitigation Plan must include:

- (1) The Registered Entity's point of contact for the Mitigation Plan, who shall be a person (i) responsible for filing the Mitigation Plan, (ii) technically knowledgeable regarding the Mitigation Plan, and (iii) authorized and competent to respond to questions regarding the status of the Mitigation Plan. This person may be the Registered Entity's point of contact described in Section B.
  - (2) The Alleged or Confirmed Violation(s) of Reliability Standard(s) the Mitigation Plan will correct.
  - (3) The cause of the Alleged or Confirmed Violation(s).
  - (4) The Registered Entity's action plan to correct the Alleged or Confirmed Violation(s).
  - (5) The Registered Entity's action plan to prevent recurrence of the Alleged or Confirmed violation(s).
  - (6) The anticipated impact of the Mitigation Plan on the bulk power system reliability and an action plan to mitigate any increased risk to the reliability of the bulk power-system while the Mitigation Plan is being implemented.
  - (7) A timetable for completion of the Mitigation Plan including the completion date by which the Mitigation Plan will be fully implemented and the Alleged or Confirmed Violation(s) corrected.
  - (8) Implementation milestones no more than three (3) months apart for Mitigation Plans with expected completion dates more than three (3) months from the date of submission. Additional violations could be determined or recommended to the applicable governmental authorities for not completing work associated with accepted milestones.
  - (9) Any other information deemed necessary or appropriate.
  - (10) The Mitigation Plan shall be signed by an officer, employee, attorney or other authorized representative of the Registered Entity, which if applicable, shall be the person that signed the Self Certification or Self Reporting submittals.
  - (11) This submittal form may be used to provide a required Mitigation Plan for review and approval by regional entity(ies) and NERC.
- The Mitigation Plan shall be submitted to the regional entity(ies) and NERC as confidential information in accordance with Section 1500 of the NERC Rules of Procedure.
  - This Mitigation Plan form may be used to address one or more related alleged or confirmed violations of one Reliability Standard. A separate mitigation plan is required to address alleged or confirmed violations with respect to each additional Reliability Standard, as applicable.
  - If the Mitigation Plan is accepted by regional entity(ies) and approved by NERC, a copy of this Mitigation Plan will be provided to the Federal Energy Regulatory Commission or filed with the applicable governmental authorities for approval in Canada.
  - Regional Entity(ies) or NERC may reject Mitigation Plans that they determine to be incomplete or inadequate.
  - Remedial action directives also may be issued as necessary to ensure reliability of the bulk power system.
  - The user has read and accepts the conditions set forth in these Compliance Notices.



Entity Information

Identify your organization:

Entity Name: Pacific Gas and Electric Company

NERC Compliance Registry ID: NCR05299

Address: 77 Beale Street  
San Francisco CA 94105

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

Name: JOSHUA CARROLL

Title: EXPERT COMPLIANCE SPECIALIST

Email: JDCU@PGE.COM

Phone: 559-240-0077

Violation(s)

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

Violation ID	Date of Violation	Requirement
Requirement Description		
WECC2018020786	07/26/2017	FAC-501-WECC-1 R3.
Transmission Owners shall implement and follow their TMIP. [Time Horizon: Operations Assessment]		

Brief summary including the cause of the violation(s) and mechanism in which it was identified:

PGAE failed to follow its TMIP regarding Transmission Line Inspections. 10 assets were identified as not being accessible for ground inspections which then required air patrol inspections, however, these air patrol inspections were never scheduled. PGAE has identified the cause within the NERC Cause Codes as:

1. A4, B3, C08 - Job scoping did not identify special circumstances and/or conditions

Relevant information regarding the identification of the violation(s):

These un-scheduled inspections were identified by PGAE's Quality Control team while conducting a quality control review of the Midway-Whirlwind 500kV Line.

Plan Details

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 violation(s) identified above in Section C.1 of this form:

PGAE has remediated the inspection issue by completing non-routine detailed inspections of the 10 towers identified as missing in the internal PGAE review to satisfy the requirements of PGAE's TMIP as regulated by FAC-501-WECC-1 R3 (completion date submitted with self-report). In addition to the completed inspections PGAE also intends to modify management of its assets via the SAP system as well as modify its processes to incorporate improved controls for when inspections cannot be completed. Please see the following milestones for detailed explanation.

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

Proposed Completion date of Mitigation Plan: April 01, 2019

Milestone Activities, with completion dates, that your organization is proposing for this Mitigation Plan:

Milestone Activity	Description	*Proposed Completion Date (Shall not be greater than 3 months apart)	Actual Completion Date	Entity Comment on Milestone Completion	Extension Request Pending
Split the Midway-Whirlwind 500kV Line into two different line inspections	PGAE is modifying its work management system to identify the Midway-Whirlwind 500kV line as two different inspection sections. This will allow PGAE to modify the Midway-Whirlwind 500kV Line inspection to adhere to its TMIP in a timely and effective manner and to compensate for seasonal challenges.	02/01/2019	01/25/2019	In PGAE's SAP work management application, this BES asset has been given two separate inspection cycles which will compensate for seasonal challenges and allow PGAE to inspect the entire transmission line per its TMIP. This will mitigate future recurrence of missed tower inspections for facilities that were inaccessible at the time of their original inspection.	No
Procedure development to identify and document inaccessible structure during inspections	PGAE's new procedure will require that when performing a routine inspection or patrol, if a structure is found to be inaccessible a LC (corrective) Notification must be created on site for a Non-Routine Ground Patrol and be given a	04/01/2019	03/29/2019	PG&E issued a change in managing it's TMIP by implementing a process to mitigate against inspections/patrols that cannot be conducted. The changed was implemented via a 5MM to all Transmission Line supervisors regarding the expectations going forward and should close the Gap	No

Milestone Activity	Description	*Proposed Completion Date (Shall not be greater than 3 months apart)	Actual Completion Date	Entity Comment on Milestone Completion	Extension Request Pending
	"B" Priority (90 days to have the asset re-inspected and have the inspection closed out) for re-inspection.			concerning a missed inspection.	

Additional Relevant Information

## Reliability Risk

### Reliability Risk

While the Mitigation Plan is being implemented, the reliability of the bulk Power System may remain at higher Risk or be otherwise negatively impacted until the plan is successfully completed. To the extent they are known or anticipated : (i) Identify any such risks or impacts, and; (ii) discuss any actions planned or proposed to address these risks or impacts.

- i. PG&E has reviewed the risk associated to the submitted self-report and concluded that no additional risk exists with FAC-501-WECC-1 R3 regulated assets while the mitigation plan is being completed.
- ii. None

### Prevention

Describe how successful completion of this plan will prevent or minimize the probability further violations of the same or similar reliability standards requirements will occur

Prior to this submitted violation PG&E's process was to have supervisor's review inspection reports. If an asset was identified as not having been inspected the program relied on the supervisor to create a SAP corrective notification to complete the inspection. PG&E's preventive measures will now require that when performing a routine inspection or patrol, if a structure is found to be inaccessible a LC (corrective) Notification must be created on site for a Non-Routine Ground Patrol per PG&E's updated TMIP. Detailed Inspection or Routine Patrols may not be closed out until ALL structures have been assessed as require by PG&E's ETPM. The process is no longer only dependent on a supervisor's review.

Describe any action that may be taken or planned beyond that listed in the mitigation plan, to prevent or minimize the probability of incurring further violations of the same or similar standards requirements

Authorization

An authorized individual must sign and date the signature page. By doing so, this individual, on behalf of your organization:

- \* Submits the Mitigation Plan, as presented, to the regional entity for acceptance and approval by NERC, and
- \* if applicable, certifies that the Mitigation Plan, as presented, was completed as specified.

Acknowledges:

1. I am qualified to sign this mitigation plan on behalf of my organization.
2. I have read and understand the obligations to comply with the mitigation plan requirements and ERO remedial action directives as well as ERO documents, including but not limited to, the NERC rules of procedure and the application NERC CMEP.
3. I have read and am familiar with the contents of the foregoing Mitigation Plan.

Pacific Gas and Electric Company Agrees to be bound by, and comply with, this Mitigation Plan, including the timetable completion date, as accepted by the Regional Entity, NERC, and if required, the applicable governmental authority.

Authorized Individual Signature: \_\_\_\_\_  
(Electronic signature was received by the Regional Office via CDMS. For Electronic Signature Policy see CMEP.)

Authorized Individual

Name: Eric Back

Title: Senior Director, Transmission Lines

Authorized On: March 21, 2019

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## Certification of Mitigation Plan Completion

Submittal of a Certification of Mitigation Plan Completion shall include data or information sufficient for the Regional Entity to verify completion of the Mitigation Plan. The Regional Entity may request 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)

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Registered Entity Name: Pacific Gas and Electric Company

NERC Registry ID: NCR05299

NERC Violation ID(s): WECC2018020786

Mitigated Standard Requirement(s): FAC-501-WECC-1 R3.

Scheduled Completion as per Accepted Mitigation Plan: April 01, 2019

Date Mitigation Plan completed: March 29, 2019

WECC Notified of Completion on Date: January 23, 2020

Entity Comment:

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I certify that the Mitigation Plan for the above named violation(s) has been completed on the date shown above and that all submitted information is complete and correct to the best of my knowledge.

Name: Sergio Santiago

Title: Transmission Compliance Specialist

Email: s2s8@pge.com

Phone: 1 (805) 717-3475

Authorized Signature \_\_\_\_\_ Date \_\_\_\_\_

(Electronic signature was received by the Regional Office via CDMS. For Electronic Signature Policy see CMEP.)

From: noreply@oati.net  
Sent: 03/03/2020 13:15:49  
To: CKF6@pge.com;CNHK@pge.com;jdcu@pge.com  
Subject: WECC Notice - Completed Mitigation Plan Acceptance - FAC-501-WECC-1 R3. - Pacific Gas and Electric Company

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**Please do not REPLY to this message. It was sent from an unattended mailbox and replies are not monitored. If you have a question, send a new message to the OATI Help Desk at [support@oati.net](mailto:support@oati.net).**

NERC Registration ID: NCR05299  
NERC Violation ID: WECC2018020786  
Standard/Requirement: FAC-501-WECC-1 R3.  
Subject: Completed Mitigation Plan Acceptance

WECC received the Certification of Mitigation Plan Completion submitted by Pacific Gas and Electric Company on 01/23/2020 for the violation of FAC-501-WECC-1 R3.. After a thorough review, WECC has accepted the Certification of Mitigation Plan Completion.

webCDMS Login: <https://www.cdms.oati.com/CDMS/sys-login.wml>

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[OATI Information - Email Template: MitPlan\_Completed]



## Self Report

Entity Name: Pacific Gas and Electric Company (PG&E)

NERC ID: NCR05299

Standard: PRC-005-6

Requirement: PRC-005-6 R1.

Date Submitted: January 12, 2018

Has this violation previously No  
been reported or discovered?:

### Entity Information:

Joint Registration  
Organization (JRO) ID:

Coordinated Functional  
Registration (CFR) ID:

Contact Name: Patsy Baynard

Contact Phone: 9253285995

Contact Email: PYB1@pge.com

### Violation:

Violation Start Date: June 22, 2016

End/Expected End Date: June 27, 2017

Reliability Functions: Generator Owner (GO)

Is Possible Violation still No  
occurring?:

Number of Instances: 1

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

Which Regions:

Date Reported to Regions:

Detailed Description and Cause of Possible Violation: PG&E performs VLA Battery maintenance at its Generation facilities every 12 months, which is within the 18-month maximum limit specified in PRC-005-6 Table1-4(a). PG&E's battery maintenance and inspection procedures are documented in PG-1314P-02: Protection Battery Resistance Test and its Substation Maintenance and Construction Manual - Substation Batteries (PG&E uses Form 09 to document its test results). In the fall of 2017, PG&E contracted with a third party to perform a compliance audit of various NERC Standard Requirements, including PRC-005-6. On October 10, 2017, the audit team discovered that PG&E performed battery resistance tests at its Balch #2 Powerhouse facility as scheduled on June 22, 2016 and June 14, 2017. However, the audit team concluded that when PG&E measured the internal Ohmic values for the June 22, 2016 test, it did not use the correct baseline values and incorrectly determined that test results were adequate. In fact, if the correct baseline values had been used, the battery would have failed the test and, according to PG&E's procedures, would have been retested and subjected to an equalization charge. When PG&E performed the June 14, 2017 resistance tests, it used the correct baseline and determined that the test values exceeded the allowable maximum internal cell resistance by 27 percent. After following its procedures for a failed test, including a 72-hour equalization charge, PG&E determined that the battery failed and needed to be replaced.

### Mitigating Activities:

Self Report

Description of Mitigating Activities and Preventative Measure: In addition to the 72-hour equalization test completed on 6-20-17 described above, PGAE also completed cleaning and re-torqueing connectors to specifications. Other planned or in progress actions include:

- Replacing the battery (new battery is on site and being charged).
- Developing a communication and education plan that will be delivered to all Power Generation employees conducting and supervising battery testing. The communication will include what happened and how it was discovered. The education will include what actions need to take place if batteries fail resistance tests (will be tied to PGAE's corrective notification process), how to ensure the correct baseline values are calculated and used, and what review steps are required before approval of battery test records.
- Performing an in-depth Apparent Cause Analysis to determine if any additional mitigations are needed.

PGAE will submit a Mitigation Plan with details and milestones for its planned actions.

Have Mitigating Activities been Completed? No  
 Date Mitigating Activities Completed:

Impact and Risk Assessment:

Potential Impact to BPS: Minimal  
 Actual Impact to BPS: Minimal

Description of Potential and Actual Impact to BPS: No apparent potential reliability impact. Batteries with internal resistance readings above the baseline may still perform to rated output. A capacity test must be performed to verify. The batteries were in operational condition, which was proven by a successful blackstart test on 11-2-2016 and verified by the California ISO. Throughout the period from the June 22, 2016 resistance test to the present, the station service has provided power without interruption to critical loads inside the powerhouse. Overall, this is Low impact to the BPS.

Risk Assessment of Impact to BPS: Low risk to the BPS.  
 Batteries remained operational and were not needed during normal operation other than for testing. In addition, there were available alternate sources of power if the batteries had failed:  
 The station service transformer has an automatic transfer scheme with three different sources of power.  
 The station power can come from either of the two generators, or from the 12 kV distribution source if the units are unavailable.

Additional Entity Comments:

Additional Comments		
From	Comment	User Name
No Comments		

Additional Documents			
From	Document Name	Description	Size in Bytes
Entity	PG-1314P-02 Protection	This document describes the procedure for	968,362

## Self Report

Additional Documents			
From	Document Name	Description	Size in Bytes
Entity	Battery Resistance Test.pdf	performing a resistance test and establishing baseline resistance values of protection batteries used in Power Generating facilities.	968,362
Entity	SMandC Manual - Substation Batteries.pdf	This section of PG&E's Substation Maintenance and Construction Manual describes the detailed steps for inspecting and maintaining batteries.	7,444,155
Entity	Balch Sta Batt Annual Resistance test 2016.pdf	This document is the 2016 battery test record for Balch #2 Powerhouse.	1,024,620
Entity	Balch Sta Batt Annual Resistance test 2017.pdf	This document is the 2017 battery test record for Balch #2 Powerhouse.	2,225,822

## Mitigation Plan

### Mitigation Plan Summary

Registered Entity: Pacific Gas and Electric Company

Mitigation Plan Code: WECCMIT013711-1

Mitigation Plan Version: 2

<u>NERC Violation ID</u>	<u>Requirement</u>	<u>Violation Validated On</u>
WECC2018018998	PRC-005-6 R3.	03/11/2019

Mitigation Plan Submitted On: February 26, 2019

Mitigation Plan Accepted On:

Mitigation Plan Proposed Completion Date: March 08, 2019

Actual Completion Date of Mitigation Plan:

Mitigation Plan Certified Complete by PG&E On: February 26, 2019

Mitigation Plan Completion Verified by WECC On:

Mitigation Plan Completed? (Yes/No): No

## Compliance Notices

Section 6.2 of the NERC CMEP sets forth the information that must be included in a Mitigation Plan. The Mitigation Plan must include:

- (1) The Registered Entity's point of contact for the Mitigation Plan, who shall be a person (i) responsible for filing the Mitigation Plan, (ii) technically knowledgeable regarding the Mitigation Plan, and (iii) authorized and competent to respond to questions regarding the status of the Mitigation Plan. This person may be the Registered Entity's point of contact described in Section B.
  - (2) The Alleged or Confirmed Violation(s) of Reliability Standard(s) the Mitigation Plan will correct.
  - (3) The cause of the Alleged or Confirmed Violation(s).
  - (4) The Registered Entity's action plan to correct the Alleged or Confirmed Violation(s).
  - (5) The Registered Entity's action plan to prevent recurrence of the Alleged or Confirmed violation(s).
  - (6) The anticipated impact of the Mitigation Plan on the bulk power system reliability and an action plan to mitigate any increased risk to the reliability of the bulk power-system while the Mitigation Plan is being implemented.
  - (7) A timetable for completion of the Mitigation Plan including the completion date by which the Mitigation Plan will be fully implemented and the Alleged or Confirmed Violation(s) corrected.
  - (8) Implementation milestones no more than three (3) months apart for Mitigation Plans with expected completion dates more than three (3) months from the date of submission. Additional violations could be determined or recommended to the applicable governmental authorities for not completing work associated with accepted milestones.
  - (9) Any other information deemed necessary or appropriate.
  - (10) The Mitigation Plan shall be signed by an officer, employee, attorney or other authorized representative of the Registered Entity, which if applicable, shall be the person that signed the Self Certification or Self Reporting submittals.
  - (11) This submittal form may be used to provide a required Mitigation Plan for review and approval by regional entity(ies) and NERC.
- The Mitigation Plan shall be submitted to the regional entity(ies) and NERC as confidential information in accordance with Section 1500 of the NERC Rules of Procedure.
  - This Mitigation Plan form may be used to address one or more related alleged or confirmed violations of one Reliability Standard. A separate mitigation plan is required to address alleged or confirmed violations with respect to each additional Reliability Standard, as applicable.
  - If the Mitigation Plan is accepted by regional entity(ies) and approved by NERC, a copy of this Mitigation Plan will be provided to the Federal Energy Regulatory Commission or filed with the applicable governmental authorities for approval in Canada.
  - Regional Entity(ies) or NERC may reject Mitigation Plans that they determine to be incomplete or inadequate.
  - Remedial action directives also may be issued as necessary to ensure reliability of the bulk power system.
  - The user has read and accepts the conditions set forth in these Compliance Notices.

Entity Information

Identify your organization:

Entity Name: Pacific Gas and Electric Company

NERC Compliance Registry ID: NCR05299

Address: 77 Beale Street  
San Francisco CA 94105

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

Name: Glenn Rounds

Title: Principal Compliance Specialist

Email: gcr3@pge.com

Phone: 559-263-7090

Violation(s)

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

Violation ID	Date of Violation	Requirement
Requirement Description		
WECC2018018998	01/15/2016	PRC-005-6 R3.
Each Transmission Owner, Generator Owner, and Distribution Provider that utilizes time-based maintenance program(s) shall maintain its Protection System, Automatic Reclosing, and Sudden Pressure Relaying Components that are included within the time-based maintenance program in accordance with the minimum maintenance activities and maximum maintenance intervals prescribed within Tables 1-1 through 1-5, Table 2, Table 3, Table 4-1 through 4-3, and Table 5.		

Brief summary including the cause of the violation(s) and mechanism in which it was identified:

PGAE performs VLA Battery maintenance at its Generation facilities every 12 months, which is within the 18-month maximum limit specified in PRC-005-6 Table1-4(a). PGAE's battery maintenance and inspection procedures are documented in PG-1314P-02: Protection Battery Resistance Test and its Substation Maintenance and Construction Manual - Substation Batteries (PGAE uses Form 09 to document its test results). In the fall of 2017, PGAE contracted with a third party to perform a compliance audit of various NERC Standard Requirements, including PRC-005-6. On October 10, 2017, the audit team discovered that PGAE performed battery resistance tests at its Balch #2 Powerhouse facility as scheduled on June 22, 2016 and June 14, 2017. However, the audit team concluded that when PGAE measured the internal Ohmic values for the June 22, 2016 test, it did not use the correct baseline values and incorrectly determined that test results were adequate. In fact, if the correct baseline values had been used, the battery would have failed the test and, according to PGAE's procedures, would have been retested and subjected to an equalization charge. When PGAE performed the June 14, 2017 resistance tests, it used the correct baseline and determined that the test values exceeded the allowable maximum internal cell resistance by 27 percent. After following its procedures for a failed test, including a 72-hour equalization charge, PGAE determined that the battery failed and needed to be replaced.

Relevant information regarding the identification of the violation(s):

The issue was discovered in a Compliance Mock Audit.

Plan Details

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 violation(s) identified above in Section C.1 of this form:

In addition to the 72-hour equalization test completed on 6-20-17 described above, PGAE also completed cleaning and re-torquing connectors to specifications. Other planned or in progress actions include:

- Replacing the battery (new battery is on site and being charged).
- Battery maintenance standard will be revised to clarify roles and responsibilities for all battery testing and review activities. This revision implementation is to include a communication and education plan that will be delivered to all Power Generation employees conducting and supervising battery testing. The communication will include what happened and how it was discovered. The education will include what actions need to take place if batteries fail resistance tests (will be tied to PGAE's corrective notification process), how to ensure the correct baseline values are calculated and used, and what review steps are required before approval of battery test records.
  - Develop battery record quality assurance review process.
  - Conduct system-wide spot checks of battery records. Review 33% of BES battery bank resistance testing records to verify testing has been performed accurately and completely.
  - Re-test batteries that are identified in the extent of conditions review. This includes testing of the 2 relays at Caribou Powerhouse which were discovered while performing the extent of conditions review.

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

Proposed Completion date of Mitigation Plan: March 08, 2019

Milestone Activities, with completion dates, that your organization is proposing for this Mitigation Plan:

Milestone Activity	Description	*Proposed Completion Date (Shall not be greater than 3 months apart)	Actual Completion Date	Entity Comment on Milestone Completion	Extension Request Pending
Milestone 1 - Develop battery record quality assurance review process.	Incorporate battery records reviews into annual internal audits scope for future audits.	05/01/2018	02/26/2018	Replaced initial description with the intended description above to accurately reflect the milestone.	No
Milestone 2 - Revise standard for battery testing and implement associated communication plan.	Standard will be revised to clarify roles and responsibilities for all battery testing and review activities. This revision implementation is to include a communication and education plan that will be delivered to all Power Generation	06/01/2018	06/14/2018	The majority of the training was accomplished by 6/1/2018.	No



Milestone Activity	Description	*Proposed Completion Date (Shall not be greater than 3 months apart)	Actual Completion Date	Entity Comment on Milestone Completion	Extension Request Pending
	employees conducting and supervising battery testing. The communication will include what happened and how it was discovered. The education will include what actions need to take place if batteries fail resistance tests (will be tied to PG&E's corrective notification process), how to ensure the correct baseline values are calculated and used, and what review steps are required before approval of battery test record				
Milestone 3 - Conduct system-wide spot checks of battery record	Review at least 33% of BES battery bank resistance testing records Generator Owner (GO - Hydro and Fossil generation facilities.) and Transmission Owner (TO)) to verify testing completion has been performed accurately and completely. The review will also indicate if a systemic problem associated with battery bank resistance testing exists.	07/01/2018	07/30/2018		No
Milestone 4 - Replace Balch battery bank.	The June 20, 2017 72-hour equalization test and cleaning and re-torquing connectors to	08/01/2018	04/05/2018	Battery replacement at Balch PH was completed on 4/5/2018.	No

Milestone Activity	Description	*Proposed Completion Date (Shall not be greater than 3 months apart)	Actual Completion Date	Entity Comment on Milestone Completion	Extension Request Pending
	specifications did not correct the readings, bank will be replaced				
Milestone 4a - Schedule Correction	Adding Sub-milestone due to limitation of milestone completion dates in WebCDMS	10/31/2018	10/31/2018		No
Milestone 5 - Battery re-test (Phase 1)	Verify the batteries that have been retested since the extent of conditions was completed. This includes the 2 relays at Caribou Powerhouse.	12/28/2018	12/28/2018	All batteries have been validated that re-tests are completed or planned prior to 3/1/2019.	No
Milestone 6 - Battery re-test (Phase 2)	Re-test remaining batteries that were identified in the extent of conditions	03/01/2019	02/12/2019		No

Additional Relevant Information

## Reliability Risk

### Reliability Risk

While the Mitigation Plan is being implemented, the reliability of the bulk Power System may remain at higher Risk or be otherwise negatively impacted until the plan is successfully completed. To the extent they are known or anticipated : (i) Identify any such risks or impacts, and; (ii) discuss any actions planned or proposed to address these risks or impacts.

Batteries remained operational and were not needed during normal operation other than for testing. In addition, there were available alternate sources of power if the batteries had failed:

The station service transformer has an automatic transfer scheme with three different sources of power.

The station power can come from either of the two generators, or from the 12 kV distribution source if the units are unavailable.

### Prevention

Describe how successful completion of this plan will prevent or minimize the probability further violations of the same or similar reliability standards requirements will occur

The mitigation plan clarifies roles and responsibilities to ensure the battery maintenance task aligns with the job classification and supervisory role for the task.

The plan includes a system wide quality assurance review to review for other areas of potential battery testing issues as well as a long term plan for ongoing independent review of battery records. Finally the replacement the Balch battery bank will ensure a new reliable battery bank is available for future loads.

Describe any action that may be taken or planned beyond that listed in the mitigation plan, to prevent or minimize the probability of incurring further violations of the same or similar standards requirements

PGAE will be developing Job Performance Measures for battery resistance testing to validate hands on understanding of battery resistance testing requirements.

Authorization

An authorized individual must sign and date the signature page. By doing so, this individual, on behalf of your organization:

- \* Submits the Mitigation Plan, as presented, to the regional entity for acceptance and approval by NERC, and
- \* if applicable, certifies that the Mitigation Plan, as presented, was completed as specified.

Acknowledges:

1. I am qualified to sign this mitigation plan on behalf of my organization.
2. I have read and understand the obligations to comply with the mitigation plan requirements and ERO remedial action directives as well as ERO documents, including but not limited to, the NERC rules of procedure and the application NERC CMEP.
3. I have read and am familiar with the contents of the foregoing Mitigation Plan.

Pacific Gas and Electric Company Agrees to be bound by, and comply with, this Mitigation Plan, including the timetable completion date, as accepted by the Regional Entity, NERC, and if required, the applicable governmental authority.

Authorized Individual Signature: \_\_\_\_\_

(Electronic signature was received by the Regional Office via CDMS. For Electronic Signature Policy see CMEP.)

Authorized Individual

Name: Pat Hogan

Title: Senior Vice President Electric Operations

Authorized On: January 12, 2018

## Certification of Mitigation Plan Completion

Submittal of a Certification of Mitigation Plan Completion shall include data or information sufficient for the Regional Entity to verify completion of the Mitigation Plan. The Regional Entity may request 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)

Registered Entity Name: Pacific Gas and Electric Company

NERC Registry ID: NCR05299

NERC Violation ID(s): WECC2018018998

Mitigated Standard Requirement(s): PRC-005-6 R3.

Scheduled Completion as per Accepted Mitigation Plan: March 08, 2019

Date Mitigation Plan completed: February 26, 2019

WECC Notified of Completion on Date: February 26, 2019

Entity Comment:

Additional Documents			
From	Document Name	Description	Size in Bytes
Entity	Milestone 1 - PG-1283S Rev3 Ops Review of PG Facilities 02-26-18.pdf	Milestone 1 - PGAE Power Generation Standard for Operations Review of Power Generation Facilities.	86,390
Entity	Milestone 1 - PG-1283S Att 11 Guidance Tailboard Rev 2 for PG-1283S Rev 3 02262018.pdf	Milestone 1 - PGAE employee tailboard for Power Generation Standard PG-1283S.	46,209
Entity	Milestone 2 - PG-1314P-02-B001 Battery Resistance Test.pdf	Milestone2 - Bulletin for performing battery maintenance at power generation facilities.	83,317
Entity	Milestone 2 - PG-1314P02-B001 Guidance Tailboard.pdf	Milestone 2 - Employee tailboard on Battery Resistance Test bulletin PG-1314P-02-B001	152,790
Entity	Milestone 2 - Battery testing_training_communication_roster.pdf	Milestone 2 - Battery testing training/communication roster.	218,688
Entity	Milestone 3 - PGAE Battery Test Extent of Conditions.pdf	Milestone 3 - PGAE Battery Test Extent of Conditions	52,690
Entity	Milestone 4 - Balch Station Battery Replacement.pdf	Milestone 4 - Balch Battery Replacement Work Request (see highlighted section)	439,931
Entity	Milestone 5 Phase 1(Re-test validation).xlsx	Milestone 5 (Phase 1) Re-test validation	17,005
Entity	Milestone 6 Phase 2 (Re-test validation).docx	Milestone 6 (Phase 2) re-test validation	22,125

I certify that the Mitigation Plan for the above named violation(s) has been completed on the date shown above and that all submitted information is complete and correct to the best of my knowledge.

Name: Glenn Rounds

Title: Principal Compliance Specialist

Email: gcr3@pge.com

Phone: 1 (559) 263-7090

Authorized Signature \_\_\_\_\_ Date \_\_\_\_\_

(Electronic signature was received by the Regional Office via CDMS. For Electronic Signature Policy see CMEP.)

From: noreply@oati.net

Sent:

To: gcr3@pge.com;j8l3@pge.com;jdcu@pge.com

Subject: WECC Notice - Completed Mitigation Plan Acceptance - PRC-005-6 R3. - Pacific Gas and Electric Company

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**Please do not REPLY to this message. It was sent from an unattended mailbox and replies are not monitored. If you have a question, send a new message to the OATI Help Desk at [support@oati.net](mailto:support@oati.net).**

NERC Registration ID: NCR05299

NERC Violation ID: WECC2018018998

Standard/Requirement: PRC-005-6 R3.

Subject: Completed Mitigation Plan Acceptance

WECC received the Certification of Mitigation Plan Completion submitted by Pacific Gas and Electric Company on 02/26/2019 for the violation of PRC-005-6 R3.. After a thorough review, WECC has accepted the Certification of Mitigation Plan Completion.

webCDMS Login: <https://www.cdms.oati.com/CDMS/sys-login.wml>

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[OATI Information - Email Template: MitPlan\_Completed]

## Self Report

Entity Name: Pacific Gas and Electric Company (PGAE)

NERC ID: NCR05299

Standard: PRC-005-1a

Requirement: PRC-005-1a R2.

Date Submitted: May 06, 2020

Has this violation previously No  
been reported or discovered?:

### Entity Information:

Joint Registration  
Organization (JRO) ID:

Coordinated Functional  
Registration (CFR) ID:

Contact Name: Pete Nelson

Contact Phone: 8054583368

Contact Email: pjn4@pge.com

### Violation:

Violation Start Date: January 01, 2012

End/Expected End Date: November 21, 2019

Reliability Functions: Distribution Provider (DP)  
Transmission Owner (TO)

Is Possible Violation still No  
occurring?:

Number of Instances: 1

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

Which Regions:

Date Reported to Regions:

Detailed Description and Cause of Possible Violation: On 10/17/2019, PGAE discovered a potential non-compliance with PRC-005-1.1b R2. PGAE discovered that five relays in the Bulk Electric System (BES) were unaccounted for in SAP. SAP is PGAE's system of record used to initiate and log maintenance and to report compliance with PRC-005. PGAE had failed to create an SAP record for each of these five relays. Consequently, PGAE failed to conduct maintenance and testing activities on these five relays per its time-based maintenance practices.

Prior to 2017, PGAE maintained the relay settings in a program called Aspen, a database that was operated and maintained independent of SAP. In 2017, PGAE began to migrate the BES relay settings data from Aspen to a new relay settings database program called PowerBase, which was linked and integrated with SAP.

Once the BES relay settings data was transferred from Aspen to PowerBase, PGAE compared the relay setting data that came from Aspen with the asset registry data in SAP to confirm that each active relay setting from Aspen had a corresponding SAP record. As a result of this comparison, PGAE discovered that a number of devices with relay settings in Aspen were never entered into the SAP database. PGAE developed a list of relays that had relay setting records from Aspen but did not have a corresponding maintenance record in SAP. PGAE initiated a manual process to determine the status of the identified relays and if they were still active and needed a corresponding record in SAP.

On 10/17/2019, PGAE identified five relays in the BES with settings in Aspen



## Self Report

that did not have corresponding records in SAP including: three electromechanical relays at Ravenswood used for 230kV capacitor bus protection and two microprocessor relays at Lincoln used for 115kV bus protection. PGAE created records for the five relays in SAP and scheduled maintenance. PGAE proactively remediated the potential non-compliance with PRC-005-1.1b R2, when maintenance was completed at Ravenswood on 11/21/2019 and at Lincoln on 11/4/2019.

### Relay History

At Ravenswood Substation, the duration between installation on 6/2/2007 and maintenance on 11/21/2019 is 12-years, 5-months, and 20-days. Based on PGAE's 4-year cycle when these relays were installed, they became out-of-compliance on 1/1/2012. The duration between 1/1/2012 and 11/21/2019 is 7-years, 10-months, and 21-days.

At Lincoln Substation, the duration between installation on 6/26/2011 and maintenance on 11/4/2019 is 8-years, 4-months, and 10-days. Based on PGAE's 6-year cycle when these relays were installed, they became out-of-compliance on 1/1/2018. The duration between 1/1/2018 and 11/4/2019 is 1-year, 10-months, and 4-days.

### Mitigating Activities:

Description of Mitigating Remediation  
Activities and Preventative

Measure: PGAE completed maintenance on three electromechanical 230kV capacitor bus protection relays at Ravenswood on 11/21/2019.

PGAE completed maintenance on two 115kV microprocessor bus protection relays at Lincoln on 11/4/2019.

PGAE completed the review of BES devices found in the Aspen relay setting database that did not have a corresponding device and maintenance plan in SAP on 12/19/2019.

Have Mitigating Activities Yes  
been Completed?

Date Mitigating Activities December 19, 2019  
Completed:

### Impact and Risk Assessment:

Potential Impact to BPS: Moderate

Actual Impact to BPS: Minimal

Description of Potential and Potential Reliability Impact:  
Actual Impact to BPS:

Ravenswood - If the relays at Ravenswood had failed to initiate (due to lack of maintenance) during a fault, Ravenswood Substation bus one and bus two would have been deenergized and left without reactive resources to support voltage schedules if needed.

Lincoln - If the relays at Lincoln had failed to initiate (due to lack of maintenance) during a fault, the relays at the remote ends of the lines would have cleared the fault resulting in the deenergization of electrical energy to customers.

Actual Reliability Impact:

There was no actual impact to the BES resulting from PGAE's failure to provide scheduled maintenance to the five relays.

## Self Report

Risk Assessment of Impact to Ravenswood: Low  
BPS:

The ABB type KAB relays, used for the 230kV capacitor bus protection, are very reliable and there is partial redundancy in that there is one relay per phase.

Lincoln: Low

The SEL model 501-2 micro-processor relays, used for the 115kV bus protection, are very reliable and there is partial redundancy.

PGAE did not identify any elevated risk to the BPS based on the failure to follow the maintenance schedule for the five relays. PGAE did not identify any event in which these relays contributed to a reliability related event, nor an event that was caused by these relays.

Additional Entity Comments:

Additional Comments		
From	Comment	User Name
No Comments		

Additional Documents			
From	Document Name	Description	Size in Bytes
No Documents			

## Mitigation Plan

### Mitigation Plan Summary

Registered Entity: Pacific Gas and Electric Company

Mitigation Plan Code:

Mitigation Plan Version: 2

<u>NERC Violation ID</u>	<u>Requirement</u>	<u>Violation Validated On</u>
WECC2020023337	PRC-005-1a R2.	06/26/2020

Mitigation Plan Submitted On: August 14, 2020

Mitigation Plan Accepted On:

Mitigation Plan Proposed Completion Date: May 11, 2021

Actual Completion Date of Mitigation Plan:

Mitigation Plan Certified Complete by PG&E On:

Mitigation Plan Completion Verified by WECC On:

Mitigation Plan Completed? (Yes/No): No

## Compliance Notices

Section 6.2 of the NERC CMEP sets forth the information that must be included in a Mitigation Plan. The Mitigation Plan must include:

- (1) The Registered Entity's point of contact for the Mitigation Plan, who shall be a person (i) responsible for filing the Mitigation Plan, (ii) technically knowledgeable regarding the Mitigation Plan, and (iii) authorized and competent to respond to questions regarding the status of the Mitigation Plan. This person may be the Registered Entity's point of contact described in Section B.
  - (2) The Alleged or Confirmed Violation(s) of Reliability Standard(s) the Mitigation Plan will correct.
  - (3) The cause of the Alleged or Confirmed Violation(s).
  - (4) The Registered Entity's action plan to correct the Alleged or Confirmed Violation(s).
  - (5) The Registered Entity's action plan to prevent recurrence of the Alleged or Confirmed violation(s).
  - (6) The anticipated impact of the Mitigation Plan on the bulk power system reliability and an action plan to mitigate any increased risk to the reliability of the bulk power-system while the Mitigation Plan is being implemented.
  - (7) A timetable for completion of the Mitigation Plan including the completion date by which the Mitigation Plan will be fully implemented and the Alleged or Confirmed Violation(s) corrected.
  - (8) Implementation milestones no more than three (3) months apart for Mitigation Plans with expected completion dates more than three (3) months from the date of submission. Additional violations could be determined or recommended to the applicable governmental authorities for not completing work associated with accepted milestones.
  - (9) Any other information deemed necessary or appropriate.
  - (10) The Mitigation Plan shall be signed by an officer, employee, attorney or other authorized representative of the Registered Entity, which if applicable, shall be the person that signed the Self Certification or Self Reporting submittals.
  - (11) This submittal form may be used to provide a required Mitigation Plan for review and approval by regional entity(ies) and NERC.
- The Mitigation Plan shall be submitted to the regional entity(ies) and NERC as confidential information in accordance with Section 1500 of the NERC Rules of Procedure.
  - This Mitigation Plan form may be used to address one or more related alleged or confirmed violations of one Reliability Standard. A separate mitigation plan is required to address alleged or confirmed violations with respect to each additional Reliability Standard, as applicable.
  - If the Mitigation Plan is accepted by regional entity(ies) and approved by NERC, a copy of this Mitigation Plan will be provided to the Federal Energy Regulatory Commission or filed with the applicable governmental authorities for approval in Canada.
  - Regional Entity(ies) or NERC may reject Mitigation Plans that they determine to be incomplete or inadequate.
  - Remedial action directives also may be issued as necessary to ensure reliability of the bulk power system.
  - The user has read and accepts the conditions set forth in these Compliance Notices.

Entity Information

Identify your organization:

Entity Name: Pacific Gas and Electric Company

NERC Compliance Registry ID: NCR05299

Address: 77 Beale Street  
San Francisco CA 94105

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

Name: Jasmine Gideon

Title: Transmission Compliance Specialist

Email: Jasmine.Gideon@pge.com

Phone: 916-846-3463

Violation(s)

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

Violation ID	Date of Violation	Requirement
Requirement Description		
WECC2020023337	01/01/2012	PRC-005-1a R2.
Each Transmission Owner and any Distribution Provider that owns a transmission Protection System and each Generator Owner that owns a generation Protection System shall provide documentation of its Protection System maintenance and testing program and the implementation of that program to its Regional Reliability Organization on request (within 30 calendar days). The documentation of the program implementation shall include:		

Brief summary including the cause of the violation(s) and mechanism in which it was identified:

On 10/17/2019, PGAE discovered a potential non-compliance with PRC-005-1.1a R2. PGAE discovered that five relays in the Bulk Electric System (BES) were unaccounted for in SAP. SAP is PGAE's system of record used to initiate and log maintenance and to report compliance with PRC-005. PGAE failed to create an SAP record for each of these five relays. Consequently, PGAE failed to conduct maintenance and testing activities on these five relays per its time-based maintenance program.

PGAE filed a Potential Non-Conformance (PNC) with WECC on 5/06/2020 and initiated PGAE's Cause Evaluation (CE) process to track the identification of contributing causes and associated mitigation actions.

PGAE identified the following contributing causes through its formal CE process:

Cause 1 (C-1): Inadequate detective and preventative controls at the time. (NERC Cause Code: A1-B3-C03)

Cause 2 (C-2): Inadequate training on new or revised procedures. (NERC Cause Code: A4-B5-C08)

Cause 3 (C-3): Inconsistent methodologies in Quality Control (QC) checks of equipment transmittals by supervisors. (NERC Cause Code: A4-B1-C04)

Relevant information regarding the identification of the violation(s):

Prior to 2017, PGAE maintained its relay settings in a program called Aspen, a database that was operated and maintained independent of SAP. In 2017, PGAE began to migrate the BES relay settings data from Aspen to a new relay settings database program called PowerBase, which was linked and integrated with SAP.

Once the BES relay settings data was transferred from Aspen to PowerBase, PGAE compared the relay setting data that came from Aspen with the asset registry data in SAP to confirm that each active relay setting from Aspen had a corresponding SAP record. As a result of this comparison, PGAE developed a listing of devices with relay settings in Aspen that lacked corresponding equipment records in the SAP database. PGAE initiated a manual process to determine the status of the identified relays and if they were still active and needed a corresponding record in SAP.

On 10/17/2019, PGAE identified five BES relays with settings in Aspen that did not have corresponding records in SAP including: three electromechanical relays at Ravenswood Substation used for 230kV capacitor bus protection (installed 6/2/2007) and two microprocessor relays at Lincoln Substation used for 115kV bus protection (installed 6/26/2011). PGAE created records for the five relays in SAP and scheduled maintenance. PGAE proactively remediated the potential non-compliance with PRC-005-1.1a R2, when maintenance was completed at Ravenswood on 11/21/2019 and at Lincoln on 11/4/2019.

On 2/26/2020, PGAE concluded its exhaustive search of all digital and physical records to confirm that no additional maintenance was performed against the above-mentioned relays between their original commissioning dates and the last maintenance iteration in November 2019. Based on the results of the

search, PGAE proceeded to file a self-report with WECC.

Investigations conducted throughout the course of the cause evaluation revealed that PGAE's preventative and detective controls were weak between 2007 and 2017. Prior to 2017, no programs or processes were in place to cross check PGAE's relay settings database against its equipment database of record.

The action of cross checking the relay settings database against the equipment database of record would have allowed for earlier identification of a missing asset record in SAP. Earlier identification may have allowed PGAE to make necessary equipment records and maintenance trigger corrections in SAP. These corrections may have allowed for timely completion of maintenance against the relays if identified earlier.

In 2017, PGAE adopted the PowerBase platform for managing relays settings and relay test records. This application routinely cross checks the equipment database of record (SAP) and relay settings records within PowerBase to ensure that there is an active equipment record in SAP for each relay setting record in PowerBase.

#### C-1

Prior to 2017, it was possible for relay setting records to be generated after a relay had been commissioned in the field. After the roll out of PowerBase in 2017, engineering process enhancements were made to ensure that no devices in the field could be commissioned prior to entering relay settings in PowerBase. PowerBase also prevents the protection engineer from generating relay settings within the application without having an accompanying equipment record in SAP. This active control in PowerBase ultimately prevents commissioning of any relays in the field without having an equivalent equipment record in SAP.

#### C-2

Investigations throughout the cause evaluation identified evolving processes, procedures, and organizational changes took place while the five relays were installed.

Research found no change management for instructing departments of processes, procedure, or best practices when installing new relays.

#### C-3

The cause evaluation identified that quality checks may not have been conducted by supervisors in accordance with written procedures.

## Plan Details

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 violation(s) identified above in Section C.1 of this form:

As an immediate mitigating action, PGAE completed maintenance against the relays at Lincoln Substation and Ravenswood Substation on 11/4/2019 and 11/21/2019 respectively.

On 12/19/2019, PGAE completed a preliminary extent of condition (EOC) review of BES devices found in the Aspen relay setting database that did not have a corresponding equipment record in SAP. The review identified 45 relay components potentially subject to PRC-005 requirements. Field investigations concluded the following:

- 17 of 45 devices were determined to have been replaced or removed. No additional action was required to update SAP.
- 23 of 45 devices were found to be in-service and the maintenance was inside the prescribed time-based maintenance intervals per PGAE's Protective System Maintenance Program (PSMP). Equipment records were created in SAP. Test records were validated to ensure compliance with PRC-005.
- 5 of 45 devices were found to be in-service but outside the prescribed time-based maintenance intervals per PGAE's Protective System Maintenance Program (PSMP). As a result, a PNC was filed with WECC.

The scope of the EOC review above was expanded as a result of PGAE's CE process to review all

protective relays in PowerBase that have an existing relay record linked to an invalid SAP equipment ID. BES protective relays with invalid SAP Equipment ID's will be scoped for field validation to ensure that equipment information (e.g. nameplate, commissioning date, maintenance history, etc.) is accurately captured in SAP and PowerBase as appropriate. Completion of this expanded EOC scope will be tracked for completion against Milestone 3.a, 3.b, and 3.c of this mitigation plan. (Proposed completion date: 4/25/2021)

Corrective actions to address Cause #1 (C-1) above:

- Controls were established during the roll-out of PowerBase in 2017.
    - o All relay settings must be entered into PowerBase prior to commissioning a relay in the field.
    - o PowerBase will prevent a user from entering relay settings if a valid equipment record does not exist in SAP.
- Implementation of this corrective action was complete in 2017.

Corrective action to address Cause #2 (C-2) above:

- Provide refresher training to System Protection and Substation Test Personnel around PG&E's Protective System Maintenance Program and asset registry documentation requirements. (Due 1/27/2021)

Corrective action to address Cause #3 (C-3) above:

- Generate a job-aid outlining the requirements for reviewing and approving test reports, including guidance on how to validate equipment data in SAP. (Due 10/27/2020)

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

Proposed Completion date of Mitigation Plan: May 11, 2021

Milestone Activities, with completion dates, that your organization is proposing for this Mitigation Plan:

Milestone Activity	Description	*Proposed Completion Date (Shall not be greater than 3 months apart)	Actual Completion Date	Entity Comment on Milestone Completion	Extension Request Pending
Milestone 1: Generate job-aid for Substation Test Supervisors	Generate a job-aid outlining the requirements for reviewing and approving test reports, including guidance on how to validate equipment data in SAP.	10/27/2020	10/27/2020		No
Milestone 3a: Provide update on additional EOC scope	Provide progress update on EOC evaluation. EOC scope includes performing field validations as required against BES protective relay records in PowerBase that are	10/27/2020	10/27/2020		No



Milestone Activity	Description	*Proposed Completion Date (Shall not be greater than 3 months apart)	Actual Completion Date	Entity Comment on Milestone Completion	Extension Request Pending
	linked to an invalid SAP equipment ID.				
Milestone 3.b. Provide update on additional EOC scope	Provide progress update on EOC evaluation. EOC scope includes performing field validations as required against BES protective relay records in PowerBase that are linked to an invalid SAP equipment ID.	01/25/2021	01/25/2021		No
Milestone 2: Administer PRC-005 Refresher Training	Provide refresher training to System Protection and Substation Test Personnel around PG&E's Protective System Maintenance Program and asset registry documentation requirements.	03/31/2021			No
Milestone 3.C Provide update on additional EOC scope	Provide progress update on EOC evaluation. EOC scope includes performing field validations as required against BES protective relay records in PowerBase that are linked to an invalid SAP equipment ID.	04/26/2021			No
Milestone 4 (Power Gen)	Provide progress update on EOC evaluation. EOC scope includes performing field validations as required against BES protective relay records in	04/26/2021			No

Milestone Activity	Description	*Proposed Completion Date (Shall not be greater than 3 months apart)	Actual Completion Date	Entity Comment on Milestone Completion	Extension Request Pending
	PowerBase that are linked to an invalid SAP equipment ID.				

Additional Relevant Information

## Reliability Risk

### Reliability Risk

While the Mitigation Plan is being implemented, the reliability of the bulk Power System may remain at higher Risk or be otherwise negatively impacted until the plan is successfully completed. To the extent they are known or anticipated : (i) Identify any such risks or impacts, and; (ii) discuss any actions planned or proposed to address these risks or impacts.

#### Ravenswood: Low

The ABB type KAB relays, used for the 230kV capacitor bus protection, are very reliable and there is partial redundancy in that there is one relay per phase.

#### Lincoln: Low

The SEL model 501-2 micro-processor relays, used for the 115kV bus protection, are very reliable and there is partial redundancy.

PGAE did not identify any elevated risk to the BPS based on the failure to follow the maintenance schedule for the five relays. PGAE did not identify any event in which these relays contributed to a reliability related event, nor an event that was caused by these relays.

The risk to the BPS remains low. Adequate controls to mitigate the risk of commissioning relays without having equipment records in SAP were implemented in 2017 with the deployment of PowerBase. PGAE continues to pursue continuous improvement initiatives outside of this mitigation plan to enhance the efficacy of this control.

### Prevention

Describe how successful completion of this plan will prevent or minimize the probability further violations of the same or similar reliability standards requirements will occur

The mitigation plan aims to close any existing gaps in SAP data while enhancing organizational understanding of existing processes, programs, and requirements to ensure compliance with PGAE's PSMP.

Training will ensure that all essential personnel involved in coordinating and performing maintenance activities are knowledgeable of the SAP Work Management and PowerBase processes that support PGAE's PSMP.

Completion of the mitigation plan will also ensure consistency in quality verification and validation of equipment records by supervisors. A consistent approach to data validation will ensure a higher level of data integrity in SAP, and thereby mitigate the risk of additional missed maintenance in the future.

Describe any action that may be taken or planned beyond that listed in the mitigation plan, to prevent or minimize the probability of incurring further violations of the same or similar standards requirements

In addition to the field validations scoped for Milestone 3 of this mitigation plan, PGAE may perform additional field validations of physical assets against a random sample of PGAE's protective assets in SAP. The sample size would be sufficiently large enough to ensure a high level of statistical confidence (e.g. minimum 95% confidence interval).

Authorization

An authorized individual must sign and date the signature page. By doing so, this individual, on behalf of your organization:

- \* Submits the Mitigation Plan, as presented, to the regional entity for acceptance and approval by NERC, and
- \* if applicable, certifies that the Mitigation Plan, as presented, was completed as specified.

Acknowledges:

1. I am qualified to sign this mitigation plan on behalf of my organization.
2. I have read and understand the obligations to comply with the mitigation plan requirements and ERO remedial action directives as well as ERO documents, including but not limited to, the NERC rules of procedure and the application NERC CMEP.
3. I have read and am familiar with the contents of the foregoing Mitigation Plan.

Pacific Gas and Electric Company Agrees to be bound by, and comply with, this Mitigation Plan, including the timetable completion date, as accepted by the Regional Entity, NERC, and if required, the applicable governmental authority.

Authorized Individual Signature: \_\_\_\_\_  
(Electronic signature was received by the Regional Office via CDMS. For Electronic Signature Policy see CMEP.)

**Authorized Individual**

Name: David Carroll

Title: Director, Protection, Test & Automation

Authorized On: July 27, 2020

## Certification of Mitigation Plan Completion

Submittal of a Certification of Mitigation Plan Completion shall include data or information sufficient for the Regional Entity to verify completion of the Mitigation Plan. The Regional Entity may request 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)

Registered Entity Name: Pacific Gas and Electric Company

NERC Registry ID: NCR05299

NERC Violation ID(s): WECC2020023337

Mitigated Standard Requirement(s): PRC-005-1a R2.

Scheduled Completion as per Accepted Mitigation Plan: May 11, 2021

Date Mitigation Plan completed: April 26, 2021

WECC Notified of Completion on Date: May 06, 2021

Entity Comment:

Additional Documents			
From	Document Name	Description	Size in Bytes
Entity	PRC-005 Mitigation Plan - Milestone 3.a.docx	Milestone 3.a - Extent of condition progress update	14,684
Entity	PGAE Response - Milestone 1.docx	Milestone 1: Response file	30,791
Entity	Milestone 1 Evidence.zip	Milestone 1: Evidence files	2,247,766
Entity	Milestone 3b Response (Final R1).docx	Evidence Milestone 3b: Response	28,608
Entity	Milestone 3bi PRC-005 Mitigation Plan (Final R1).xlsx	Evidence Milestone 3bi - data	27,482
Entity	Milestone 2 Response to WECC.pdf	Milestone 2 Evidence	116,611
Entity	Milestone 2a 2021 PRC-005 Refresher Training.pdf	Milestone 2a Training Evidence	1,600,513
Entity	Milestone 2b Training Roster_All_Sessions.xlsx	Milestone 2b Training Roster Evidence	21,125
Entity	Milestone 3.c Response.pdf	Milestone 3c Evidence document	116,754
Entity	PRC-005 Mitigation Plan - Milestone 3.c.xlsx	Milestone 3c Evidence spreadsheet	26,763
Entity	Milestone 4 Response - Power Gen.pdf	Milestone 4 Evidence Response	112,509
Entity	PRC-005 Mitigation Plan - Milestone 4 Evidence_EOC-Review.xlsx	Milestone 4 Evidence spreadsheet	158,697

Additional Documents			
From	Document Name	Description	Size in Bytes
Entity	PRC-005 Mitigation Plan - Milestone 4_EOC-Remediation.xlsx	Milestone 4 Evidence Spreadsheet	23,527

I certify that the Mitigation Plan for the above named violation(s) has been completed on the date shown above and that all submitted information is complete and correct to the best of my knowledge.

Name: Sheryl Whaley

Title: Expert Electric Compliance Specialist

Email: S2Wb@pge.com

Phone: 1 (707) 430-1846

Authorized Signature \_\_\_\_\_ Date \_\_\_\_\_

(Electronic signature was received by the Regional Office via CDMS. For Electronic Signature Policy see CMEP.)

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**Self Report**

Entity Name: Pacific Gas and Electric Company (PGAE)

NERC ID: NCR05299

Standard: PRC-004-5(i)

Requirement: PRC-004-5(i) R5.

Date Submitted: May 22, 2020

Has this violation previously No  
been reported or discovered?:

**Entity Information:**

Joint Registration  
Organization (JRO) ID:

Coordinated Functional  
Registration (CFR) ID:

Contact Name: Pete Nelson

Contact Phone: 8054583368

Contact Email: pjn4@pge.com

**Violation:**

Violation Start Date: June 25, 2019

End/Expected End Date: April 16, 2020

Reliability Functions: Distribution Provider (DP)  
Transmission Owner (TO)

Is Possible Violation still No  
occurring?:

Number of Instances: 1

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

Which Regions:

Date Reported to Regions:

Detailed Description and Potential Non-Compliance (PNC):  
Cause of Possible Violation:

Within 60 calendar days of first identifying the cause of a mis-operation, PGAE failed to prepare a dated, written declaration explaining why corrective actions are beyond its control or would not improve BES reliability, and that no further corrective actions would be taken.

Description:

This PNC was identified while preparing documentation to support compliance for PGAE's 2019 gap analysis and self-certification exercise.

On April 12, 2019 at 0631 hours, Wilson Substation 230/115kV Transformer Bank #1 tripped out-of-section, due to a protection system mis-operation, that resulted in a momentary interruption to El Nido Substation and Oro Loma Substation 115/12kV Transformer #3.

On April 25, 2019, PGAE first identified the cause of the Wilson Transformer Bank #1 mis-operation event and submitted a report to PGAE's Corrective Action Plan (CAP) program to document corrective actions. PGAE determined that the cause of the mis-operation was not applicable to its other protection systems and locations. In violation of PRC-004-5(i) R5, PGAE failed to create dated evidence in a written declaration (within 60-days of April 25, 2019) describing why corrective actions were beyond its control or would not improve BES reliability, and that it would take no further corrective actions. PGAE's

## Self Report

non-compliance lasted for 296 days.

PGAE uses its Transmissions Operations Tracking & Logging (TOTL) system to capture work cards, logs, and interruptions that are subject to PRC-004-5(i) requirements. TOTL provides a platform for logging time-stamped documentation and evaluation of all protection system operations.

PGAE System Protection evaluated the Wilson Bank #1 mis-operation outside of TOTL via e-mails and within its enterprise CAP system within 120-days as required by PRC-004-5(i) R1. PGAE's short and long-term corrective actions were documented in CAP. During PGAE's mis-operation evaluation, PGAE made the following observations:

- The low-side Current Transformer (CT) contribution to the Set B bank differential relay was displaying characteristics of saturation during the event;

- PGAE's short-term corrective action: Issued Set B setting change to de-sensitize differential to saturation issues on low-side CT;

- PGAE's long-term corrective action: Low-side bank breaker CB 172, a failing 1964-vintage Oil Circuit Breaker, was previously identified for replacement as part of a breaker replacement program. Because of this event, CB 172 was moved up in the queue and was replaced 12/18/2019.

### Mitigating Activities:

Description of Mitigating Remediation:  
Activities and Preventative

Measure: PGAE created an interruption record in TOTL retroactively to document the Wilson Bank #1 event.

Date Completed: 2/10/2020

PGAE provided its System Protection Engineering personnel with PRC-004-5 evaluation examples to drive consistent evaluations. PGAE's PRC-004-5 subject matter expert (SME) reinforced that all confirmed mis-operations should be reviewed by the SME for adequacy of the CAP and the extent of condition evaluation.

Date Completed: 2/14/2020

PGAE communicated PRC-004-5 mis-operation evaluation requirements with its System Protection Engineering personnel.

Date Completed: 2/21/2020

PGAE's PRC-004-5 subject matter expert will perform queries monthly and ensure that evaluations are completed in accordance with PRC-004-5 requirements.

Date Completed: 5/18/2020

PGAE is performing a cause evaluation to determine the cause(s) of the PNC and developing mitigating activities.

Have Mitigating Activities No  
been Completed?

Date Mitigating Activities  
Completed:

### Impact and Risk Assessment:

Potential Impact to BPS: Minimal

Actual Impact to BPS: Minimal

Potential impact to the Bulk Power System (BPS):



Self Report

Description of Potential and

Actual Impact to BPS: PGAE identified the cause of Wilson Transformer Bank #1 mis-operation event, developed a CAP, and evaluated the CAP's applicability to PGAE's other protection systems including other locations in accordance with the intent of PRC-004-5(i) R5. PGAE considers the potential impact to the BPS to be minimal as these activities were technically completed, however PGAE failed to create a dated written declaration within the required time.

Actual impact to the Bulk Power System:

There was no actual impact to the BPS resulting from PGAE's failure to create a dated written declaration within the required time.

Risk Assessment of Impact to BPS: The risk to the BPS is rated at minimal.

Additional Entity Comments:

Additional Comments		
From	Comment	User Name
No Comments		

Additional Documents			
From	Document Name	Description	Size in Bytes
No Documents			

## Mitigation Plan

### Mitigation Plan Summary

Registered Entity: Pacific Gas and Electric Company

Mitigation Plan Code: WECCMIT015213-1

Mitigation Plan Version: 2

<u>NERC Violation ID</u>	<u>Requirement</u>	<u>Violation Validated On</u>
WECC2020023453	PRC-004-5(i) R5.	06/26/2020

Mitigation Plan Submitted On: December 08, 2020

Mitigation Plan Accepted On: December 11, 2020

Mitigation Plan Proposed Completion Date: March 12, 2021

Actual Completion Date of Mitigation Plan:

Mitigation Plan Certified Complete by PG&E On:

Mitigation Plan Completion Verified by WECC On:

Mitigation Plan Completed? (Yes/No): No

## Compliance Notices

Section 6.2 of the NERC CMEP sets forth the information that must be included in a Mitigation Plan. The Mitigation Plan must include:

- (1) The Registered Entity's point of contact for the Mitigation Plan, who shall be a person (i) responsible for filing the Mitigation Plan, (ii) technically knowledgeable regarding the Mitigation Plan, and (iii) authorized and competent to respond to questions regarding the status of the Mitigation Plan. This person may be the Registered Entity's point of contact described in Section B.
  - (2) The Alleged or Confirmed Violation(s) of Reliability Standard(s) the Mitigation Plan will correct.
  - (3) The cause of the Alleged or Confirmed Violation(s).
  - (4) The Registered Entity's action plan to correct the Alleged or Confirmed Violation(s).
  - (5) The Registered Entity's action plan to prevent recurrence of the Alleged or Confirmed violation(s).
  - (6) The anticipated impact of the Mitigation Plan on the bulk power system reliability and an action plan to mitigate any increased risk to the reliability of the bulk power-system while the Mitigation Plan is being implemented.
  - (7) A timetable for completion of the Mitigation Plan including the completion date by which the Mitigation Plan will be fully implemented and the Alleged or Confirmed Violation(s) corrected.
  - (8) Implementation milestones no more than three (3) months apart for Mitigation Plans with expected completion dates more than three (3) months from the date of submission. Additional violations could be determined or recommended to the applicable governmental authorities for not completing work associated with accepted milestones.
  - (9) Any other information deemed necessary or appropriate.
  - (10) The Mitigation Plan shall be signed by an officer, employee, attorney or other authorized representative of the Registered Entity, which if applicable, shall be the person that signed the Self Certification or Self Reporting submittals.
  - (11) This submittal form may be used to provide a required Mitigation Plan for review and approval by regional entity(ies) and NERC.
- The Mitigation Plan shall be submitted to the regional entity(ies) and NERC as confidential information in accordance with Section 1500 of the NERC Rules of Procedure.
  - This Mitigation Plan form may be used to address one or more related alleged or confirmed violations of one Reliability Standard. A separate mitigation plan is required to address alleged or confirmed violations with respect to each additional Reliability Standard, as applicable.
  - If the Mitigation Plan is accepted by regional entity(ies) and approved by NERC, a copy of this Mitigation Plan will be provided to the Federal Energy Regulatory Commission or filed with the applicable governmental authorities for approval in Canada.
  - Regional Entity(ies) or NERC may reject Mitigation Plans that they determine to be incomplete or inadequate.
  - Remedial action directives also may be issued as necessary to ensure reliability of the bulk power system.
  - The user has read and accepts the conditions set forth in these Compliance Notices.

Entity Information

Identify your organization:

Entity Name: Pacific Gas and Electric Company

NERC Compliance Registry ID: NCR05299

Address: 77 Beale Street  
San Francisco CA 94105

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

Name: Jasmine Gideon

Title: Transmission Compliance Specialist

Email: Jasmine.Gideon@pge.com

Phone: 916-846-3463

Violation(s)

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

Violation ID	Date of Violation	Requirement
Requirement Description		
WECC2020023453	06/25/2019	PRC-004-5(i) R5.
<p>Each Transmission Owner, Generator Owner, and Distribution Provider that owns the Protection System component(s) that caused the Misoperation shall, within 60 calendar days of first identifying a cause of the Misoperation:</p> <ul style="list-style-type: none"> <li>• Develop a Corrective Action Plan (CAP) for the identified Protection System component(s), and an evaluation of the CAP's applicability to the entity's other Protection Systems including other locations; or</li> <li>• Explain in a declaration why corrective actions are beyond the entity's control or would not improve BES reliability,</li> </ul>		

Brief summary including the cause of the violation(s) and mechanism in which it was identified:

The PNC associated with this mitigation plan was identified while preparing documentation to support compliance for PGAE's 2019 gap analysis and self-certification exercise. The deviation from PRC-004-5(i), Requirement 5 is as follows:

**Requirement** - In accordance with NERC PRC-004-5(i), Requirement R5, PGAE shall develop a Corrective Action Plan (CAP) within 60 days of first identifying the cause of a Misoperation and evaluate the CAP's applicability against other protection systems, or explain in a declaration why corrective actions are beyond the entity's control or would not improve BES reliability.

**Deviation** - Within 60 calendar days of first identifying the cause of a mis-operation, PGAE generated a CAP to mitigate recurrence of the misoperation event. While PGAE partially satisfied the criteria of Requirement 5, PGAE failed to document its evaluation of the CAP's applicability against other protection systems.

PGAE filed a Potential Non-Conformance (PNC) with WECC on 5/22/2020 and initiated PGAE's Cause Evaluation (CE) process to track the identification of contributing causes and associated mitigation actions.

PGAE identified the following apparent cause through its formal CE process:

- Apparent Cause (AC): Process deviation due to inadequate training on new or revised procedures. (NERC Cause Code: A4-B5-C08)

Relevant information regarding the identification of the violation(s):

On April 12, 2019 at 0631 hours, Wilson Substation 230/115kV Transformer Bank #1 experienced an unnecessary trip, due to a protection system mis-operation, that resulted in a momentary interruption to El Nido Substation and Oro Loma Substation 115/12kV Transformer #3.

PGAE uses its Transmissions Operations Tracking & Logging (TOTL) system to capture work cards, logs, and interruptions that are subject to PRC-004-5(i) requirements. TOTL provides a platform for logging time-stamped documentation and evaluation of all protection system operations.

On April 25, 2019, PGAE first identified the cause of the Wilson Transformer Bank #1 mis-operation event and submitted a report to PGAE's Corrective Action Plan (CAP) program to document corrective actions. PGAE's System Protection department evaluated the Wilson Bank #1 mis-operation outside of TOTL via e-mails and within its enterprise CAP system within 120-days as required by PRC-004-5(i) R1. PGAE's short and long-term corrective actions were documented in CAP.

PGAE determined that CT-Saturation was a contributing cause to the mis-operation event. PGAE reviewed all BES and Non-BES operations since 1999 to determine whether CT-saturation presented an extent of condition concern amongst its protective assets throughout its system. Since 1999, PGAE has experienced a total of 230 combined BES and Non-BES mis-operations. Of the 230 mis-operations, only two were attributed to poor CT performance. A review of the empirical data showed that CT-saturation caused less than one percent of all relay mis-operations. PGAE concluded that the CT-saturation concerns for Wilson CB 172 is an isolated issue specific to this equipment and generated its CAP to address the event-specific conditions. Modification of relay settings and off cycle testing of all CT assets outside of PGAE's normal maintenance program frequencies would introduce unnecessary risk to system operations.

While PGAE developed a Corrective Action Plan in accordance with PRC-004-5(i) within 60 days of identifying the cause of mis-operation, PGAE failed to document the evaluation results for CAP applicability across other protection systems within the same 60 day window. PGAE's non-compliance due improper documentation lasted for 296 days.

Investigations conducted through the course of the CE revealed that PGAE has a well-documented procedure (Utility Procedure TD-3341P-03: "NERC Related Protection Documentation - Protection System and Remedial Action Schemes Misoperation") for evaluating misoperations and ensuring compliance with PRC-004-5(i) requirements.

PGAE system protection engineers are responsible for reviewing all protection system operations within their assigned area. If a misoperation is identified, the responsible area protection engineer is expected to flag the associated operation record in TOTL as a misoperation. Appropriate flagging of misoperation records in TOTL ensures that the PRC-004 Subject Matter Expert (SME) has visibility on all misoperation investigations, evaluations, corrective action plans, and associated documentation. While PGAE has a well-documented process for evaluating and documenting misoperations, PGAE is reliant upon SME review to ensure the requirements of PRC-004-5(i) are met. As this misoperation had not been properly flagged in TOTL, it was excluded from routine SME review.

Investigations conducted throughout the CE also noted that TD-3341P-03 was revised on (04/04/2019); just 8-days prior to the subject misoperation event. While the procedure directly addresses the requirements of PRC-004-5(i), Requirement 5, the content of the revised procedure was not adequately communicated to all area protection engineers.

The CE team concluded that more robust training of procedural requirements would reduce future process deviations and enhance awareness around the requirements of PRC-004-5(i).

## Plan Details

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 violation(s) identified above in Section C.1 of this form:

As an immediate mitigative action, PGAE's SME provided its System Protection Engineering personnel with PRC-004-5(i) evaluation examples to drive consistent evaluations. It was reinforced that all confirmed mis-operations should be reviewed by the SME for adequacy of the CAP and the extent of condition evaluation.

Date Completed: 2/14/2020

The SME communicated PRC-004-5(i) mis-operation evaluation requirements with its System Protection Engineering personnel.

Date Completed: 2/21/2020

As an additional corrective action, PGAE will provide refresher training to System Protection Engineering personnel on PRC-004-5(i), R5 requirements and associated internal PGAE process documents for evaluating and reporting misoperations. (Due 11/13/2020).

Milestone 1 was generated to re-enforce System Protection Engineering's roles, responsibilities, and functions to support NERC PRC-004-5(i), Requirement 5 compliance. Training curriculum was generated by the PRC-004-5(i) SME and presented to all applicable System Protection Engineering personnel.  
Date Completed: 11/13/2020

Milestones 2.a, 2.b, and 2.c were generated to track the completion of PGAE's extent of condition (EOC) review. PGAE will review all NERC reportable misoperations and associated documentation (since the June 2018 audit) to validate compliance with PRC-004-5(i), Requirement 5. PGAE will take into account feedback provided in the October 2020 WECC Mitigation Assistance Report to supplement its extent of condition review methodology.

Milestone 2 Due Dates: See table below

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

Proposed Completion date of Mitigation Plan: March 12, 2021

Milestone Activities, with completion dates, that your organization is proposing for this Mitigation Plan:

Milestone Activity	Description	*Proposed Completion Date (Shall not be greater than 3 months apart)	Actual Completion Date	Entity Comment on Milestone Completion	Extension Request Pending
Milestone 1: Administer PRC-004-5(i) Refresher Training	Provide refresher training to System Protection and around PRC-004-5(i), R5 requirements and associated process documents supporting PGAE's Protective System Maintenance Program.	11/13/2020	11/13/2020		No
Milestone 2.a:	Provide progress update on EOC evaluation. EOC scope includes reviewing all PRC-004-5(i), R5 documentation since the last audit period.	12/18/2020			No
Milestone 2.b:	Provide progress update on EOC evaluation. EOC	01/29/2021			No

Milestone Activity	Description	*Proposed Completion Date (Shall not be greater than 3 months apart)	Actual Completion Date	Entity Comment on Milestone Completion	Extension Request Pending
	scope includes reviewing all PRC-004-5(i), R5 documentation since the last audit period.				
Milestone 2.c:	Provide progress update on EOC evaluation. EOC scope includes reviewing all PRC-004-5(i), R5 documentation since the last audit period	02/26/2021			No

Additional Relevant Information



## Reliability Risk

### Reliability Risk

While the Mitigation Plan is being implemented, the reliability of the bulk Power System may remain at higher Risk or be otherwise negatively impacted until the plan is successfully completed. To the extent they are known or anticipated : (i) Identify any such risks or impacts, and; (ii) discuss any actions planned or proposed to address these risks or impacts.

PG&E identified the cause of Wilson Transformer Bank #1 mis-operation event, developed a CAP, and evaluated the CAP's applicability to PG&E's other protection systems including other locations in accordance with the intent of PRC-004-5(i) R5. PG&E considers the potential impact to the BPS to be minimal as these activities were technically completed, however PG&E failed to create documentation of its CAP applicability evaluation within the prescribed time.

There was no actual impact to the BPS resulting from PG&E's failure to create a dated written declaration within the required time.

While PG&E has not identified any reliability risks to the BPS, it has identified that a similar documentation error could occur until training on the documentation requirements has been communicated to System Protection Engineering personnel. The immediate mitigative action taken on 2/14/2020 and the SME communication on 2/21/2020 were intended to ensure personnel adhere to and meet the requirements of PRC-004-5(i) until the training is developed and delivered by 11/13/2020.

### Prevention

Describe how successful completion of this plan will prevent or minimize the probability further violations of the same or similar reliability standards requirements will occur

The mitigation plan actions aim to enhance organizational understanding of existing processes, programs, and requirements that are designed and written to ensure adherence with all requirements in NERC Standard PRC-004-5(i).

Describe any action that may be taken or planned beyond that listed in the mitigation plan, to prevent or minimize the probability of incurring further violations of the same or similar standards requirements

In addition to the mitigating actions listed above, PG&E will evaluate potential enhancements to its TOTL platform, which may include an embedded checklist/template to establish consistency and improve controls with PRC-004-5(i) evaluations.

Authorization

An authorized individual must sign and date the signature page. By doing so, this individual, on behalf of your organization:

- \* Submits the Mitigation Plan, as presented, to the regional entity for acceptance and approval by NERC, and
- \* if applicable, certifies that the Mitigation Plan, as presented, was completed as specified.

Acknowledges:

1. I am qualified to sign this mitigation plan on behalf of my organization.
2. I have read and understand the obligations to comply with the mitigation plan requirements and ERO remedial action directives as well as ERO documents, including but not limited to, the NERC rules of procedure and the application NERC CMEP.
3. I have read and am familiar with the contents of the foregoing Mitigation Plan.

Pacific Gas and Electric Company Agrees to be bound by, and comply with, this Mitigation Plan, including the timetable completion date, as accepted by the Regional Entity, NERC, and if required, the applicable governmental authority.

Authorized Individual Signature: \_\_\_\_\_  
(Electronic signature was received by the Regional Office via CDMS. For Electronic Signature Policy see CMEP.)

Authorized Individual

Name: David Carroll

Title: Director, Protection, Test & Automation

Authorized On: July 27, 2020

## Certification of Mitigation Plan Completion

Submittal of a Certification of Mitigation Plan Completion shall include data or information sufficient for the Regional Entity to verify completion of the Mitigation Plan. The Regional Entity may request 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)

Registered Entity Name: Pacific Gas and Electric Company

NERC Registry ID: NCR05299

NERC Violation ID(s): WECC2020023453

Mitigated Standard Requirement(s): PRC-004-5(i) R5.

Scheduled Completion as per Accepted Mitigation Plan: March 12, 2021

Date Mitigation Plan completed: March 04, 2021

WECC Notified of Completion on Date: March 04, 2021

Entity Comment: The final milestone has been completed for this plan.

Additional Documents			
From	Document Name	Description	Size in Bytes
Entity	PRC-004-5(i) Milestone 1 (Final).docx	Milestone 1 Response File	34,454
Entity	PRC-004-5(i) Refresher Training Roster (Final).pdf	Milestone 1 Evidence - Training Roster	92,857
Entity	SysProt_PRC004_R5_Mitigation_Refresher.pdf	Milestone 1 Evidence - Training Material	663,392
Entity	MS2ai WECC EVIDENCE.pdf	Milestone 2ai Evidence	192,908
Entity	MS2aai PRC-004_PGAE_Mitigation Plan.xlsx	Milestone 2aai Evidence	32,737
Entity	Milestone_2B_Narrative_Rev2.pdf	Milestone Evidence 2b evidence narrative	191,483
Entity	Milestone 2Bi WECC2020023453_PRC-004_PGAE_Mitigation Plan_V2_Milestone_2b_Rev1.xlsx	Milestone Evidence 2bi data file	33,890
Entity	Milestone_2C_Narrative.pdf	Milestone 2c Narrative evidence	199,521
Entity	Milestone_2ci_WECC2020023453_PRC-004_PGAE_Mitigation Plan_V2.xlsx	Milestone 2ci Evidence	39,742

I certify that the Mitigation Plan for the above named violation(s) has been completed on the date shown above and that all submitted information is complete and correct to the best of my knowledge.

Name: Sheryl Whaley

Title: Expert Electric Compliance Specialist

Email: S2Wb@pge.com

Phone: 1 (707) 430-1846

Authorized Signature \_\_\_\_\_ Date \_\_\_\_\_

(Electronic signature was received by the Regional Office via CDMS. For Electronic Signature Policy see CMEP.)