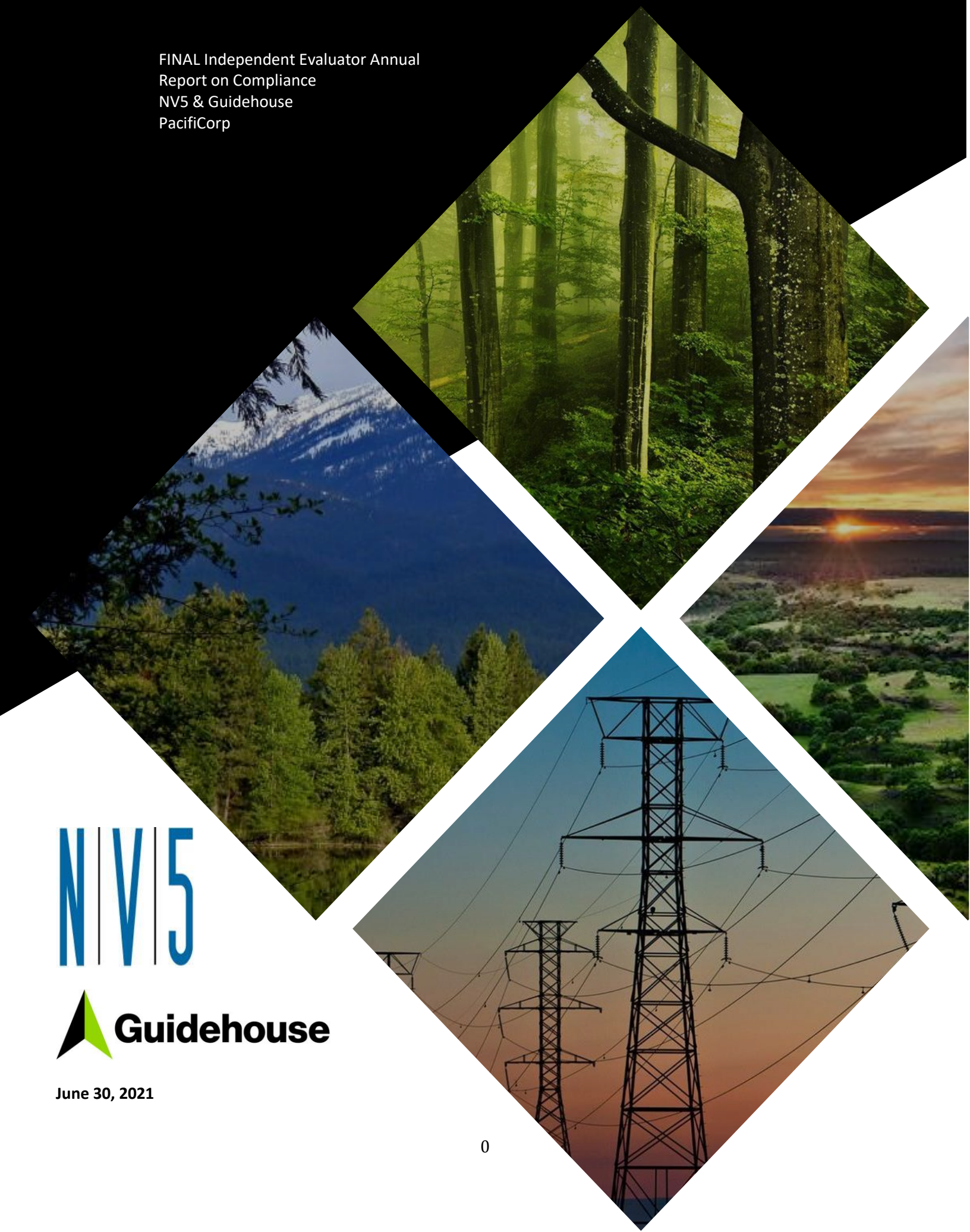
FINAL Independent Evaluator Annual Report on Compliance
NV5 & Guidehouse
PacifiCorp



June 30, 2021

Contents

1 Executive Summary

The Executive Summary should contain key takeaways from the Independent Evaluator's evaluation, including key findings from the Independent Evaluator's audit of WMP activity completion, verification of funding, and verification of QA/QC programs.[1]

PacifiCorp is a small multi-jurisdictional utility serving approximately 45,000 customers in northern California. PacifiCorp's service area covers a vast stretch of forested wildlife habitats encompassing dense vegetation and sparsely positioned community centers with an average of approximately four customers served per square mile. Accordingly, PacifiCorp's service territory stretches across numerous expanses of the California Public Utilities Commission (CPUC) -defined High Fire Threat Districts (HFTDs) including Tier 2 elevated and Tier 3 extreme risk areas.

PacifiCorp has undertaken considerable efforts to prevent ignitions and mitigate the impact of wildfire across its substantial service territory. Through emerging technologies, enhanced mitigation practices, and refined quality assurance (QA))/quality control (QC) (collectively "QA/QC") processes, PacifiCorp is working to achieve risk reduction benefits for their communities in the face of growing threat of increased wildfire events and potential proactive de-energization activations as a measure of last resort. To achieve these risk reduction results, PacifiCorp tracks and monitors activities as they are executed to maintain conditional awareness of controllable risk drivers, which may lead to a catastrophic ignition event.

This report demonstrates a review of the wildfire mitigation initiatives that PacifiCorp implemented in 2020 and an accounting of whether PacifiCorp met its performance objective targets, whether it is underfunding any of those initiatives, and whether PacifiCorp is following its QA/QC processes. The Independent Evaluator (IE) review of these elements determined that PacifiCorp is largely achieving the reviewed initiative objectives, is not failing to fund the portfolio of its initiatives, and lastly, appears to be following its QA/QC processes. The IE noted that several initiatives may require additional investigation or inquiry by the CPUC Wildfire Safety Division (WSD) to validate activities across all Wildfire Mitigation Plan (WMP) initiatives.

This report represents the IE's review, assessment, and findings of the IE on this inaugural effort to perform the statutorily mandated evaluation. In response to the California Public Utilities Code §8386.3, PacifiCorp and other California electrical corporations (ECs) contracted with eligible IEs[2] to perform the activities described in the *Final Independent Evaluator Scope of Work for the Review of Compliance with 2020 WMP* issued April 21, 2021 to meet statutory requirements of independently evaluated Wildfire Mitigation Plans (WMPs) by July 1, 2021.[3]

By May 18, 2021, PacifiCorp contracted with the IE and launched the evaluation with an accelerated scope to meet all required objectives under the assessment's timeline duration and presented schedule. The IE met the evaluation tasks and produced a draft IE report on June 15, 2021 for the WSD's initial

[1] Italicized and blue texted writing is preserved as the Wildfire Safety Division template guidance sent to all IEs for their Independent Evaluation reports on 2020 Wildfire Mitigation Plan activity compliance.
[2] Qualified Independent Evaluators were identified Wildfire Safety Division (WSD) *IE Enlistment Announcement* issued February 22, 2021, as amended by the *Amended IE Enlistment Announcement* issued April 20, 2021.
[3] The WSD issued the Independent Evaluator Enlistment Announcement on February 22, 2021 with appointment of the eligibility status of vetted IEs available for EC contracted.

comments, culminating in a final IE report on PacifiCorp's WMP. The IE delivered the final IE report on June 30, 2021.

The table below illustrates the IE findings for those that could not deemed sufficient due to an inability to validate the evidence during the review period, a lack of or insufficiency of evidence, or funding below the planned 2020 targets set forth by the PacifiCorp ***2020 California Wildfire Mitigation Plan*** . A complete listing of findings is located in this IE Report's conclusion.

Table 1: PacifiCorp 2020 WMP Execution - Insufficient Findings

SOW Category	2020 Initiative Number	Initiative Name	Finding	Detail on finding
WMP Activity Completion	5.3.3.2	Circuit Breaker Maintenance	The IE determined that PacifiCorp does not have a specific initiative for circuit breaker maintenance and made a recommendation that for future recording purposes cost associated with circuit breaker maintenance captured under alternate initiatives be recorded as part of 5.3.3.2.	The IE determined that PacifiCorp does not have a specific initiative for circuit breaker maintenance and made a recommendation that for future recording purposes cost associated with circuit breaker maintenance captured under alternate initiatives be recorded as part of 5.3.3.2.
WMP Activity Completion	5.3.3.6	Targeted Pole Replacement	Could only verify 29 of 189 poles replaced	Due to time constraints, the IE was unable to make a determination on if PacifiCorp was able to meet its program target for 2020. Further evaluation is needed to make a final determination on the 2020 status of Targeted Pole Replacement.
WMP Activity Completion	5.3.5.5	Radial Pole Clearing/ Fuel Management and Reduction of "Slash"	The IE determined that based off the field verification reports for the 56 locations inspected that there was a 41 % failure rate. This leads the IE to believe that PacifiCorp was not able to meet their program targets for 2020.	Non-compliant vegetation management issues found during field inspections.

SOW Category	2020 Initiative Number	Initiative Name	Finding	Detail on finding
WMP Activity Completion	5.3.5.2	Detailed Inspections of Vegetation Around Distribution Electric Lines and Equipment	Additional inquiry needed	It was noted that some trees missed by the inspection company needed to be cleared. Due to the limited time and evidence provided, the IE was unable to definitively determine if there was a deficiency for this initiative.
WMP Activity Completion	5.3.4.1	Detailed Inspection of Vegetation – Distribution	Could only verify that 619 of 825 line miles were inspected	The IE recommends the WSD further investigate that the work was performed by requesting additional supporting evidence or by requesting an explanation of the difference in line miles from PacifiCorp.
WMP Activity Completion	5.3.4.2	Detailed Inspections of Vegetation – Transmission	Could only verify that 136.5 of 345 line miles were inspected	The IE recommends further investigation into the difference in line miles from PacifiCorp, and that PacifiCorp develop and document the schedule for annual inspections going forward.
WMP Activity Completion	5.3.5.20	Vegetation Management to Achieve Clearances	PacifiCorp reclassified objectives under another initiative category in 2021, preventing a clear determination of output activities associated with this WMP initiative activity.	PacifiCorp has made substantive changes to categorization of Vegetation Management for clearances between its 2020 WMP and 2021 WMP, meaning that the Total VM Targets for each year were different. The IE recommends PacifiCorp normalize its categorizations going forward or map the old targets to the new targets.
WMP Activity Completion	5.3.5.3	Detailed Inspections of Vegetation Around Transmission Electric Lines and Equipment	184 of 345 line miles inspected	The 161 line-mile shortage has already been documented by PacifiCorp, but additional inquiries about where the

SOW Category	2020 Initiative Number	Initiative Name	Finding	Detail on finding
				inspection shortfalls occurred versus the planned, and if those areas missed included Tier 3 and Tier 2 HFTDs.
WMP Activity Completion	5.3.4.11	Patrol Inspections of Vegetation Around Distribution Electric Lines and Equipment	784 of 1,941 line miles inspected	The deficiency has already been documented by PacifiCorp, but the IE recommends the WSD continue to monitor or follow-up on this issue.
WMP Activity Completion	5.3.4.12	Patrol Inspections of Vegetation Around Transmission Electric Lines and Equipment	323 of 657 line miles inspected	The IE recommend the WSD further investigate that the work was performed by requesting additional supporting evidence or by requesting an explanation of the deficiency in PacifiCorp's accounting initiative.
WMP Activity Completion	5.3.3.4	Covered Conductor	1.4 of 38 line miles converted to covered conductor	The IE found several noncompliance issues during field verifications.
WMP Activity Completion	5.3.3.9	Relay/Recloser Replacement	28 of 28 reclosers replaced	PacifiCorp reports exceeding spend in System Automation updates. Due to time constraints for this Report, no additional program documentation was reviewed to verify these projects. The IE recommends the WSD validate the initiative implementation details described in this initiative.
WMP Activity Completion	5.3.3.9	Installation of system automation equipment	PacifiCorp does not implement this initiative	PacifiCorp reports exceeding spend in System Automation updates. Additional program documentation review would be needed to validate the work and Quality Control performed.

2 Introduction

The Introduction should contain upfront context and a high-level summary of the work performed by the Independent Evaluator.

The state of California has seen an increase of disastrous wildfires in recent years. Fires have historically ravaged communities across the state resulting in billions of dollars in structural damage and catastrophic loss of life. In the recent decade, the California Department of Forestry and Fire Protection (CAL FIRE) reports that larger and more aggressive fires are occurring year over year fueled by prolonged drought conditions gripping the state and historic fire prevention measures. Additionally, ecological concerns associated with adverse climate change effects have led to cascading tree disease, vulnerability, and death across the state, e.g., demonstrated by the bark beetle infestation. Consequently, multiple regulatory authorities established oversight on various mitigation strategies to directly reduce these growing threats.

In 2018, the California State Senate Committee on Energy, Utilities, and Communication relayed that electric utility equipment involvement was the third most common cause of ignition events in response to the devastating wildfire consequences following the 2017 fire season. According to the state list of the 20 largest wildfires, wildfire events in 2020 accounted for five of the six largest recorded ignitions in the last century.[4] The following table shows the CAL FIRE reported 2019 and 2020 fire incidents.

Table 2: CAL FIRE Reported Fire Ignitions & Acre Impact

NUMBER OF FIRES AND ACRES BURNED		
TIME INTERVAL	**FIRE INCIDENTS RECORDED**	**ACRES BURNED**
JANUARY 1, 2020 - DECEMBER 29, 2020 (CAL FIRE)	8,112	1,443,152
JANUARY 1, 2019 - DECEMBER 29, 2019 (CAL FIRE)	5,687	137,126
5-YEAR AVERAGE (SAME INTERVAL)	5,856	446,960
2020 COMBINED YTD (CAL FIRE & FEDERAL)	9,917	4,257,863

Source: CAL FIRE, 2020 Fire Incident Data captured from its Computer Aided Dispatch System

Wildfire Mitigation Plan Compliance Procedures Background

The July 2019 Assembly Bill (AB) 1054 (Holden, Chapter 79, Statutes of 2019) established a set of tasks and authorities for the California Public Utilities Commission (CPUC or Commission) in regulating and facilitating strategies for utility wildfire mitigation. This bill supplemented its predecessor, Senate Bill (SB) 901, and directed acceleration of regulatory administration and compliance monitoring of electrical corporations' WMPs and related wildfire data.[5] AB 1054 also established the WSD under the Commission as the primary regulatory body in conjunction with the state Wildfire Safety Advisory Board (WSAB).[6] Its companion bill, AB 111, provided the legislative vehicle for the WSD to later transition under the California Natural Resources Agency (CNRA) on July 1, 2021 as the Office of Energy

[4] CAL FIRE, "Top 20 Largest California Wildfires," https://www.fire.ca.gov/media/4jandlhh/top20_acres.pdf. April 28, 2021.

[5] Attributable legislation driving this effort includes SB 1028 (Hill, 2016)

[6] Respondent electrical corporations are, in no particular order, Pacific Gas and Electric Company, Southern California Edison, San Diego Gas & Electric, Liberty Utilities (CalPeco Electric), Bear Valley Electric Service, inc., and Pacific Power, a division of PacifiCorp, along with several independent transmission owners.

Infrastructure Safety (OEIS or WSD/OEIS) after establishing and refining the WMP compliance protocols to maintain state oversight for utility WMPs. [7]

Among listed responsibilities, AB 1054 mandated the WSD to create and oversee a compliance process for electrical corporation WMPs and associated reports.[8] The efforts of the WSD took shape during the 2020 WMP template development process, establishing formal Resolutions under the WSD. This succeeded the Administrative Law Judge (ALJ) Rulings under the former regulatory structure. Utilities filed 2020 WMPs on February 7, 2020 and these WMPs received varying degrees of approvals with defect issuances by the end of the year. [9]

To fulfill remaining legislative directives, the WSD established a compliance procedure in November 2020 supporting two objectives including annual assessment of electrical corporations' compliance with the WMP during the prior compliance year and delivering consequential actions of compliance assessments to resolve or remediate any deficiency or noncompliance aspect with WMP initiative activities.

Wildfire Mitigation Plan Independent Evaluation Engagement

This report serves as a WMP compliance assessment as required by Public Utilities Code (PUC) § 8386.3[10] that supplements the WSD/OEIS evaluation and understanding of EC WMP performance. Consistent with the WSD Guidance Document scoped under Resolution WSD-012,[11] an IE executed this work in accordance with the scope approved by the WSD on April 21, 2021. [12]

California ECs engaged and contracted with qualified IEs pursuant to statutory obligations and WSD directives. As required, the WSD produced and published a list of qualified vendors experienced in comparable audit activities with the ability to perform the compliance assessment and deliver a report before July 1, 2021. This IE report aims to verify WMP compliance activities of PacifiCorp, a regulated investor owned utility (IOU) under the CPUC, for its 2020 performance as it corresponds to the initiatives the IOU planned to accomplish in 2020 compared to actual performance, whether those activities were funded appropriately, and validate and describe the EC's QA/QC programs for WMP compliance.

This IE report will inform the WSD's assessments of whether each electrical corporation is satisfactorily implementing projects and programs planned within its WMP. The results include the identification of

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[7] On July 1, 2021, the WSD is set to be moved out of the CPUC and became the OEIS under the CNRA pursuant to AB 111. At the time of this IE report, the WSD was still nested under the CPUC.

[8] PUC § 8389 (d)(3) directed the Commission to adopt and approve a WMP compliance process by December 1, 2020.

[9] Attachment 2.2 under Resolution WSD-011 sets forth template guidelines for the 2021 WMP Update and is supplemental to the scope, although not the basis for WMP compliance adherence, determined on December 16, 2019 under the Administrative Law Judge's Ruling on WMP template and related materials.

[10] In accordance with PUC § 8386.3(c)(2)(B)(i), "The engaged independent evaluator shall consult with, and operate under the direction of, the Wildfire Safety Division of the Commission."

[11] Resolution WSD-012. Resolution implementing the requirements of Public Utilities Code Sections 8389(d)(3) related to catastrophic wildfire caused by electrical corporations subject to the Commission's regulatory authority (2020). Available at https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M351/K834/351834801.PDF.

[12] California Public Utilities Commission, "Final Independent Evaluator Scope of Work for the Review of Compliance with 2020 WMP," April 21, 2021. ("April 21 IE Scope of Work"). Available at https://www.cpuc.ca.gov/uploadedFiles/CPUCWebsite/Content/About_Us/Organization/Divisions/WSD/Final%20IE%20SOW_20210421.pdf.

noncompliance with its approved WMP.[13] WMPs IEs are part of the OEIS ongoing compliance monitoring protocols and may contribute to, but not direct, any forthcoming actionable remedy statements.

The compliance standard of review to be applied is set forth in the *Final Independent Evaluator Scope of Work for the Review of Compliance with 2020 WMP* which states:

> Pursuant to P.U. Code Section 8386.3(c)(2)(B)(i),[14] the IE is "to review and assess the electrical corporation's compliance with its plan." The IE shall verify that the electrical corporation has complied with the goals set forth for each of the initiatives and/or activities contained in its approved WMP or as modified pursuant to the electrical corporation's submittals through the Change Order process. To effectively execute this scope, at a minimum, the IE shall utilize the approved WMP, remedial compliance plan (RCP), quarterly reports (QRs), change orders, quarterly initiative updates (QIUs), and quarterly advice letters (QALs). In addition, the IE shall determine whether the electrical corporation "failed to fund any activities included in its plan." Finally, in accordance with the April 6th Guidance Document, the IE shall validate and describe the electrical corporation's QA/QC programs in place for WMP compliance.[15]

This IE Report is primarily informed by the IE's assessments of documentation provided, field visits, and interviews with subject matter experts (SMEs) associated with the EC.

2.1 Methodology

The WSD structured and defined the compliance process for this IE. For a successful implementation of the IE report, the April 21 IE Scope provides the scope and objectives to evaluate evidence of successful implementation of the ECs' WMP initiative activities, funding, and QA/QC efforts executed in 2020. This is validated by documentation reviews, field verifications, and, where appropriate, SME responses.

Approach

In deliberation with the WSD, the IE proposed to focus efforts and available resources on specific WMP initiatives determined to provide the greatest reduction of risk to life, community, and property impacts due to wildfires or Public Safety Power Shutoff (PSPS) addressed under the WMP.

To perform this assessment, the IE adopted the following approach:

- **Review publicly available information, including the WMP:** The IE reviewed publicly available information to prepare for the assessment including the subject utility's WMP, and other publicly released or submitted documents. Review publicly available documents, which should

[13] Pursuant to PUC § 8389(g).

[14] The entire section of PUC §8386.3(c)(2)(B)(i), states, "Each electrical corporation shall engage an independent evaluator listed pursuant to subparagraph (A) to review and assess the electrical corporation's compliance with its plan. The engaged independent evaluator shall consult with, and operate under the direction of, the Wildfire Safety Division of the commission. The independent evaluator shall issue a report on July 1 of each year in which a report required by paragraph (1) is filed. As a part of the independent evaluator's report, the independent evaluator shall determine whether the electrical corporation failed to fund any activities included in its plan. Cal. Pub. Util. Code §8386.3(c)(2)(B)(i), as amended, (2021).

[15] April 21 IE Scope of Work at pp. 1-2, citations omitted from passage.

include, at minimum, the WMP initiatives (there are 10 subject areas discussed in the WMPs these are detailed in section 5.3 in the 2020 WMP.[16]

- **Prepare initiative and subsequent data requests**: The first data request focused on programmatic level documentation such as the utility's vegetation management program, inspection program, grid hardening program(s), etc. Additional information to request includes any of the WMP submissions that are not on public websites or not available in useful formats and supplemental geographic information system (GIS) spatial data. This provides the IE a baseline understanding of available documentation apart from publicly available sources.
- **Document discovery review:** Review the supplemental information about the WMP initiatives in the Quarterly Data Reports (QDRs), Annual Report on Compliance (ARC), Remedial Compliance Plan (RCP), and the Quarterly Initiative Update (QIU). Review each data request response for completeness, responsiveness, and thoroughness. These materials should address all three subject areas addressed in the report – implementation of initiatives, initiative funding and QA/QC material. The QA/QC materials may also be identified as monitoring an internal auditing or by other similar terms.
- **Perform risk assessment for field inspections:** Using GIS maps submitted by the subject EC, the IE identified areas where there is a substantial intersection between risk areas, including High Fire Threat Districts and Wildland Urban Interface populations and WMP initiative activities across the utility's service territory to select meaningful locations for possible site visits to verify initiative activities performed in 2020.
- **Conduct field inspection survey:** This includes a visual patrol assessment of identified circuits and electrical assets within the selected high-risk areas. Results are captured on-site and incorporated with other findings of the document discovery tasks.
- **Interpret document and field inspection results:** Utilizing the WMP and other related compliance documents submitted to the WSD, the IE reviews the field inspection site notes, data request responses, and other evidence of the performed WMP activities and prepared findings surrounding each scoped initiative activity. The IE also conducts interviews, as needed, with subject matter expert (SME) personnel to gain additional details and clarify questions on program and project targets and QA/QC performance.

The IE summarized found, requested, reviewed, and assessed the following types of information to gain an understanding of the initiatives under PacifiCorp's ***2020 California Wildfire Mitigation Plan*** and developed a series of data requests to verify and validate their performance:

- WMP QIUs, QDRs, and the 2020 ARC, which make up the primary reporting mechanisms for IOU submittals as well as the RCP, and quarterly advice letters (QALs);
- Risk assessment and scoring documentation, (e.g., Risk Assessment Mitigation Phase reports, ignition and weather models and tools, developed GIS maps with unique risk factors);
- Reports from inspection and vegetation management activities;
- Work orders, invoices, and key decision reports, of which present business cases for the associated initiative activity;
- Metrics, activity units measured, compiled reports, outage logs, and other trending data sets to inform the risk-based evaluation;
- Funding documentation, General Rate Case workpapers and applications, memorandum account logs, and associated Advice Letters (ALs);

[16] This section is moved to Section 7.3 under the 2021 WMP template guidelines. For the purposes of this IE report and compliance period covering 2020, initiative activities names reflect 5.3.

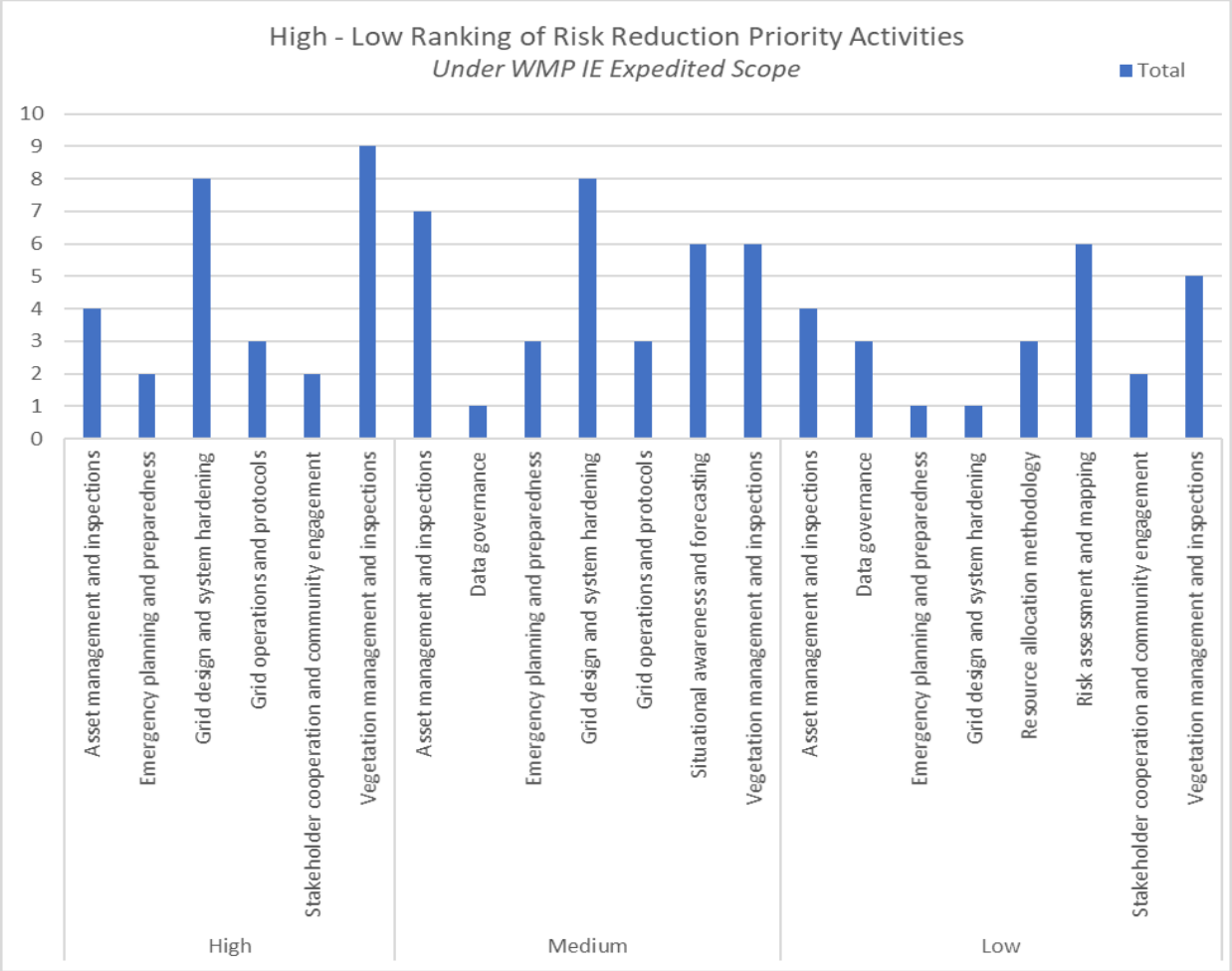
- Internal procedures, QA/QC protocols, example internal/external audit reports and findings, demonstration of procedural use with internal quality programs;
- GIS geodatabase and shapefile layers with utility asset information and specialized characteristics to determine the scope for field inspections; and
- Direct SME-level engagement through coordinated email and telephone communication as well as conducted interviews for QA/QC determinations.

Risk Assessment & Initiative Activity Prioritization

Given the scale and breadth of evidence, including documentation and data, the geographic diversity of the ECs, the limited time to perform the IE assessment, and an understanding that not all initiatives identified by the WSD represent an equal level of risk reduction to life, property, communities, and economic activity, the IE leveraged sound auditing principles to focus efforts on the risk reduction each WMP activity contributes towards mitigating wildfire and PSPS consequence on affected parties. The effort did not attempt to exclude particular initiatives, but organized a hierarchy of the 87 WMP initiative activities to best guide the IE effort that maximize the resources expended on those elements of the WMP that are key to protecting public safety, lives, and property.

To prioritize WMP initiatives under this scope, the IE created a risk reduction scoring spreadsheet, attached as Appendix 5.2, which lists all 87 WMP initiative activities (column C) along with its associated initiative category (column A), the appropriate section number for the 2020 WMP (column B), and the WSD definition of each initiative (column D). The IE then assigned a risk reduction rating of 1-10 ranking for each initiative (column E) based upon the likely risk types and severity the action tends to reduce during the subject time period. Given lack of suitable timing to design and test a sophisticated model, the IE established categorical definitions for the 1-10 ranking with 10 representing the highest risk reduction activities, and 1 representing the lowest relative risk reduction outcome over the triannual period, and, with SME determination, provide an assessment of the risk reduction value such that all evaluations are scoped with similar parameters for a more uniform and risk-informed sample study. The figure below identifies the WMP Initiative categories and corresponding counts of activities ranked High, Medium, or Low.

Figure 1: Count of High, Medium, and Low Risk Reduction Impact for IE Scope



This rationale for scoring and selection of highest risk reduction impact is explained in column F. Lastly, the IE assigned a risk reduction rating of high, medium, or low based upon a qualitative ranking scale where 7-10 = High, 4-6 = Medium, and 1-3 = Low risk reduction ratings (see table below). This process aims to normalize measurement outcomes under a three-tier rating. The IE then analyzed the distribution of risks across the initiative categories to understand how risks were distributed across initiative categories. This visual enables the IE Team to assess samples across the various scoring determinations and aim for an achievable, replicable, and narrowed scope for the most significant results across all evaluations. The IEs selected those WMP initiative activities that scored under "High" for detailed evaluation and field inspection siting as part of this WMP IE.

The criteria for the risk score ranking are outlined in the table below.

Table 3: Risk Score Determination for Sampled Scope

RISK REDUCTION SCORE PROFILED OVER THE 2020 - 2022 WMP CYCLE		
LOW	1	The initiatives categorized as Low Risk Reduction have the lowest relative risk among the 87 under the 2020 – 2022 WMP cycle. Low Risk Reduction is not meant to imply, nor does it mean, these initiatives are unnecessary or unimportant. Low risk reduction initiatives are largely comprised of process implementation, coordination, and outreach, to enhance other higher risk reduction practices for wildfire mitigation efforts and establishes, in most cases, the baseline of risk and meets required General Orders (GOs) and federal requirements for electrical equipment and vegetation management.
	2	
	3	
MEDIUM	4	The initiatives evaluated as Medium Risk Reduction present an effort for operational enhancements and practices, practice and data gathering improvements, and procedural implementation that enhance wildfire risk reduction efforts. These initiatives include continuous improvement processes, quality assurance, enhanced inspections and maintenance, and initiative activity design improvements. This category also includes long lead timelines that will eventually bring substantial risk reduction but not as impactful over the short term as those initiatives in the High Risk Reduction category.
	5	
	6	
HIGH	7	High Risk Reduction initiatives are the activities most likely to immediately and substantially reduce the risk to life, property, and public safety. These are readily implementable activities that disproportionately come from the vegetation management, asset management & inspections, and grid design &system hardening initiative categories. This risk class represents nearly 1/3 of all the identified initiatives.
	8	
	9	
	10	

Table 4: High Risk Reduction Selection of WMP Initiative Category Activities

HIGH RISK SCORE RANKING	
Grid Design & System Hardening	15. Covered conductor installation
	17. Crossarm maintenance, repair, and replacement
	18. Distribution pole replacement and reinforcement, including composite poles
	19. Expulsion fuse replacement
	21. Installation of system automation equipment
Asset Management & Inspections	22. Maintenance, repair, and replacement of connectors, including hotline clamps
	26. Transformer maintenance and replacement
	28. Undergrounding of electric lines and/or equipment
	30. Detailed inspections of distribution electric lines and equipment
	31. Detailed inspections of transmission electric lines and equipment
	36. LiDAR inspections of distribution electric lines and equipment
	42. Pole loading assessment program to determine safety factor
Vegetation Management & Inspections	46. Detailed inspections of vegetation around distribution electric lines and equipment
	47. Detailed inspections of vegetation around transmission electric lines and equipment
	51. LiDAR inspections of vegetation around distribution electric lines and equipment
	52. LiDAR inspections of vegetation around transmission electric lines and equipment
	55. Patrol inspections of vegetation around distribution electric lines and equipment
	56. Patrol inspections of vegetation around transmission electric lines and equipment
	59. Remediation of at-risk species
	60. Removal and remediation of trees with strike potential to electric lines and equipment
	64. Vegetation management to achieve clearances around electric lines and equipment
Grid Operations & Protocols	65. Automatic recloser operations
	68. Protocols for PSPS re-energization
	69. PSPS events and mitigation of PSPS impacts
Emergency Planning & Preparedness	81. Disaster and emergency preparedness plan
	82. Preparedness and planning for service restoration
Stakeholder Cooperation & Community Engagement	86. Cooperation with suppression agencies
	87. Forest service and fuel reduction cooperation and joint roadmap

Based on this risk assessment, the initiative activities in the table above were prioritized for enhanced focus of this inquiry.

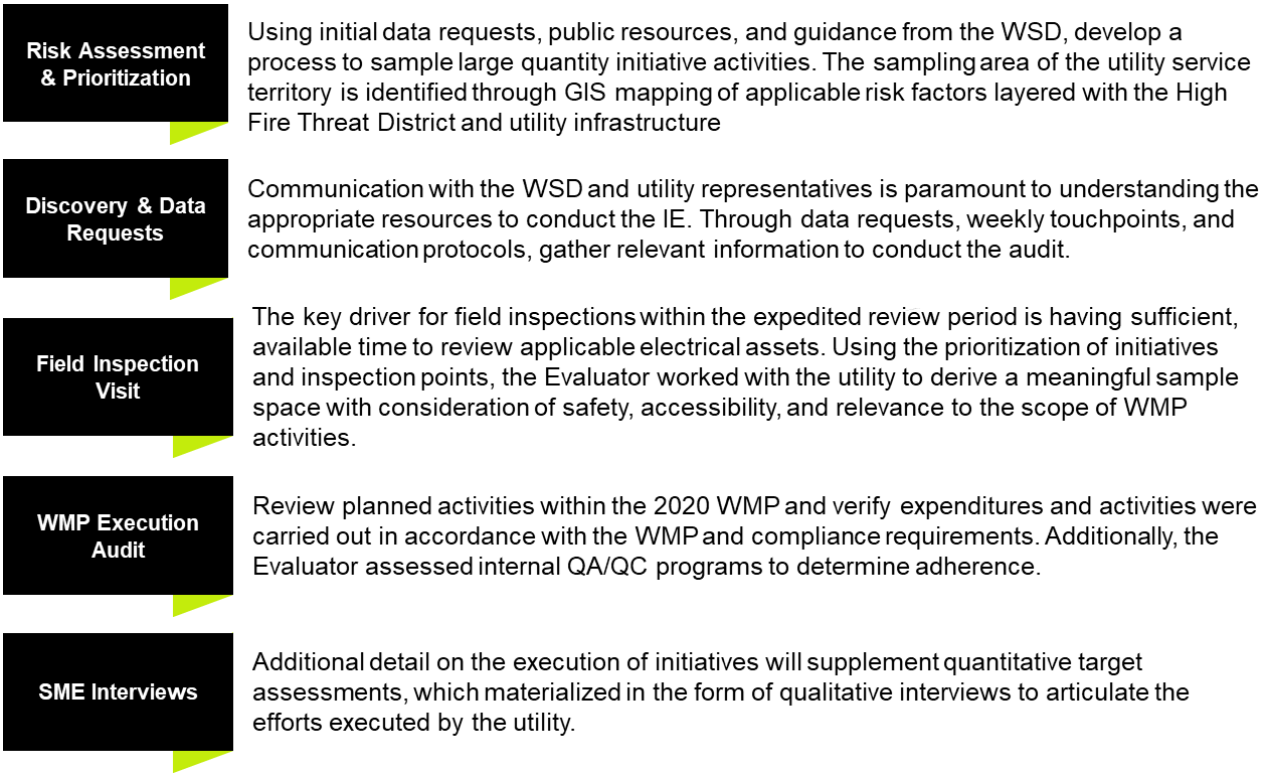
3 Independent Evaluator Review of Compliance

The Independent Evaluator Review of Compliance section is for the Independent Evaluator to provide an overview of its process for review and assessment of the electrical corporation's compliance with its Wildfire Mitigation Plan (WMP).

In the sections below, provide a review of the electrical corporation's WMP activity completion, verification of funding and verification of QA/QC programs.

As described above, this IE assessment is part of the ongoing compliance activities adopted by the Commission and overseen by the WSD.
The figure below summarizes the key activities necessary to perform the IE.

Figure 2: Approach to the WMP IE



3.1 WMP Activity Completion

The WMP Activity Completion section should detail the Independent Evaluator's review and verification of compliance for all WMP activities that have specific quantifiable or qualitative performance goals/targets set forth in the electrical corporation's 2020 WMP.

In-scope WMP activities have been broken out into four categories:

1. *Large volume (≥100 units) + quantifiable goal/target + field verifiable WMP activities*
2. *Large volume (≥100 units) + quantifiable goal/target + non-field verifiable WMP activities*
3. *Small volume (<100 units) + quantifiable goal/target WMP activities*

4. *Qualitative goal/target WMP activities*

The WSD expects Independent Evaluators to assess compliance via multiple dimensions, including work completion, work quality, and adherence to applicable protocols and procedures. For Field Verifiable WMP activities, the Independent Evaluator must verify work quality in addition to completion of initiative installation and adherence to applicable protocols and procedures. For all other WMP activities, the Independent Evaluator must verify initiative installation and adherence to applicable protocols and procedures.

In accordance with the ***IE Scope of Work for the Review of Compliance with 2020 Wildfire Mitigation Plans***, the IE issued *Data Request 5* Questions 1-4 to get a full and complete accounting of PacifiCorp's 2020 WMP Initiatives broken down into four categories:

1. *Large volume (≥100 units) + quantifiable goal/target + field verifiable WMP activities*
2. *Large volume (≥100 units) + quantifiable goal/target + non-field verifiable WMP activities*
3. *Small volume (<100 units) + quantifiable goal/target WMP activities*
4. *Qualitative goal/target WMP activities*

In response, PacifiCorp provided the ***PacifiCorp Data Request 5 6.3*.** PacifiCorp classified each of its 2020 WMP Activities in the four categories set forth above.

The table provided by PacifiCorp contains Program Categories, WMP Identifier, Initiative/Activity, Program Target, and IE Scope Review Type. The column titled IE Category indicates if the initiative/activity goals/targets are Small Volume or Large Volume (i.e., greater than or equal to 100 units), the column labelled Type of Target identifies if the initiative is quantifiable or qualitative, and the Field Verification column indicates if a field verification is required. PacifiCorp's 2020 WMP is divided into the following Program Categories: Asset Management & Inspections, Data Governance, Grid Design & System Hardening, Risk Assessment & Mapping, Situational Awareness & Forecasting, Stakeholder Cooperation & Community Engagement, and Vegetation Management.

A total of 26 Initiatives or Activities are listed as being applicable to PacifiCorp in the ***Wildfire Mitigation Plan***. Each Initiative/Activity includes a program target. Additionally, each Initiative/Activity contained an IE scope review type.

This information is presented in **Appendix 5.1** along with the IE Review approach and performance for each initiative.

3.1.1 Sampling Methodology and Discussion

In this section, the Independent Evaluator should describe its sampling methodology, the samples that were chosen, and areas of focus. The Independent Evaluator may include the samples that were chosen in the Appendix instead of this section.

The Independent Evaluator should also include a discussion of how results of the sampled assessment are indicative of the electrical corporation's broader implementation of WMP initiatives, to give the WSD an understanding of the process the Independent Evaluator used to estimate full completion.

IE Evidence Sampling Methodology

The IE approach to sampling initiatives attempted to formalize a strategy to achieve a statistically valid representative sample of project initiatives in a manner that is objective.

The IE conducted a random sample of the data for each initiative focusing the bulk of our effort on those initiatives, identified by the IE, focusing first on those initiatives with high risk reduction values. The sample size is based upon the North American Electric Reliability Corporation (NERC) ***ERO Sampling Handbook Revision 1.0.***[17] This methodology is recognized by the Generally Accepted Government Auditing Standards (GAGAS or "the Yellow Book" which is the US federal government's General Accounting Office's auditing guidebook) and the Institute of Internal Auditors (IIA).[18] This handbook sets forth the statistically valid sample size for different populations as can be seen in the table below. This method is used to sample populations of tens of thousands of relays and cyber devices, among other things, in accordance with NERC's obligations mandated by FERC as part of the Federal Power Act Sec 215.[19]

Table 5: Sampling Methodology Based on Overall Population

Sample Table A	
Population Description	**Sample Selection**
Statistical Sampling	
Primary Population (Examples: Substations, Generating Stations, ESPs, PSPs,	**Using Statistical Sampling**
1-8	Entire population
9 +	8 Samples
Dependent Population of Elements: (Examples: Relays, CCAs, Routers, Firewalls & Other	**Using Statistical Sampling**
1-9	All Elements
10-19	9 Samples
20-40	16 Samples
41-100	23 Samples
101-1000	29 Samples
1001 +	33 Samples
Independent Population of Elements: (Examples: Transmission Segments, Blackstart units, Outages, Mis-operations, Daily Operations reports, Line Ratings, others)	**Using Statistical or Judgemental Sampling**
1-9	All Elements
10-19	9 Samples
20-40	16 Samples
41-100	23 Samples
101-1000	29 Samples
1001 +	33 Samples

[17] ERO Sampling Handbook, Revision 1.0, North American Electric Reliability Corp. (2015). Available at https://www.nerc.com/pa/comp/Documents/Sampling_Handbook_Final_05292015.pdf.
[18] *Id.* at p. 1.
[19] 16 U.S.C. § 824o.

Once a sample size is generated, the IE developed and utilized a random sampling tool developed in Excel, for the IE to run a random number generator entered with the appropriate sample size from the chart above with automatic selection of the sample from the population. The IE applied this methodology to the populations of the identified elements in the selected areas.

The IE used the same sampling methodology for initiatives that were and were not field verified. Unfortunately, due to the limited timeframe, the IE did not get to sample all initiatives for PacifiCorp.. The IE made its best efforts to try to get through as much data as possible given the circumstances.,

Review of Discovery & Field Inspection Results
Field inspection findings contributed to the documentation discovery process by validating whether activities were executed in accordance with the WMP description of activities. The IE compared these results with documentation produced by the electrical corporation to verify accuracy in reporting.

Final IE Report
This IE report represents the final deliverable, which is submitted directly to the WSD and was not to be shared with PacifiCorp until publication. The IE report documents the "review and assess[ment of] the electrical corporation's compliance with its [wild fire mitigation] plan"[20] to the best of our ability to discern recognizing the limits imposed on our ability to request, review, and clarify data due to the short duration allotted to conduct the review. As the WSD itself noted:

> Finally, as discussed in the April 6th Guidance Document, given the condensed timing of this inaugural IE compliance review process, finalization of this Final IE Scope of Work was expedited and will be applicable for engagement of IEs in 2021 only. The WSD looks forward to further collaborating on refinement of the IE process moving forward. Details of the reviewed initiative activities are discussed in-depth in Section 3.1.[21]

3.1.2 Large Volume Quantifiable Goal/Target – Field Verifiable

A key component of the IE report is the field verification of 2020 initiative activities as described in the WMP. As described above, the IE identified sample areas with conditions illustrating high fire risk and ignition potential within the electrical corporation's service territory. The field inspection location boundaries were layered over the service territory of the utility, along with owned and operated assets, and other geological factors to determine the location of the evaluation. One of the mapped databases includes the Wildland Urban Interface (WUI) zones, which geospatially identify the transition between unoccupied land and human occupied land coupled with underdeveloped areas and/or high vegetation density that typically see higher rates of ignitions and impacts. As the principal map, the IE layered the three Tiers within the CPUC's HFTD map. [22,23]

[20] April 21 IE Scope of Work at p. 1.
[21] *Id.*
[22] Tier 1 (Zone 1, updated in 2020) comprises the High Hazard Zone Map, Tier 2 (updated in March 2021) is marked as Elevated risk and Tier 3 (also updated in March 2021) signals Extreme risk.
[23] The CPUC Safety and Enforcement Division (SED) adopted the HFTD map in January 2019 with expressed and intended use described under D. 17-12-024. The HFTD has had formalized improvements carried out in November 2019 under Rulemaking (R.) 15-05-006 with recent map enhancements as of March 2021.

The selected areas were identified through both risk (discussed in sections 2.1 and 3.1.1 *above*) and practical considerations. The practical element focused on the accessibility of the locations and the observability of the utility actions based upon the fact the observations were planned to be primarily ground-based and finally, the number of elements the field crew could reasonably observe during the expedited field verification allotment.

In summary, to perform this, the IE applied GIS maps to the methodology of determining an area that met the following criteria:

1) Covering Tier 3, principally, and Tier 2 areas that also fall into a WUI zone
2) Presented a collection of WMP initiatives present that would reveal recent activities for verification
3) Assets inspected fell into the small or large volume quantifiable assessment objectives for a sampled population of related activities present in other areas of the IOU jurisdiction
4) The area was readily accessible to field verification teams

3.1.2.1 Review of Initiatives

This section should include the Independent Evaluator's findings and assessment of utility compliance with activities that fall into the Large Volume Quantifiable Goal/Target – Field Verifiable category. Independent Evaluators shall conduct field verification to confirm installation, work quality, and adherence to applicable utility protocols and standards for such work.

Include the electrical corporation's list of initiatives that fall into the Large Volume Quantifiable Goal/Target – Field Verifiable category, including respective goals/targets for each, in the Appendix or within the body of this subsection.

Review of Discovery & Field Inspection Results

Field inspection findings contributed to the documentation discovery process by validating whether activities were executed in accordance with the WMP description of activities. The IE compared these results with documentation produced by the electrical corporation to verify accuracy in reporting.

The IE sampled the listed WMP Initiative Activities with those that ranked "high risk reduction value" Of those that met the criteria for the sampled WMP compliance scope, the following table lists the Large Volume Quantifiable Goal/Target—Field Verifiable targets for PacifiCorp and their mitigation strategies.

Table 6: PacifiCorp 2020 Large Volume Quantifiable Goal/Target - Field Verifiable

Program Category	Initiative / Activity	Utility Initiative Name	Target Units	2020 Target	Records Inspected	Field Inspected
Grid Design & System Hardening	Circuit breaker maintenance and installation to de-energize lines upon detecting a fault	Circuit Breaker Maintenance	N/A	N/A	Yes	
Grid Design & System Hardening	Crossarm maintenance, repair, and replacement	Crossarm Replacement	Financial Reporting ($)	272,000	Yes	
Grid Design & System Hardening	Distribution pole replacement and reinforcement, including with composite poles	Targeted Pole Replacement	Poles	189	Yes	
Vegetation Management & Inspection	Fuel management and reduction of "slash" from vegetation management activities	Expanded Radial Pole Clearing	Poles	15,060	Yes	

5.3.3.2 Circuit Breaker Maintenance

Per the PacifiCorp ***2020 California Wildfire Mitigation Plan*** Section 5.3.3.2**,** PacifiCorp states that they "do not have a specific grid design and system hardening wildfire mitigation program focused on circuit breaker maintenance and replacement. Circuit breakers are generally installed for all distribution circuits and transmission lines to detect fault current and protect equipment in the event that a fault is detected. Circuit breaker replacement and maintenance is included in the company's standard inspection, maintenance, and replacement protocols."[24] Per *Data Request 7*, PacifiCorp stated that no circuit breakers were replaced as part of this initiative. The IE noted that PacifiCorp reports $148 as an annual financial reporting metric, which is recorded in the ***Question 5 PaciifiCorp_2020 Q4 QIU_20210401*** excel workbook as a response to *Data Request* 1. This allocation is not part of the funding allocated to the wildfire mitigation spending Memorandum Account (MA) and is recorded elsewhere under operational costs.

However, PacifiCorp does state that specific targeted circuit breakers as part of advanced coordination and detection efforts are captured in 5.3.3.9. Per *Data Request 7,* PacifiCorp identified one circuit breaker that was replaced as part of 5.3.3.9. The work order for the identified circuit breaker was provided as validation.[25]

[24] 2020 California Wildfire Mitigation Plan at 5.3.3.2, p. 138.
[25] DR7 - Q1 – Copco2 – WO 10068476

The IE recommends that, if circuit breaker maintenance and replacement is going to remain a part of PacifiCorp initiative 5.3.3.9, the cost associated with said maintenance and replacement be recorded as part of 5.3.3.2 (7.3.3.2 under the 2021 formatting[26]) noting that the two initiative spends are connected.

Findings: The IE determined that PacifiCorp does not have a specific initiative for circuit breaker maintenance and recommends that for future recording purposes cost associated with circuit breaker maintenance captured under alternate initiatives be recorded as part of 5.3.3.2.

5.3.3.5 Crossarm Replacement

Per the ***2020 California Wildfire Mitigation Plan***, PacifiCorp states that it does "not have a specific grid design and system hardening wildfire mitigation program focused on crossarm maintenance, repair, and replacement," rather, "routine crossarm maintenance, repair, and replacement are included in the company's standard inspection and correction programs." Additionally, PacifiCorp identifies an "accelerated timeline for correction under the company's Inspection program improvement" pursuant to section 5.3.4.3 in the WMP. This section, outlines PacifiCorp's process for identifying crossarms requiring replacement when an inspection reveals that it is in violation of state or federal regulation.

The evaluation team requested additional evidence to validate the ***Question 5 PaciifiCorp_2020 Q4 QIU_20210401.xlsx*** financial reporting of $272,000 toward crossarm replacement and received further attestation that 136 crossarms were evaluated and replaced at $2,000 per crossarm. This number is further corroborated by location, date, and work detail for each replacement listed in the document titled, ***Crossarm Data_DR7_Q3***."

Findings: The IE determined reasonable evidence exists demonstrating PacifiCorp achieved its planned target of $272,000 (136 units) spent on crossarm replacement.

5.3.3.6 Targeted Pole Replacement

PacifiCorp's ***2020 California Wildfire Mitigation Plan*** states that "PacifiCorp will incorporate poles of new engineering fiberglass specification for new construction/installations within the HFTD as well as accelerated proactive replacement of existing wooden structures within the HFTD with non-wooden solutions outside of existing inspection and replacement programs." PacifiCorp estimated 189 poles to be replaced in 2020 as part of the timeline for this program. Reporting in ***Question 5 PaciifiCorp_2020 Q4 QIU_20210401.xlsx*** shows that 29 poles were replaced. The IE submitted *Data Request 4* to seek additional information on this initiative. Further review of the work order documentation (e.g. WO#6771706 for the 5G69 Radio Tower Feed) project provides evidence for the work performed on these 29 poles.

Finding: The IE was able to validate the reported 29 pole replacements; however, it is noted that this falls short of the target of 189 by 160 pole replacements. PacifiCorp noted in its response to *Data Request 4* question 1in the narrative for ***PacifiCorp Data Request 4 6.2.21 (Q1-5).pdf*** PacifiCorp noted they prioritized pole replacements associated with covered conductor projects and the only project of that nature in 2020 was the Radio Tower Feed project. The 2021 WMP updates reflect this change in scope and addresses the need to prioritize those poles most likely to experience a brush fire. The IE was

[26] The IE did nor review PacifiCorp's 2021 WMP due to time limitations.

able to inspect a section of the Radio Tower Feed project, comprised of 23 poles. This assessment is detailed in the table below.

Table 7: Pole Replacement Field Inspection Results

Utility and ID	Structure Type	Asset Subtype	Asset Compliance	Notes
40 RAND 2-NULL (183860 Dist. H Frame)	Wood Pole	Radio Tower Pole	Compliant	Work Completed 7.2KV Attachment Point is to existing System H Frame High Voltage
71-14/291859	Wood Pole	Pole Top Recloser	Compliant	Work Completed 14.4KV
3300-R3/275576	Wood Pole	Pole Top Recloser	Compliant	Work Completed 14.4KV
180800	Wood Pole	Radio Tower Pole	Compliant	Work Completed
180901	Wood Pole	Radio Tower Pole	Compliant	Work Completed
181801	Wood Pole	Radio Tower Pole	Compliant	Work Completed 7.2kV
182800	Wood Pole	Radio Tower Pole	Compliant	Work Completed 7.2kV
182802	Wood Pole	Radio Tower Pole	Compliant	Work Completed 7.2kV
183801	Wood Pole	Radio Tower Pole	Compliant	Work Completed 7.2kV
184800	Wood Pole	Radio Tower Pole	Compliant	Work Completed 7.2kV
184801	Wood Pole	Radio Tower Pole	Compliant	Work Completed 7.2kV
184802	Wood Pole	Radio Tower Pole	Compliant	Work Completed 7.2kV Attachment point is to existing System H Fram High Voltage
185700	Wood Pole	Radio Tower Pole	Compliant	Work Completed 7.2kV
186702	Wood Pole	Radio Tower Pole	Compliant	Work Completed 7.2kV
187600	Wood Pole	Radio Tower Pole	Compliant	Work Completed 7.2kV
187601	Wood Pole	Radio Tower Pole	Compliant	Work Completed 7.2kV
188500	Wood Pole	Radio Tower Pole	Compliant	Work Completed 7.2kV
188501	Wood Pole	Radio Tower Pole	Compliant	Work Completed 7.2kV
188502	Wood Pole	Radio Tower Pole	Compliant	Work Completed 7.2kV
188601	Wood Pole	Radio Tower Pole	Compliant	Work Completed 7.2kV
189400	Wood Pole	Radio Tower Pole	Compliant	Work Completed 7.2kV
189420	Wood Pole	Radio Tower Pole	Compliant	Work Completed 7.2kV
189500	Wood Pole	Radio Tower Pole	Compliant	Work Completed 7.2kV

5.3.5.21 Radial Pole Clearing / Fuel Management and Reduction of "Slash"

To validate pole grubbing and vegetation clearing efforts, the IE performed a field sample survey of treated lines in the Yreka area on June 7, 2021 in adherence to Public Resources Code 4292, whereas all poles should maintain 10 feet of clearance of high-risk vegetation in a circumference around the pole or tower. Additionally, the IE field inspector verified CCR 1254 for minimum clearance provisions regarding flammable materials, which could also include combustible sources that may not necessarily be from vegetation debris within 8 feet of the ground level or horizontal plane of highest point of the conductor/attachment. According to the ***2020 California Wildfire Mitigation Plan*** and the ***Q4 2020 Quarterly Initiative Update*** (QIU), and the ***Q4 2020 Quarterly Data Report*** (QDR), 969 electric line spans were inspected for vegetation compliance in 2020 recorded by PacifiCorp's Q4 2020 QDR.

A total of 58 pole locations[27] within the Tier 2 and Tier 3 areas were selected to inspect for adequate clearing as describer in Public Resources Code (PRC) § 4292 and the California Code of Regulations (CCR) § 1254. The poles were located in both State Responsibility Areas and Local Responsibility Areas.

Of the selected sample of the risk zone surveyed, 56 of the 58 poles at the field locations were visually inspected. At two locations the IE was unable to access the pole locations.

Pole clearing was evaluated using the following criteria:

1. PRC 4292 – Clearing of not less than 10 feet in each direction from the outer circumference of pole or tower
2. CCR 1254 – Minimum Clearance Provisions

   (a) At ground level - remove flammable materials, including but not limited to, ground litter, duff and dead or desiccated vegetation that will allow fire to spread, and;
   (b) From 0-8 feet above ground level remove flammable trash, debris or other materials, grass, herbaceous and brush vegetation. All limbs and foliage of living trees shall be removed up to a height of 8 feet.
   (c) From 8 feet to horizontal plane of highest point of conductor attachment remove dead, diseased or dying limbs and foliage from living sound trees and any dead, diseased, or dying trees in their entirety.

The results of the inspections at the 56 pole locations are as follows:

Table 8: Vegetation Management Field Inspection Results

Utility and ID	Structure Type	Asset Compliance	Notes
		Tier 2	
67	Wood Pole-Hot Tap Clamp	Compliant	
111	Wood Pole-Hot Tap Clamp	Non-Compliant	Ground Vegetation Not Cleared PRC § 4292 and CCR § 1254 (a)
233	Wood Pole-In-line Disconnect	Non-Compliant	Ground Vegetation Not Cleared PRC § 4292 and CCR § 1254 (a)
234	Wood Pole-Wedge Connector	Compliant	Exempt Pole
337	Wood Pole	N/A	Not Accessible
487	Wood Pole-Universal Fuse	Compliant	
1204	Wood Pole-Hot Tap Clamp	Compliant	
1229	Wood Pole-Split Bolt, Universal Fuse	Non-Compliant	Vegetation within 10' cylinder PRC § 4292 and CCR § 1254 (b) or (c)
1314	Wood Pole-Open Link Fuse	Non-Compliant	Vegetation within 10' cylinder PRC § 4292 and CCR § 1254 (b) or (c)
1376	Wood Pole-Hot Tap Clamp, Universal Fuse	Compliant	
1560	Wood Pole-Hot Tap Clamp, Universal Fuse	Compliant	

[27] Fifty-eight samples were selected using the sampling methodology described in Section 3.1 of this report. However, the IE made a human error in selecting 29 Tier 2 samples rather than the statistically valid 33 samples for a population over 1000 poles in the total population. This error was noticed following the dispatch of the forester to the field and could not be rectified during the review period. Additionally, as noted above, two locations (one from Tier 3, one from Tier 2) could not be accessed by the forester. The IE does not believe the lack of four samples constitutes a significant impact on the sampling quality or the interpretation of the data.

Utility and ID	Structure Type	Asset Compliance	Notes
1638	Wood Pole-Wedge Connector	Compliant	
1994	Wood Pole-Hot Tap Clamp, Universal Fuse	Non-Compliant	Vegetation within 10' cylinder PRC § 4292 and CCR § 1254 (b) or (c)
2222	Wood Pole-Hot Tap Clamp, Universal Fuse	Non-Compliant	Vegetation within 10' cylinder PRC § 4292 and CCR § 1254 (b) or (c)
2229	Wood Pole-Hot Tap Clamp, Universal Fuse	Non-Compliant	Vegetation within 10' cylinder PRC § 4292 and CCR § 1254 (b) or (c)
2238	Wood Pole-Universal Fuse	Non-Compliant	Ground vegetation not cleared PRC § 4292 and CCR § 1254 (a)
2248	Wood Pole-No Hardware	Complaint	Exempt Pole
2267	Wood Pole-Universal Fuse	Non-Compliant	Vegetation within 10' cylinder PRC § 4292 and CCR § 1254 (b) or (c)
2446	Wood Pole-Hot Tap Clamp, Universal Fuse	Complaint	
2450	Wood Pole-Universal Fuse	Compliant	
2461	Wood Pole-Hot Tap Clamp, Universal Fuse	Non-Compliant	Vegetation within 10' cylinder PRC § 4292 and CCR § 1254 (b) or (c)
2472	Wood Pole-Hot Tap Clamp, Universal Fuse	Compliant	
2476	Wood Pole-Hot Tap Clamp, Universal Fuse	Non-Compliant	Vegetation within 10' cylinder PRC § 4292 and CCR § 1254 (b) or (c)
2504	Wood Pole-Split Bolt, Universal Fuse	Non-Compliant	Vegetation within 10' cylinder PRC § 4292 and CCR § 1254 (b) or (c)
2672	Wood Pole-Hot Tap Clamp, Universal Fuse	Compliant	
2739	Wood Pole-Split Bolt	Non-Compliant	Vegetation within 10' cylinder PRC § 4292 and CCR § 1254 (b) or (c)
2785	Wood Pole-Hot Tap Clamp, Universal Fuse	Compliant	
2804	Wood Pole-Split Bolt	Compliant	
2833	Wood Pole-Fargo, Universal Fuse	Compliant	
Tier 3			
124	Wood Pole-Hot Tap Clamp, Universal Fuse	Non-Compliant	Vegetation within 10' cylinder PRC § 4292 and CCR § 1254 (b) or (c)
143	Wood Pole-Hot Tap Clamp, Universal Fuse	Non-Compliant	Vegetation within 10' cylinder PRC § 4292 and CCR § 1254 (b) or (c)
194	Wood Pole-Hot Tap Clamp	Non-Compliant	Vegetation within 10' cylinder PRC § 4292 and CCR § 1254 (b) or (c)
395	Wood Pole-Split Bolt, Universal Fuse	Compliant	
399	Wood Pole	N/A	Not Accessible
402	Wood Pole-Hot Tap Clamp, Universal Fuse	Non-Compliant	Vegetation within 10' cylinder PRC § 4292 and CCR § 1254 (b) or (c)
407	Wood Pole-Universal Fuse	Compliant	
411	Wood Pole-Hot Tap Clamp	Compliant	
418	Wood Pole-Hot Tap Clamp, Universal Fuse	Non-Compliant	Vegetation within 10' cylinder PRC § 4292 and CCR § 1254 (b) or (c)
421	Wood Pole-No Hardware	Compliant	Exempt Pole
424	Wood Pole-Hot Tap Clamp	Compliant	
426	Wood Pole-Split Bolt, Universal Fuse	Compliant	
435	Wood Pole-Hot Tap Clamp	Compliant	
437	Wood Pole-LM Connector	Compliant	
438	Wood Pole-Hot Tap Clamp	Non-Compliant	Vegetation within 10' cylinder PRC § 4292 and CCR § 1254 (b) or (c)

Utility and ID	Structure Type	Asset Compliance	Notes
446	Wood Pole-Hot Tap Clamp	Compliant	
450	Wood Pole-Hot Tap Clamp, Universal Fuse	Compliant	
794	Wood Pole-Split Bolt	Non-Compliant	Vegetation within 10' cylinder PRC § 4292 and CCR § 1254 (b) or (c)
1329	Wood Pole-Split Bolt, Universal Fuse	Non-Compliant	Vegetation within 10' cylinder PRC § 4292 and CCR § 1254 (b) or (c)
1380	Wood Pole-Hot Tap Clamp, Universal Fuse	Compliant	
1455	Wood Pole-Split Bolt, Universal Fuse	Compliant	
2188	Wood Pole-Split Bolt, Universal Fuse	Non-Compliant	Vegetation within 10' cylinder PRC § 4292 and CCR § 1254 (b) or (c)
2309	Wood Pole-No Hardware	Compliant	Exempt Pole
2500	Wood Pole-Universal Fuse	Non-Compliant	Vegetation within 10' cylinder PRC § 4292 and CCR § 1254 (b) or (c)
2578	Wood Pole-Split Bolt, Universal Fuse	Compliant	
2582	Wood Pole-Split Bolt, Universal Fuse	Compliant	
2588	Wood Pole-No Hardware	Compliant	Exempt Pole
2594	Wood Pole-Hot Tap Clamp	Compliant	
2597	Wood Pole-Hot Tap Clamp, Universal Fuse	Compliant	

Of the 56 locations inspected, a total of 23 locations were identified as not compliant, resulting in a 41% failure rate. The failure rate accounted for any insufficient findings, whether PRC Section 4292 or CRR Section 1254 requirements were missed.

The not compliant conditions were found to be primarily above ground. In most cases there were portions of living trees that were encroaching into the 10-foot clearance cylinder. These conditions are generally lower risk since the flammable material at the ground level was cleared in most cases. Encroachment was noted to have been possible due to higher growth cycle vegetation and conditions derived from high drought conditions. Visual evidence confirmed that work had been done to clear the poles apart from overgrowth findings at the time of the field survey. In other words, the insufficient findings accounted for any single instance of non-compliant requirements and does not necessary reflect that no work occurred in that area and may warrant an accelerated clearing cycle for fast-growth species. For the purpose of this evaluation, the IE field inspectors made the compliant versus non-compliant determinations in strict definitions adhering to the aforementioned requirements at the time of the visual inspection.

Findings: The IE determined that based off the field verification reports for the 56 locations inspected that there was a 41 % failure rate. This leads the IE to believe that PacifiCorp did not meet their program targets for 2020.

3.1.2.2 Trends and Themes

Include any trends or recurring themes that the Independent Evaluator found while assessing utility compliance to Large Volume Quantifiable Goal/Target – Field Verifiable initiatives.

PacifiCorp provided data request responses in support of the performance review with the associated initiative mapping and detailed summaries to responses. The IE did not find a trend of delayed

information and was able to request additional detail as the evaluation duration allowed. Given the expediated timeline to achieve the scope of work for this 2020 WMP activity evaluation, the IE understands that additional evidentiary support may be available from PacifiCorp to further validate findings described above. The IE surveyed high-risk areas with the field inspection patrols and found several non-compliant results. Additionally, there are several recommendations for a more robust QA/QC program to ensure inspections are consistent and accurate.

In general, the IE found the data received to be organized and required minimal manipulation to review through desktop and field inspection methods.

3.1.3 Large Volume Quantifiable Goal/Target – Not Field Verifiable

Table 9: Large Volume, Quantifiable Goal, Not Field Verifiable

Program Category	Initiative / Activity	Utility Initiative Name	Target Units	2020 Target	Desktop Review
Asset Management & Inspection	Detailed inspections of distribution electric lines and equipment	Distribution Detailed Inspections	Facilities/ Structures	10,155	Yes
Asset Management & Inspection	Detailed inspections of transmission electric lines and equipment	Transmission Detailed Inspections	Facilities/ Structures	1,188	Yes
Vegetation Management & Inspection	Detailed inspections of vegetation around distribution electric lines and equipment	Distribution Detailed Inspections of Vegetation	Line-Miles	909	Yes
Vegetation Management & Inspection	Detailed inspections of vegetation around transmission electric lines and equipment	Transmission Detailed Inspections of Vegetation	Line-Miles	185	Yes
Vegetation Management & Inspection	Patrol inspections of vegetation around distribution electric lines and equipment	WM Readiness Patrol: Distribution	Line-Miles	784	Yes
Vegetation Management & Inspection	Patrol inspections of vegetation around transmission electric lines and equipment	WM Readiness Patrol: Transmission	Line-Miles	323	Yes
Vegetation Management & Inspection	Quality assurance / quality control of inspections	Vegetation QA/QC	Line-Miles	1,107	Yes
Vegetation Management & Inspection	Vegetation management to achieve clearances around electric lines and equipment	Vegetation Cycle Clearing	Financial Reporting ($)	$6,699,302	Yes

3.1.3.1 Review of Initiatives

This section should include the Independent Evaluator's findings and assessment of utility compliance with activities that fall into the Large Volume Quantifiable Goal/Target – Not Field Verifiable category. Independent Evaluators shall select a sample to seek additional documentation and conduct SME interviews, as needed, to verify that the activity was completed and executed in accordance with all applicable work procedures and protocols.

Include the electrical corporation's list of initiatives that fall into the Large Volume Quantifiable Goal/Target – Not Field Verifiable category, including respective goals/targets for each, in the Appendix or within the body of this subsection.

5.3.4.1 Detailed Inspections of Distribution Electric Lines and Equipment

The IE reviewed publicly available and requested specific documentation, policies, and procedures including the ***2020 California Wildfire Mitigation Plan*** Section 5.3.4.1, ***Policy 27 Detailed Inspections of T & D Lines*** which outlines PacifiCorp's approach to visually inspecting structures (*i.e*. poles, guys, anchors, grounding, etc.) and the associated actions to be taken at each, ***Policy 192 Correction Management Plan, Correction Time Periods and Compliance Requirements*** which outlines PacifiCorp's approach to logging any nonconformance issues found during an inspection and applying appropriate remedial actions and timelines, and ***Procedure 069*** which summarizes clearance requirements set forth by NESC and GO 95. Upon review, the IE has found that the provided policies and procedures adequately cover all requirements set forth for this initiative in PacifiCorp's 2020 WMP.

PacifiCorp projected that 10,155 facility inspection for completion in 2020. The IE requested the evidence indicating that 10,155 facility inspections were completed in *Data Request 5*. PacifiCorp provided this evidence; however, the IE was only able to verify that 10,085 distribution facility inspections were performed. The IE was not able to request specific work orders, which would further verify that the work was performed, due to time constraints.

Findings: The IE found that the provided policies and procedures adequately cover all requirements set forth for this initiative in PacifiCorp's ***2020 California Wildfire Mitigation Plan***. The IE recommends the WSD further investigate that the work was performed by requesting supporting evidence such as internal work orders.

5.3.4.2 Detailed Inspections of Transmission Electric Lines and Equipment

The IE reviewed publicly available and entity specific documentation, policies, and procedures including the ***2020 California Wildfire Mitigation Plan*** document Section 5.3.4.2, ***Policy 27 Detailed Inspections of T & D Lines*** document, which outlines PacifiCorp's approach to visually inspecting structures (*i.e*. poles, guys, anchors, grounding, etc.) and the associated actions to be taken at each, ***Policy 192 Correction Management Plan, Correction Time Periods and Compliance Requirements*** document, which outlines PacifiCorp's approach to logging any nonconformance issues found during an inspection and applying appropriate remedial actions and timelines, and ***Procedure 069*** document, which summarizes clearance requirements set forth by NESC and GO 95. Upon review, the IE has found that the provided policies and procedures adequately cover all requirements set forth for this initiative in PacifiCorp's WMP.

PacifiCorp projected that 1,188 transmission facility inspection would be completed in 2020. The IE requested the evidence indicating that the 1,188 facility inspections were completed in *Data Request 5*. PacifiCorp provided this evidence and the IE was able to verify that 2,934 transmission facility inspections were performed. Due to time constraints, the IE was not able to request specific work orders, which would further verify that the work was performed. Therefore, this review is based upon the review of the standards and procedures received from PacifiCorp. attention.

Findings: The IE recommends the WSD further investigate that the work was performed by requesting supporting evidence such as internal work orders.

5.3.5.2 Detailed Inspections of Vegetation Around Distribution Electric Lines and Equipment

PacifiCorp maintains a plan to inspect its distribution lines and facilities. As described in the ***2020 California Wildfire Mitigation Plan.pdf***, the inspections include as a component and identification if imminent threat, including high-risk vegetation. This can be found on page 217 of Section 5.3.5.2. Section 5.3.4.1 describes the detail of the inspection that PacifiCorp implements, which includes visiting each structure and spans between structures to perform a detailed inspection including potential nonconformance with the NESC or other applicable state requirements such as California GOs, nonconformance with PacifiCorp construction standards, infringement by other utilities or individuals, defects, potential safety hazards, and deterioration of the facilities which need to be corrected in order to maintain reliable and safe service. This is, according to PacifiCorp, consistent with GO165 and California GO 95 requirements regarding frequency and correction timeframe.

On Page 251 of the 2020 WMP, PacifiCorp includes a table of the number of line miles committed for inspection and treatment in 2020. The goal shows 825 line-miles were targeted. According to evidence provided by PacifiCorp, they documented 909 line-miles in progress. Additionally, as part of a response from a data request PacifiCorp stated that they completed 909 line-miles for 2020. According to the QA/QC Plan, Section 5.3.5.13, during the review of the 2020 Audit Exception Report, it was noted that some trees missed by the inspection company needed to be cleared. Due to the limited time and evidence provided, the IE was unable to determine definitively if there was a deficiency or not for this initiative.

Findings: The IE recommends further inquiry into this initiative and investigate further into why some trees to be cleared were missed by the contractor.

5.3.5.2 Detailed Inspection of Vegetation – Distribution

The following review is based on PacifiCorp's response to data requests regarding its detailed inspections of vegetation on its distribution system.

In response to *Data Request 6*, Question 1, PacifiCorp indicated that a description of detailed vegetation inspections for distribution was contained in its ***Transmission and Distribution Vegetation Management Program SOP*** document. In a review of the applicable sections, no description of how detailed vegetation inspections are conducted for distribution was found.

In response to *Data Request 6*, Question 2, PacifiCorp indicated that 537 miles of distribution circuits were scheduled for inspection in 2020 to accomplish the necessary Tier 2 inspections. Additionally, in response to *Data Request 6*, Question 3, PacifiCorp indicated that 514 miles of Tier 2 distribution circuits

were inspected, and corrective actions were completed. There is a difference of 23 miles between the distribution miles scheduled and those completed in 2020 in the Tier 2 area. PacifiCorp did not specifically explain why there was a difference. They did, however, indicate that portions of a circuit could be located within a Tier 2 area and outside a Tier 2 area. The assumption cannot be made that this accounts for the difference.

In response to *Data Request 6*, Question 4, PacifiCorp provided a spreadsheet of completed vegetation management work. The data included Klamath Falls District. It is not clear whether or not the Klamath Falls District crosses over the state line into California. Due to time constraints, the evaluation team was not able to request additional evidence to verify that all the data provided was all related to California operations.

In response to *Data Request 6*, Question 5, PacifiCorp indicated that 105 miles of Tier 3 distribution circuits were inspected but did not indicate how many miles were scheduled.

PacifiCorp's 2020 WMP indicated that 825 line miles[28] of distribution line were to be inspected for vegetation issues related to 5.3.5.2. The IE requested evidence that the line miles were completed. Based on the evidence submitted, the IE could only confirm that 619 circuit miles in the Tier 2 and Tier 3 areas were inspected. Due to time constraints, the evaluation team was not able to request additional evidence to verify the work was performed or to allow PacifiCorp the opportunity to explain the mileage difference. We recommend the WSD further investigate that the work was performed by requesting additional supporting evidence or by requesting an explanation of the difference in line miles from PacifiCorp. Specifically, the IE suggests PacifiCorp: 1.) update the Vegetation Management SOP to include a description of how detailed vegetation management inspections are conducted for distribution, 2.) developed and document the schedule for annual inspections in the fourth quarter of the prior year, and 3.) clearly identify any differences in mileage between scheduled and completed inspections, and document the reason for any differences.

Findings: The IE recommend the WSD further investigate that the work was performed by requesting additional supporting evidence or by requesting an explanation of the difference in line miles from PacifiCorp.

5.3.5.3 Detailed Inspections of Vegetation – Transmission

The following review is based on PacifiCorp's response to data requests regarding its detailed inspections of vegetation on its transmission system.

In response to *Data Request 6*, Question 1, PacifiCorp indicated that a description of detailed vegetation inspections for transmission was contained in its "Transmission and Distribution Vegetation Management Program SOP." In a review of Section 6 of the SOP, there are descriptions for various vegetation management inspections, which include annual inspections for both FAC-003[29] (NERC Reliability Standard) lines and non-FAC-003 lines. There is also a description of additional inspections that supplement annual inspections.

[28] 2020 WMP, Page 251, Table 25

[29] FAC-003-4 Transmission Vegetation Management. Available at https://www.nerc.com/pa/Stand/Reliability%20Standards/FAC-003-4.pdf.

In response to *Data Request 6*, Question 2, PacifiCorp indicated that 123 miles of Tier 2 transmission circuits were inspected in 2020 but did not indicate how many miles were scheduled. Additionally, in response to *Data Request 6*, Question 5, PacifiCorp indicated that 13.5 miles of Tier 3 transmission circuits were inspected in 2020 but did not indicate how many miles were scheduled.

PacifiCorp's 2020 WMP indicated that 345 line miles[30] of transmission line were to be inspected for vegetation issues related to 5.3.5.3. The IE requested evidence that the line miles were completed. Based on the evidence submitted, the IE could only confirm that 136.5 circuit miles in the Tier 2 and Tier 3 areas were inspected. Due to time constraints, the IE was not able to request additional evidence to verify the work was performed or to allow PacifiCorp the opportunity to explain the mileage difference. The IE recommends the WSD further investigate that the work was performed by requesting additional supporting evidence or by requesting an explanation of the difference in line miles from PacifiCorp. Additionally, the IE recommends PacifiCorp develop and document the schedule for annual inspections in the fourth quarter of the prior year, and clearly identify any differences in mileage between scheduled and completed inspections, and document the reason for any differences

Findings: The IE recommends further investigation into the difference in line miles from PacifiCorp, and that PacifiCorp develop and document the schedule for annual inspections going forward.

5.3.5.20 Vegetation Management to Achieve Clearances

The difference between the 2020 WMP Target and the 2020 Total VM Target are attributed to changes in how PacifiCorp categorized work. Those changes are reflected in the 2021 WMP and are summarized below:

1. Detailed inspections, which previously reflected a mixed program, were redefined to reflect scheduled cycle and interim inspections. Therefore, no actual spend was reported in the 2021 WMP Update as this was no longer incremental spend.
2. New tracking mechanism was introduced that allowed PacifiCorp to better define and break out incremental patrols from standard details inspections. As a result, actuals were reported despite no planned in 2021 due to this increased capability.
3. PacifiCorp was able to begin grouping all incremental corrective work into the initiative 7.2.5.20 (equivalent to 5.3.5.20 in the 2020 WMP) resulting in a significant increase in actual spend to reflect the broader definition of the initiative.
4. Re-categorization of the radial pole clearing program as a component of the fuel management initiative in 7.3.5.5.

Findings: PacifiCorp has made substantive changes to categorization of Vegetation Management for clearances between its 2020 WMP and 2021 WMP, meaning that the Total VM Targets for each year were different. The IE recommends PacifiCorp normalize its categorizations going forward or map the old targets to the new targets.

5.3.5.3 Detailed Inspections of Vegetation Around Transmission Electric Lines and Equipment

PacifiCorp maintains a plan to inspect its transmission lines and facilities. As described in the ***2020 California Wildfire Mitigation Plan***, PacifiCorp's inspections include as a component an identification of

[30] 2020 WMP, Page 251, Table 25

the presence of an imminent threat, including high-risk vegetation. This can be found on Page 220 of Section 5.3.5.3. PacifiCorp states they manage vegetation with transmission, using methods used for distribution for vegetation management, however they use much greater clearance distances. The inspection of transmission lines and facilities are described in the 5.3.4.2 section where they state that they perform the inspection consistent with GO 165 and California GO 95 regarding frequency and correction timeframe. This can be found on page 180 of the WMP. On Page 251 of the WMP, PacifiCorp includes a table of the number of line miles committed for inspection and treatment in 2020. The goal shows 345 line-miles that were committed to be treated. As part of a response from a data request, PacifiCorp stated that they completed 184 line-miles of Transmission on 2020. This indicates a shortage of 161 line-miles from PacifiCorp's commitment for 2020 by their own account.

Findings: The 161 line-mile shortage has already been documented by PacifiCorp, but additional inquiries about where the inspection shortfalls occurred versus the planned, and if those areas missed included Tier 3 and Tier 2 HFTDs.

5.3.4.11 **Patrol Inspections of Vegetation Around Distribution Electric Lines and Equipment**
WM Readiness Patrol: Distribution

PacifiCorp described in the ***2020 California Wildfire Mitigation Plan*** on page 233 Section 5.3.5.11, that the method they use for meeting this initiative is the same as their detailed inspections of vegetation around distribution electric lines and equipment described in pages 217-219 of section 5.3.5.2 of the WMP. Along with the information already described above, PacifiCorp further indicates they conduct a patrol vegetation inspection of the High Fire Threat Districts (HFTDs) each year prior to the , undefined, "height of the fire season" to identify for pruning and removal of vegetation likely to violate minimum clearance distance prior to the next annual inspection using a method for identifying high risk trees and suspect trees. Additionally, in *Table 24: Asset Management and inspections*, on page 210 of the WMP, PacifiCorp committed to 1941 line-miles for inspection and treatment. As part of a response from a data request, PacifiCorp stated they only completed only 784 line-miles for patrol inspections. This would indicate a deficiency according PacifiCorp's own accounting.

Findings: The deficiency has already been documented by PacifiCorp, but the IE recommends the WSD continue to monitor or follow-up on this issue.

5.3.4.12 **Patrol Inspections of Vegetation Around Transmission Electric Lines and Equipment**

Similar to the efforts for its distribution network, the method PacifiCorp uses for meeting initiative 5.3.5.12 is the same as they do to complete detailed inspections of vegetation around transmission electric lines and equipment, which is described in pages 220-222 of section 5.3.5.3 of the WMP. PacifiCorp further indicates they conduct a vegetation inspection of the HFTDs each year prior to the height of the fire season to identify for pruning and removal of vegetation likely to violate minimum clearance distance prior to the next annual inspection using a method for identifying high risk trees and suspect trees. However, for the transmission system, the clearance distances are greater than that of distribution as previously stated in accordance with FAC-0003-4 Table 2. Additionally, *Table 24: Asset Management and inspections*, found on page 210 of the WMP, PacifiCorp committed to include 657 line-miles for inspection and treatment. As part of a response from a data request, PacifiCorp stated

they completed only 323 line-miles of patrol inspections. This indicates a deficiency from PacifiCorp's own accounting of the initiative.

Findings: The IE recommends the WSD further investigate that the work was performed by requesting additional supporting evidence or by requesting an explanation of the deficiency in PacifiCorp's accounting initiative.

3.1.3.2 Trends and Themes

Include any trends or recurring themes that the Independent Evaluator found while assessing utility compliance to Large Volume Quantifiable Goal/Target – Not Field Verifiable initiatives.

PacifiCorp provided data request responses in support of the performance review with the associated initiative mapping and detailed summaries to responses. Given the expedited timeline to achieve the scope of work for this 2020 WMP activity evaluation, the IE understands that additional evidentiary support may be available from PacifiCorp to further validate findings described above. The IE surveyed high risk areas with the field inspection patrols and found several non-compliant results.

In 2020, the templated reporting for Vegetation Management consisted of a combined accounting for the completion of remediation and removal of vegetation by line mile. This in turn, did not allow for an exact accounting of line miles per initiative, rather a total number of combined line miles was reported making it challenging to account for the different initiatives. It is recommended that this trend be addressed by separating out the targets by initiatives, rather than having a combined target.

3.1.4 Small Volume Quantifiable Goal/Target

Table 10: Small Volume, Quantifiable Initiatives

2020 WMP Initiative No.	Initiative / Activity	Utility Initiative Name[1]	Target Units	2020 Target
Grid Design & System Hardening	Covered conductor installation	Covered Conductor	Line-Miles	38
Grid Design & System Hardening	Installation of system automation equipment	Relay/Recloser Replacement	Devices / Projects	28
Stakeholder Cooperation & Community Engagement	Cooperation with Suppression Agencies	N/A	N/A	N/A
Stakeholder Cooperation & Community Engagement	Forest Service and Fuel Reduction Cooperation and Joint Roadmap	N/A	N/A	N/A
Grid Design & System Hardening	Maintenance, Repair, and Replacement of Connectors,	N/A	N/A	N/A

2020 WMP Initiative No.	Initiative / Activity	Utility Initiative Name[1]	Target Units	2020 Target
	including Hotline Clamps			
Grid Design & System Hardening	Transformer Maintenance and Replacement	N/A	N/A	N/A
Vegetation Management & Inspections	LiDAR Inspection of Vegetation Around Distribution Electric Lines and Equipment	N/A	N/A	N/A
Vegetation Management & Inspections	LiDAR Inspection of Vegetation Around Transmission Electric Lines and Equipment	N/A	N/A	N/A
Grid Design & System Hardening	Expulsion Fuse Replacement	N/A	N/A	N/A
Grid Design & System Hardening	Undergrounding of Electric Lines and/or Equipment	N/A	N/A	N/A
Asset Management & Inspections	Pole Loading Assessment Program to Determine Safety Factor	N/A	N/A	N/A
Vegetation Management & Inspections	Remediation of At-Risk Species	N/A	N/A	N/A
Grid Design & System Hardening	Installation of System Automation Equipment	N/A	N/A	N/A
Asset Management & Inspections	LiDAR Inspections of Distribution Electric Lines and Equipment	N/A	N/A	N/A
Vegetation Management & Inspections	Removal and Remediation of Trees with Strike Potential to Electric Lines and Equipment	N/A	N/A	N/A

2020 WMP Initiative No.	Initiative / Activity	Utility Initiative Name[1]	Target Units	2020 Target
Grid Operations & Protocols	Automatic Recloser Operations	N/A	N/A	N/A
Grid Operations & Protocols	Protocols for PSPS Re-Energization	N/A	N/A	N/A
Grid Operations & Protocols	PSPS Events and Mitigation of PSPS Impacts	N/A	N/A	N/A
Emergency Planning & Preparedness	Disaster and Emergency Preparedness Plan	N/A	N/A	N/A
Emergency Planning & Preparedness	Preparedness and Planning for Service Restoration	N/A	N/A	N/A

[1] N/A records for Utility Initiative Name indicate that PacifiCorp did not have a separate or unique program or project in place and that these activities may be captured under existing business operations.

3.1.4.1 Review of Initiatives

This section should include the Independent Evaluator's findings and assessment of utility compliance with activities that fall into the Small Volume Quantifiable Goal/Target category. Independent Evaluators shall perform data/documentation review and conduct SME interviews, as needed, to verify completion of these activities and adherence to all applicable work procedures and protocols.

Include the electrical corporation's list of initiatives that fall into the Small Volume Quantifiable Goal/Target category, including respective goals/targets for each, in the Appendix or within the body of this subsection.

5.3.3.3 Covered Conductor

As outlined in its WMP, QDR, and QIU PacifiCorp budgeted $5.8 M for covered conductor installation on 38-line miles. Upon review of the QDR[31] and *Data Request 7* it was determined that PacifiCorp covered 1.4-line miles and spent $4.3 M. PacifiCorp was not able to meet its target of 38-line miles for the 2020 calendar year due to challenges encountered with design capabilities and the pandemic. PacifiCorp did state, however, they were able to make strides in the design, estimate and procure materials that will allow it to make greater progress in future years and account for the missed line miles of 2020. This progress can be seen in the *Data Request 7* updated dollar/line mile metric used to project future projects and the acknowledgment that continued efforts in an area with little previous experience will allow PacifiCorp to continue to develop more accurate projections.

[31] PAC Q4 2020 QDR R18-10-007_Attachment_1-2021_Performance_Metrics_Data_Template_PacifiCorp_3-5-21

Findings: The IE recommends that PacifiCorp and the WSD have further discussions related to this initiative. The IE finds that the data/values provided by PacifiCorp do not appropriately represent the efforts and progress made on this initiative. Accordingly, the IE recommends further investigation to assess the accuracy of the cost values reflected for covered conductors.

5.3.3.9 Relay/Recloser Replacement

The IE reviewed the ***2020 Q4 QIU*** and compared it to PacifiCorp's ***2020 California Wildfire Mitigation Plan***. Section 5.3.6.1 outlines how PacifiCorp will incorporate this element into other system hardening programs to embrace maximum planning and spend efficiency. The ***2020 Q4 QIU*** reporting states that 28 out of 28 reclosers were replaced and PacifiCorp provided documentation listing the location and sample work output of the replacements performed.

Finding: The IE has reviewed evidence and has reasonable assurance the 2020 target for this initiative was met.

5.3.10.3 Cooperation with Suppression Agencies

PacifiCorp's ***2020 WMP***, section 5.3.10.3 states that "PacifiCorp does not have a specific initiative for review at this time. Cooperation with suppression agencies is a component of the company's emergency planning and preparedness programs outlined in Section 5.3.9". A review of the ***2020 Q4 QIU*** and ***Q4 2020 QDR*** does not show any targets or units tracked for this initiative in 2020.

Findings: Due to time constraints, no additional documentation was reviewed for this initiative. The IE recommends PacifiCorp look into enacting this initiative for their next WMP update.

5.3.10.4 Forest Service and Fuel Reduction Cooperation and Joint Roadmap

PacifiCorp's ***2020 WMP***, section 5.3.10.4 states that "PacifiCorp does not have a specific program dedicated to this effort. Instead, these efforts are on an as-needed basis and incorporates additional efforts to manage community environments within other programs, such as those included in Section 5.3.9.2 and Section 5.3.10.1 and the company's overall vegetation management and inspections programs described in Section 5.3.5." A review of the ***2020 Q4 QIU*** and ***Q4 2020 QDR*** does not show any targets or units tracked for this initiative in 2020.

Findings: Due to time constraints, no additional documentation was reviewed for this initiative. The IE recommends PacifiCorp look into enacting this initiative for their next WMP update.

5.3.3.10 Maintenance, Repair, and Replacement of Connectors, including Hotline Clamps

PacifiCorp's ***2020 WMP***, section 5.3.3.10 states that "PacifiCorp does not have a specific grid design and system hardening wildfire mitigation program focused on maintenance, repair, and replacement of connectors, including hotline clamps. Replacement of connectors, where applicable, is included in other programs such as installation of covered conductor.". A review of the ***2020 Q4 QIU*** and ***Q4 2020 QDR*** does not show any targets or units tracked for this initiative in 2020.

Findings: Due to time constraints, no additional documentation was reviewed for this initiative. The IE recommends PacifiCorp look into enacting this initiative for their next WMP update.

5.3.3.14 Transformer Maintenance and Replacement

PacifiCorp's ***2020 WMP***, section 5.3.3.14 states that "PacifiCorp does not have a specific grid design and system hardening wildfire mitigation program focused on transformer maintenance and replacement. Transformer replacement and maintenance is included in the company's standard inspection, maintenance, and replacement protocols. Any enhanced inspections or accelerated correction timeframe/replacements are captured in Section 5.3.4.3, Improvement of inspections.". A review of the ***2020 Q4 QIU*** and ***Q4 2020 QDR*** does not show any targets or units tracked for this initiative in 2020.

Findings: Due to time constraints, no additional documentation was reviewed for this initiative. The IE recommends PacifiCorp look into describing this initiative separately in their next WMP update.

5.3.5.7 LiDAR Inspection of Vegetation Around Distribution Electric Lines and Equipment

PacifiCorp's ***2020 WMP***, section 5.3.5.7 states that "PacifiCorp does not have a specific vegetation management and inspections wildfire mitigation program focused on LiDAR inspections of vegetation around distribution electric lines and equipment. Instead, PacifiCorp incorporates, as a component, LiDAR inspections of vegetation around distribution lines and equipment in its LiDAR inspections of distribution electric lines and equipment program. See Section 5.3.4.7." A review of the ***2020 Q4 QIU*** and ***Q4 2020 QDR*** does not show any targets or units tracked for this initiative in 2020.

Findings: Due to time constraints, no additional documentation was reviewed for this initiative. PacifiCorp discusses this initiative with additional detail in the ***2021 Wildfire Mitigation Plan Update***.

5.3.5.8 LiDAR Inspection of Vegetation Around Transmission Electric Lines and Equipment

PacifiCorp's ***2020 WMP***, section 5.3.5.8 states that "PacifiCorp does not have a specific vegetation management and inspections wildfire mitigation program focused on LiDAR inspections of vegetation around transmission electric lines and equipment. Instead, PacifiCorp incorporates, as a component, LiDAR inspections of vegetation around transmission lines and equipment in its LiDAR inspections of transmission electric lines and equipment program. See Section 5.3.4.8.". A review of the ***2020 Q4 QIU*** and ***Q4 2020 QDR*** does not show any targets or units tracked for this initiative in 2020.

Findings: Due to time constraints, no additional documentation was reviewed for this initiative. PacifiCorp discusses this initiative with additional detail in the ***2021 Wildfire Mitigation Plan Update***.

5.3.3.7 Expulsion Fuse Replacement

PacifiCorp's ***2020 WMP***, section 5.3.3.7 states "PacifiCorp's overhead expulsion fuse replacement program includes incorporation of a new engineering standard to be applied to new construction projects throughout the HFTD as well as proactive replacement of existing in-service expulsion fuses along with other system hardening projects throughout the HFTD."

The new engineering standard is completed and has been incorporated into new construction projects. Replacement of in-service overhead expulsion fuses requires installation of new overhead equipment and potentially replacement of or augmentation to other protection and control equipment on a given circuit. Therefore, as opposed to initiating a separate program, PacifiCorp is incorporating this element into other system hardening programs to embrace maximum planning and spend efficiency." A review of the ***2020 Q4 QIU*** does not show any targets nor units tracked for this initiative in 2020.

Findings: Due to time constraints, no additional documentation was reviewed for this initiative. The IE recommends PacifiCorp look into describing this initiative separately in their next WMP update.

5.3.3.16 Undergrounding of Electric Lines and/or Equipment

PacifiCorp's ***2020 WMP***, section 5.3.3.16 states that "PacifiCorp does not have any grid design and system hardening wildfire mitigation programs specifically focused on undergrounding of electric lines and/or equipment" at this time. A review of the ***2020 Q4 QIU*** does not show any targets or units tracked for this initiative in 2020.

Findings: Due to time constraints, no additional documentation was reviewed for this initiative. The IE recommends the WSD examine the progress made on this initiative.

5.3.4.13 Pole Loading Assessment Program to Determine Safety Factor

PacifiCorp's ***2020 WMP***, section 5.3.4.13, states that "specific pole loading assessment of in-service assets was included as a subset to the methodology of PacifiCorp's pole replacement programs included in Section 5.3.3.6. Where appropriate, pole loading assessment of new construction has also been incorporated into the new standards developed included in Section 5.3.3.6." A review of the ***2020 Q4 QIU*** does not show any targets set or units tracked for this initiative in 2020.

Findings: Due to time constraints, no additional documentation was reviewed for this initiative. The IE recommends PacifiCorp look into describing this initiative separately in their next WMP update.

5.3.5.15 Remediation of At-Risk Species

PacifiCorp's ***2020 WMP***, section 5.3.5.15 states that "remediation of at-risk species is a subset to its vegetation management to achieve clearances around electric lines and equipment program as it contains, as an element, the company's practices procedures, and funding to remediate at-risk species. See Section 5.3.5.18." A review of the ***2020 Q4 QIU*** does not show any targets set nor units tracked for this initiative in 2020.

Findings: Due to time constraints, no additional documentation was reviewed for this initiative. The IE recommends PacifiCorp look into describing this initiative separately in their next WMP update.

5.3.3.9 Installation of System Automation Equipment

PacifiCorp's ***2020 WMP*** section 5.3.3.9 outlines a program for overall system hardening which includes 68 projects over four years to address the "deployment of distribution and transmission protection and control schemes and equipment, such as relays, circuit breakers, reclosers, and communications equipment, to enhance fault detection capabilities, reduce fault isolation time, improve fault location and record availability, and expedite restoration efforts." The ***2020 Q4 QIU*** reports 2020 spend on these projects to be $3,947,681 which is above and beyond the projected $3,029,013.

Findings: PacifiCorp reports exceeding spend in System Automation updates. Due to time constraints for this Report, no additional program documentation was reviewed to verify these projects. The IE recommends the WSD validate the initiative implementation details described in this initiative.

5.3.4.7 LiDAR Inspections of Distribution Electric Lines and Equipment

PacifiCorp's ***2021 WMP*** describes a pilot program from 2019 which included "LiDAR (Light Detection and Ranging) data collection, analysis, and system modeling on the PacifiCorp network in four select areas of Northern California consisting of 924 line-miles and 12,803 structures. Assets inspected include both transmission and distribution in rural and suburban environments." This pilot program resulted in the conclusion that there are several applicable uses for this technology, however deployment and an exact LiDAR program at PacifiCorp is reportedly unclear. Per the 2021 WMP and a review of the ***2020 Q4 QIU***, no targets were set nor was any budget spent on LiDAR inspections of distribution lines in 2020 and future use of this technology is still under review.

Further information and detail on this pilot program can be found in the ***2021 WMP*** in section 7.3.4.7.

Findings: Due to the time constraints, no additional documentation review was done on this initiative. The IE recommends the WSD validate the initiative implementation details described in this initiative.

5.3.5.16 Removal and Remediation of Trees with Strike Potential to Electric Lines and Equipment

PacifiCorp states in their WMP document ***R18-10-007_PacifiCorp_2020_WMP.pdf*** Section 5.3.5.16, that "removal and remediation of trees with strike potential to electric lines and equipment is a subset to the company's vegetation management to achieve clearances around electric lines and equipment program as it contains, as an element, the company's practices procedures, and funding to remove and remediate trees with strike potential to electric lines and equipment and refers to Section 5.3.5.18. The IE found in section 5.3.5.18 further reference to sections 5.3.5.2, 5.3.5.3, 5.3.5.9, 5.3.5.20. The IE reviewed sections 5.3.5.2, 5.3.5.3 which include some language on how PacifiCorp handles distribution and transmission vegetation management which inherently includes removal and remediation of trees that includes reducing strike potential. Additionally, the IE reviewed section 5.3.5.20 from a financial perspective. However, due to time constraints, the IE did not review those sections strictly from a removal and remediation of trees with strike potential to electrical lines an equipment perspective nor did the IE review or inquiry section 5.3.5.9.

The IE conducted a review of PacifiCorp's vegetation management programs and activities which are described in Section 3.1.3 above and determined this initiative is included and implemented by PacifiCorp.

Finding: The IE recommends PacifiCorp look into describing this initiative separately in their next WMP update.

5.3.6.1 Automatic Recloser Operations

PacifiCorp states in their WMP document ***R18-10-007_PacifiCorp_2020_WMP.pdf***, section 5.3.6.1, they have an automatic recloser operations program which includes *"specific policies to address system operations during fire season."* Additionally, they state that *"implementing and continuously improving this program requires advanced investigation of fault events to understand the nature and type of faults and whether or not this program is properly mitigating these events."* PacifiCorp further adds that they have *"designed and developed its automatic reclosing operations wildfire mitigation program to include more restrictive system operating procedures during when wildfire conditions are more elevated to*

reduce this risk." PacifiCorp does not provide any further details of what those are and relies on learning from faults after the fact and anticipate new technologies or advancements will assist with improving the program.

Finding: Due to time constraints the IE was unable to inquiry further on the details of the implementation of restrictive recloser and system operating. The IE recommends the WSD conduct additional follow up on this initiative.

5.3.6.4 Protocols for PSPS Re-Energization

PacifiCorp, in their WMP, document ***R18-10-007_PacifiCorp_2020_WMP.pdf,*** sections 5.3.6.4, states that they consider *"re-energization after a PSPS event to be a subset of outage restoration / re-energization protocols included in Section 5.3.6.3. Therefore, PacifiCorp does not have a separate protocol for PSPS."*

Finding: Due to time constraints the IE did not review section 5.3.6.3 from a Protocols for PSPS re-energization perspective. Further inquiry is recommended to evaluate the risk of not having a specific program for this initiative.

5.3.6.5 PSPS Events and Mitigation of PSPS Impacts

PacifiCorp, in their WMP, document ***R18-10-007_PacifiCorp_2020_WMP.pdf*** section 5.3.6.5, states that *"PacifiCorp does not have an additional grid operations and protocols wildfire mitigation program not already included and discussed in Section 4.4 and Section 5.6.2."*

Finding: Due to time constraints, the IE did not review sections 4.4 nor 5.6.2. Further inquiry and review would be recommended to determine if goals were committed for 2020 and if they were accomplished.

5.3.9.4 Disaster and Emergency Preparedness Plan

PacifiCorp, in their WMP, document ***R18-10-007_PacifiCorp_2020_WMP.pdf*** section 5.3.9.4 states that *"the details regarding PacifiCorp's emergency preparedness plan are included in the general discussion in Section 5.3.9 beginning on page 105. Wildfire mitigation specific components are also included in the general discussion beginning on page 105."*

Finding: Due to time constraints the IE was unable to review the information in the WMP to determine if goals were committed for 2020 and if they were accomplished. Further inquiry and review are recommended.

5.3.9.5 Preparedness and Planning for Service Restoration

PacifiCorp, in their WMP, document ***R18-10-007_PacifiCorp_2020_WMP.pdf*** section 5.3.9.5 states that *"the details regarding PacifiCorp's emergency preparedness plan are included in the general discussion in Section 5.3.9 beginning on page 105. Wildfire mitigation specific components are also included in the general discussion beginning on page 105."*

Finding: Due to time constraints the IE was unable to review the information in the WMP to determine if goals were committed for 2020 and if they were accomplished. Further inquiry and review are recommended.

3.1.4.2 Trends and Themes

Include any trends or recurring themes that the Independent Evaluator found while assessing utility compliance to Small Volume Quantifiable Goal/Target initiatives.

No notable trends or themes were identified with respect to PacifiCorp's small volume quantifiable goals/targets.

3.1.5 Qualitative Goal/Target

PacifiCorp did not include any qualitative goals included in its 2020 WMP.

3.1.5.1 Review of Initiatives

PacifiCorp did not include any qualitative goals included in its 2020 WMP.

3.1.5.2 Trends and Themes

PacifiCorp did not include any qualitative goals included in its 2020 WMP and therefore, the IE did not record any trends or themes associated with this section.

3.2 Verification of Funding

The Verification of Funding section documents all instances in which WMP activities were funded less than 100 percent in order to determine "whether the electrical corporation 'failed to fund any activities included in its plan.'"[32] Due to time constraints, the IE was unable to request and document each utility explanation of such instances. The IE used data presented in the ***2020 California Wildfire Mitigation Plan*** Attachment 1, Tables 21 thru 30, to identify the projected spend for each initiative in 2020 and conducted a live interview on June 14, 2021. Using data reported in the 2020 ***Q4 QDR***, the IE was able to verify the actual funding for each initiative. The table below summarizes initiatives which the IE found to be funded less than 100 percent.

[32] IE Scope of Work, at page 2, quoting PUC § 8386.3(c)(2)(B)(i), (April 21, 2021.)

Table 11 2020 WMP Funding Verification Summary

Initiative Category	2020 Initiative Number	Initiative Name	2020 WMP Page Number	2020 Planned Spend	2020 Actual Spend	Funding Discrepancy Amount	Detail on Funding Discrepancy
Risk Assessment & Mapping	5.3.1.3.	Ignition probability mapping showing the probability of ignition along the electric lines and equipment	111	$25,000	$-	$(25,000)	Initiative Mapping: Per the RCP, PacifiCorp moved to a comprehensive risk modeling approach describes further in Section 7.3.1 on page 122 of the 2021 WMP Update. This expenditure is now tracked under initiative 7.3.1.1. Actuals reported in 2021: $186,000
Situational Awareness & Forecasting	5.3.2.2.	Continuous monitoring sensors	123	$112,000	$-	$(112,000)	Initiative Mapping: This initiative now maps to Pilot Project #1 in Section 4.4.1 on page 42 of the 2021 WMP Update. Due to similarities in the work and natural overlap, this activity was planned and tracked as a part of initiative 5.3.3.9, now reported as 7.3.3.9 in the 2021 WMP Update. Approximately $139k of the $3.95 actual spend reported under initiative 7.3.3.9 was associated with the DFA pilot projects planned to be in service in 2021.
Grid Design & System Hardening	5.3.3.3.	Covered conductor installation	139	$7,875,000	$4,324,197	$(3,550,803)	Initiative Behind Schedule: PacifiCorp's installation of covered conductor program is behind schedule resulting in lower spend than planned. See Data Request 7 Question 2a.
Grid Design & System Hardening	5.3.3.6.	Distribution pole replacement and reinforcement, including with composite poles	145	$329,000	$244,441	$(84,559)	Initiative Scoping / Intentional Re-Phasing: Per Section 7.3.3.6 of the 2021 WMP Update, this project was intentionally rephased based on a fully development methodology and alignment with other programs to target the highest risk locations first. As a result, forecasted targets were refined by Table 7-2 on page 134 of the 2021 WMP Update. Funding level reflect this change to phasing and completion of fewer poles in 2020. For additional information, See DR 2.4 from CalAdvocates (March 30, 2021) here: https://www.pacificorp.com/content/dam/pcorp/documents/en/pacificorp/wildfire-mitigation/responses-issued/PacifiCorp_Response_to_Request_No_CalAdvocates-PacifiCorp-2021WMP-02_March_30_2021.pdf

Initiative Category	2020 Initiative Number	Initiative Name	2020 WMP Page Number	2020 Planned Spend	2020 Actual Spend	Funding Discrepancy Amount	Detail on Funding Discrepancy
Asset Management & Inspections	5.3.4.1.	Detailed inspections of distribution electric lines and equipment	178	$257,000	$211,332	$(45,668)	Favorable Execution: Through optimization efforts and contracting strategy, PacifiCorp experienced actual expenditures favorable to plan to perform the 2020 programmatic inspections. Therefore, PacifiCorp was able to accomplish the planned SOW for a lower than planned expenditure.
Asset Management & Inspections	5.3.4.2.	Detailed inspections of transmission electric lines and equipment	180	$59,000	$51,007	$(7,993)	Favorable Execution: Through optimization efforts and contracting strategy, PacifiCorp experienced actual expenditures favorable to plan to perform the 2020 programmatic inspections. Therefore, PacifiCorp was able to accomplish the planned SOW for a lower than planned expenditure.
Asset Management & Inspections	5.3.4.5.	Infrared inspections of transmission electric lines and equipment	185	$44,100	$167	$(43,933)	Favorable Execution: Actuals were reported in the 2021 WMP Update using a mix of units in Table 12. In 2021, PacifiCorp spent $167k on IR inspections. See Table 7-8 in Section 7.3.4.5 on page 148 of the 2021 WMP Update for further clarification.
Asset Management & Inspections	5.3.4.6.	Intrusive pole inspections	189	$223,000	$109,006	$(113,994)	Favorable Execution: Through optimization efforts and contracting strategy, PacifiCorp experienced actual expenditures favorable to plan to perform the 2020 programmatic inspections. Actual contracted work resulted in a much lower spend than anticipated. Therefore, PacifiCorp was able to accomplish the planned SOW for a lower than planned expenditure.
Asset Management & Inspections	5.3.4.11.	Patrol inspections of distribution electric lines and equipment	198	$262,000	$181,456	$(80,544)	Favorable Execution: Through optimization efforts and contracting strategy, PacifiCorp experienced actual expenditures favorable to plan to perform the 2020 programmatic inspections. Therefore, PacifiCorp was able to accomplish the planned SOW for a lower than planned expenditure.
Asset Management & Inspections	5.3.4.12.	Patrol inspections of transmission electric lines and equipment	200	$196,000	$77,286	$(118,714)	Favorable Execution: Through optimization efforts and contracting strategy, PacifiCorp experienced actual expenditures favorable to plan to perform the 2020 programmatic inspections. Therefore, PacifiCorp was able to accomplish the planned SOW for a lower than planned expenditure.

Initiative Category	2020 Initiative Number	Initiative Name	2020 WMP Page Number	2020 Planned Spend	2020 Actual Spend	Funding Discrepancy Amount	Detail on Funding Discrepancy
Asset Management & Inspections	5.3.4.15.	Substation inspections	205	$177,600	$163,090	$(14,510)	Favorable Execution: Through optimization efforts and contracting strategy, PacifiCorp experienced actual expenditures favorable to plan to perform the 2020 programmatic inspections. Therefore, PacifiCorp was able to accomplish the planned SOW for a lower than planned expenditure.
Vegetation Management & Inspections	5.3.5.2.	Detailed inspections of vegetation around distribution electric lines and equipment	217	$1,422,792	$-	$(1,422,792)	Initiative Mapping: This initiative is now mapped to two different initiatives to better reflect program tracking and spend. The Inspection portion is now reported as Imitative 7.3.5.11 in the 2021 WMP Update ($200,450 actuals). The correction portion is now reported as initiative 7.3.5.20 ($6.7 million actuals).
Vegetation Management & Inspections	5.3.5.3.	Detailed inspections of vegetation around transmission electric lines and equipment	220	$723,897	$-	$(723,897)	Initiative Mapping: This initiative is now mapped to two different initiatives to better reflect program tracking and spend. The Inspection portion is now reported as Imitative 7.3.5.11 in the 2021 WMP Update ($200,450 actuals). The correction portion is now reported as initiative 7.3.5.20 ($6.7 million actuals).
Grid Operations & Operating Protocols	5.3.6.1.	Automatic recloser operations	257	$600,000	$-	$(600,000)	Program Targets: 2020 Values provided as a placeholder for potential spend to demonstrate capability to fund. Actual spend is strongly dependent on real-time conditions and risk. Initiative Mapping: Costs incurred are now captured as part of an overall PSPS order structure and reported as Initiative 7.3.2.5 in Table 12 of the 2021 WMP Update. Actual 2020 spend reporting in the 2021 WMP Update - $975,913
Grid Operations & Operating Protocols	5.3.6.3.	Personnel work procedures and training in conditions of elevated fire risk	261	$1,100,000	$-	$(1,100,000)	Program Targets: 2020 Values provided as a placeholder for potential spend to demonstrate capability to fund. Actual spend is strongly dependent on real-time conditions and risk. Initiative Mapping: Costs incurred are now captured as part of an overall PSPS order structure and reported as Initiative 7.3.2.5 in Table

Initiative Category	2020 Initiative Number	Initiative Name	2020 WMP Page Number	2020 Planned Spend	2020 Actual Spend	Funding Discrepancy Amount	Detail on Funding Discrepancy
							12 of the 2021 WMP Update. Actual 2020 spend reporting in the 2021 WMP Update - $975,913
Grid Operations & Operating Protocols	5.3.6.6.	Stationed and on-call ignition prevention and suppression resources and services	268	$300,000	$-	$(300,000)	Program Targets: 2020 Values provided as a placeholder for potential spend to demonstrate capability to fund. Actual spend is strongly dependent on real-time conditions and risk. Initiative Mapping: Costs incurred are now captured as part of an overall PSPS order structure and reported as Initiative 7.3.2.5 in Table 12 of the 2021 WMP Update. Actual 2020 spend reporting in the 2021 WMP Update - $975,913
Total				**$13,706,389**	**$5,361,982**	**($8,344,407)**	

3.3 Verification of QA/QC Programs

This section should include a detailed description of all QA and QC programs that the Independent Evaluator validated during its compliance review. Independent Evaluators shall review all documentation and perform interviews to validate an electrical corporation's QA and QC programs for WMP compliance.

The IE gathered as much detail on existing QA/QC processes at the program level as possible, given the expedited timeframe for the final report. PacifiCorp reports that the oversight of wildfire mitigation efforts is done by a focused wildfire mitigation project management office. PacifiCorp lists quality control checks for each initiative category where applicable; however, a there does not appear to be a defined or documented program QA/QC framework. Additional detail on individual QA/QC and evaluation, as well IE recommendations for developing a more robust framework are outline below.

PacifiCorp does not appear to have a robust vegetation management QA/QC program. The following review is based on PacifiCorp's response to data requests[33] regarding its vegetation management QA/QC program.

Although PacifiCorp indicates it has some tools it uses to implement a QA/QC program it also indicates that it does not have an overarching QA/QC program. PacifiCorp has identified a gap that exists as the WMP lacks a clear plan and process to audit and monitor implementation as a collective plan and will continue throughout 2021 to evaluate methods for ensuring proper delivery, monitoring, and auditing processes.

For QA/QC of inspections, PacifiCorp identified the following key program components:

- Physical audits of at least 5% of planned inspections of facilities with a focus fire threats and Tier II and Tier III prioritization (885 physical field audits performed in 2020)
- Software controls within PacifiCorp's tools and working spreadsheets, which aim to prohibit freeform condition modification will allow for result controls and aid in minimizing the amount of human error
- A quarterly review of already audited results as a secondary check
- Annual training with inspectors to address audit findings and improve inspection reliability and accuracy

PacifiCorp's response to *Data Request 1* confirms all of these inspection program components except for software controls. Vegetation Management QA/QC Plan elements include:

- Defined personnel qualifications for performing QC inspections
- Defined sampling methodology
    - Provides reasonable assurance that the work is of high quality
- Defined sample size and inspection priority for each QC work category
- Defined acceptable quality level (AQL) and conformance rate (sufficient time, generally 12 months, is required to develop an AQL once the program is fully implemented)
- Defined post work verifications (desktop reviews performed by PacifiCorp)
    - Contractor billing accuracy
    - Contractor documentation accuracy

[33] Response to Data Request 2, Vegetation Management, Questions 1 through 11

- Defined QC inspections (field reviews performed by PacifiCorp and/or inspection contractor)
    - Tree pruning and removal
    - Hazard tree mitigation
    - Pole clearing
    - Detailed pre-inspection (can be performed in conjunction with other QC inspections)
- QC planning and reporting
    - Annual inspection plan
    - Quarterly reporting on results
- QA assessment of VM processes

Although PacifiCorp indicates that it does not have a written vegetation management QA/QC Plan, it does perform post work completion audits of routine tree work, hazard tree work and pole clearing. PacifiCorp states that it conducts post work completion audits of all or as much of the work as practical and tracks findings through resolution. Where these QC checks are done, they are performed by SMEs, professionals in the respective fields (e.g. weather and fire scientist), and peer review. A review of the 2020 Audit Exception Report confirms that these audits are being performed and by whom. The report does not indicate whether or when the exceptions were resolved.

In its response to Data Request 2, PacifiCorp indicates that detailed pre-inspections are not included as part of its QC program. During the review of the ***2020 Audit Exception Report***, it was noted that some trees that were missed by the inspection company needed to be cleared. It does appear that if trees are missed during the pre-inspection process, they are captured in the ***Audit Exception Report***. As stated above, audits of pre-inspection work can be performed in conjunction with other QC inspections. PacifiCorp states that desktop reviews of all completed work within Tier 2 and Tier 3 areas are conducted by PacifiCorp foresters.

4 Conclusion

The Conclusion section shall summarize all findings that the Independent Evaluator detailed in the sections above.

Fill out the table below with all findings.

Upon completion of the IE report, the IE determined that the EC achieved a majority of WMP Initiative Activity objectives and provided evidence for those that missed targets. Detailed reviews occurred with subsequent data requests and the EC worked closely with the IE, under guidance of the WSD, to ensure correspondence of all virtual files answered the intended inquiries, to the best of all parties' capabilities and timeframe challenges.

The IE worked with the WSD and PacifiCorp to determine relevant materials critical to producing a statistically significant and concrete review of executable work performance. The IE faced extraordinarily tight timeline constraints and strived to ensure all records were collected, sorted, vetted for initiative alignment, and categorized with the chronological order of the review process. The final IE report does not present the complete scope of WMP initiative reviews, which was hindered by the expedited schedule, the time necessary for data request responses, and the challenges of conducting an inaugural assessment. All methodology, training, and tools had to be developed and implemented during the same time as document reviews and issuing data requests. Using the risk rating methodology, desktop review, established lines of communication, weekly meetings, and a supporting field inspection, the IE was able to evaluate a high-risk reduction assortment of initiatives were executed in 2020.

The table below presents the findings supported by both desktop and field inspection reviews. Results and interpretations from the verification of QA/QC programs are found in Section 3.3 above. Findings associated with verification of funding is presented in Table 11 within Section 3.2. Table 11 further lists reviewed explanations and documentation determinations for underfunded activities and their associated deficiency determination.

Reviewed initiative findings are presented in accordance with the aligned WMP Initiative Activity below.

Table 12: IE Findings Summary

SOW Category	2020 Initiative Number	Initiative Name	Finding	Detail on finding
WMP Activity Completion	5.3.3.2	Circuit Breaker Maintenance	The IE determined that PacifiCorp does not have a specific initiative for circuit breaker maintenance and made a recommendation that for future recording purposes cost associated with circuit breaker maintenance captured under alternate initiatives be	The IE determined that PacifiCorp does not have a specific initiative for circuit breaker maintenance and made a recommendation that for future recording purposes cost associated with circuit breaker maintenance captured under alternate initiatives be recorded as part of 5.3.3.2.

SOW Category	2020 Initiative Number	Initiative Name	Finding	Detail on finding
			recorded as part of 5.3.3.2.	
WMP Activity Completion	5.3.3.6	Targeted Pole Replacement	Could only verify 29 of 189 poles replaced	Due to time constraints, the IE was unable to make a determination on if PacifiCorp was able to meet its program target for 2020. Further evaluation is needed to make a final determination on the 2020 status of Targeted Pole Replacement.
WMP Activity Completion	5.3.5.5	Radial Pole Clearing/ Fuel Management and Reduction of "Slash"	The IE determined that based off the field verification reports for the 56 locations inspected that there was a 41 % failure rate. This leads the IE to believe that PacifiCorp was not able to meet their program targets for 2020.	Non-compliant vegetation management issues found during field inspections.
WMP Activity Completion	5.3.5.2	Detailed Inspections of Vegetation Around Distribution Electric Lines and Equipment	Additional inquiry needed	It was noted that some trees missed by the inspection company needed to be cleared. Due to the limited time and evidence provided, the IE was unable to definitively determine if there was a deficiency for this initiative.
WMP Activity Completion	5.3.4.1	Detailed Inspection of Vegetation – Distribution	Could only verify that 619 of 825 line miles were inspected	The IE recommends the WSD further investigate that the work was performed by requesting additional supporting evidence or by requesting an explanation of the difference in line miles from PacifiCorp.
WMP Activity Completion	5.3.4.2	Detailed Inspections of Vegetation – Transmission	Could only verify that 136.5 of 345 line miles were inspected	The IE recommends further investigation into the difference in line miles from PacifiCorp,

SOW Category	2020 Initiative Number	Initiative Name	Finding	Detail on finding
				and that PacifiCorp develop and document the schedule for annual inspections going forward.
WMP Activity Completion	5.3.5.20	Vegetation Management to Achieve Clearances	PacifiCorp reclassified objectives under another initiative category in 2021, preventing a clear determination of output activities associated with this WMP initiative activity.	PacifiCorp has made substantive changes to categorization of Vegetation Management for clearances between its 2020 WMP and 2021 WMP, meaning that the Total VM Targets for each year were different. The IE recommends PacifiCorp normalize its categorizations going forward or map the old targets to the new targets.
WMP Activity Completion	5.3.5.3	Detailed Inspections of Vegetation Around Transmission Electric Lines and Equipment	184 of 345 line miles inspected	The 161 line-mile shortage has already been documented by PacifiCorp, but additional inquiries about where the inspection shortfalls occurred versus the planned, and if those areas missed included Tier 3 and Tier 2 HFTDs.
WMP Activity Completion	5.3.4.11	Patrol Inspections of Vegetation Around Distribution Electric Lines and Equipment	784 of 1,941 line miles inspected	The deficiency has already been documented by PacifiCorp, but the IE recommends the WSD continue to monitor or follow-up on this issue.
WMP Activity Completion	5.3.4.12	Patrol Inspections of Vegetation Around Transmission Electric Lines and Equipment	323 of 657 line miles inspected	The IE recommend the WSD further investigate that the work was performed by requesting additional supporting evidence or by requesting an explanation of the deficiency in PacifiCorp's accounting initiative.
WMP Activity Completion	5.3.3.4	Covered Conductor	1.4 of 38 line miles converted to covered conductor	The IE found several noncompliance issues during field verifications.

SOW Category	2020 Initiative Number	Initiative Name	Finding	Detail on finding
WMP Activity Completion	5.3.3.9	Relay/Recloser Replacement	28 of 28 reclosers replaced	PacifiCorp reports exceeding spend in System Automation updates. Due to time constraints for this Report, no additional program documentation was reviewed to verify these projects. The IE recommends the WSD validate the initiative implementation details described in this initiative.
WMP Activity Completion	5.3.3.9	Installation of system automation equipment	PacifiCorp does not implement this initiative	PacifiCorp reports exceeding spend in System Automation updates. Additional program documentation review would be needed to validate the work and Quality Control performed.

5 Appendix

The Appendix can include:

- *Electrical corporation's list of Large Volume Quantifiable Goal/Target – Field Verifiable initiatives*
- *Electrical corporation's list of Large Volume Quantifiable Goal/Target – Not Field Verifiable initiatives*
- *Electrical corporation's list of Small Volume Quantifiable Goal/Target initiatives*
- *Electrical corporation's list of Qualitative Goal/Target initiatives*
- *Electrical corporation's complete listing and description of existing QA/QC programs in place*
- *Data requests and interview requests*
- *Samples chosen by the Independent Evaluator*
- *Financial audit reports and memorandum accounts*
- *Any additional documentation*

5.1 PacifiCorp WMP Activities – Classified by Approach to Verifying Compliance

WMP Table # / Category	2020 WMP Initiative #	Initiative activity	2020 Target (2020 WMP)	IE Scope Review Type
Situational Awareness & Forecasting	5.3.2.1	Advanced weather monitoring and weather stations	10	Small, Quantitative, Field Verifiable
Grid Design & System Hardening	5.3.3.3	Covered conductor installation	38	Small, Quantitative, Field Verifiable
	5.3.3.6	Distribution pole replacement and reinforcement, including with composite poles	189	Large, Quantitative, Field Verifiable
	5.3.3.9	Installation of system automation equipment	31	Small, Quantitative, Field Verifiable
	5.3.3.18	Other corrective action	3	Small, Quantitative, Field Verifiable
Asset Management & Inspections	5.3.4.1	Detailed inspections of distribution electric lines and equipment	605	Large, Quantitative, Not Field Verifiable
	5.3.4.2	Detailed inspections of transmission electric lines and equipment	122	Large, Quantitative, Not Field Verifiable
	5.3.4.5	Infrared inspections of transmission electric lines and equipment	232	Large, Quantitative, Not Field Verifiable
	5.3.4.6	Intrusive pole inspections	250	Large, Quantitative, Not Field Verifiable
	5.3.4.11	Patrol inspections of distribution electric lines and equipment	1,941	Large, Quantitative, Not Field Verifiable
	5.3.4.12	Patrol inspections of transmission electric lines and equipment	657	Large, Quantitative, Not Field Verifiable
Vegetation Management & Inspections	5.3.5.2	Detailed inspections of vegetation around distribution electric lines and equipment	825	Large, Quantitative, Not Field Verifiable

WMP Table # / Category	2020 WMP Initiative #	Initiative activity	2020 Target (2020 WMP)	IE Scope Review Type
	5.3.5.3	Detailed inspections of vegetation around transmission electric lines and equipment	345	Large, Quantitative, Not Field Verifiable
	5.3.5.5	Fuel management and reduction of "slash" from vegetation management activities	15,060	Large, Quantitative, Field Verifiable
	5.3.5.20	Vegetation management to achieve clearances around electric lines and equipment	$3,288,977	Large, Quantitative, Not Field Verifiable

5.2 Initiative Risk Reduction Rating

Initiative Category	WMP Activity Code	Initiative	WSD Definitions	Risk Reduction Scale (1 - 10)	Rationale for Risk Rating (for incremental work associated with Wildfire Mitigation activities for 2020).	Risk Reduction Rating
Grid design and system hardening	**5.3.3.3**	15. Covered conductor installation	Installation of covered or insulated conductors to replace standard bare or unprotected conductors (defined in accordance with GO 95 as supply conductors, including but not limited to lead wires, not enclosed in a grounded metal pole or not covered by: a "suitable protective covering" (in accordance with Rule 22.8), grounded metal conduit, or grounded metal sheath or shield). In accordance with GO 95, conductor is defined as a	10	Bare wire contact poses a high risk of wildfire ignition.	High

Initiative Category	WMP Activity Code	Initiative	WSD Definitions	Risk Reduction Scale (1 - 10)	Rationale for Risk Rating (for incremental work associated with Wildfire Mitigation activities for 2020).	Risk Reduction Rating
			material suitable for: (1) carrying electric current, usually in the form of a wire, cable or bus bar, or (2) transmitting light in the case of fiber optics; insulated conductors as those which are surrounded by an insulating material (in accordance with Rule 21.6), the dielectric strength of which is sufficient to withstand the maximum difference of potential at normal operating voltages of the circuit without breakdown or puncture; and suitable protective covering as a covering of wood or other non-conductive material having the			

Initiative Category	WMP Activity Code	Initiative	WSD Definitions	Risk Reduction Scale (1 - 10)	Rationale for Risk Rating (for incremental work associated with Wildfire Mitigation activities for 2020).	Risk Reduction Rating
			electrical insulating efficiency (12kV/in. dry) and impact strength (20ft.-lbs) of 1.5 inches of redwood or other material meeting the requirements of Rule 22.8-A, 22.8-B, 22.8-C or 22.8-D.			
Grid design and system hardening	**5.3.3.16**	28. Undergrounding of electric lines and/or equipment	Actions taken to convert overhead electric lines and equipment to underground (i.e., located underground and in accordance with GO 128).	10	Changing wire from overhead to underground seriously reduces the risk of contact and wildfire ignition.	High

Initiative Category	WMP Activity Code	Initiative	WSD Definitions	Risk Reduction Scale (1 - 10)	Rationale for Risk Rating (for incremental work associated with Wildfire Mitigation activities for 2020).	Risk Reduction Rating
Vegetation management and inspections	**5.3.5.20**	64. Vegetation management to achieve clearances around electric lines and equipment	Actions taken to ensure that vegetation does not encroach upon the minimum clearances set forth in Table 1 of GO 95, measured between line conductors and vegetation, such as trimming adjacent or overhanging tree limbs.	10	Vegetation contact with energized equipment poses a very high fire risk.	High
Grid operations and protocols	**5.3.6.4**	68. Protocols for PSPS re-energization	Designing and executing procedures that accelerate the restoration of electric service in areas that were de-energized, while maintaining safety and reliability standards.	10	PSPS can significantly reduce the risk of wildfire ignition.	High
Emergency planning and preparedness	**5.3.9.4**	81. Disaster and emergency preparedness plan	Development of plan to deploy resources according to prioritization methodology for disaster and emergency	10	Establishing, training on, and communicating disaster and emergency plans is essential to an effective, prompt, and thorough	High

Initiative Category	WMP Activity Code	Initiative	WSD Definitions	Risk Reduction Scale (1 - 10)	Rationale for Risk Rating (for incremental work associated with Wildfire Mitigation activities for 2020).	Risk Reduction Rating
			preparedness of utility and within utility service territory (such as considerations for critical facilities and infrastructure), including strategy for collaboration with Public Safety Partners and communities.		response when needed.	
Grid design and system hardening	**5.3.3.6**	18. Distribution pole replacement and reinforcement, including with composite poles	Remediation, adjustments, or installations of new equipment to improve or replace existing distribution poles (i.e., those supporting lines under 65 kV), including with equipment such as composite poles manufactured with materials reduce ignition probability by increasing pole lifespan and resilience against failure from object	9	Pole failure due to loading or wind contributes to a substantial wildfire risk	High

Initiative Category	WMP Activity Code	Initiative	WSD Definitions	Risk Reduction Scale (1 - 10)	Rationale for Risk Rating (for incremental work associated with Wildfire Mitigation activities for 2020).	Risk Reduction Rating
			contact and other events.			
Grid design and system hardening	**5.3.3.7**	19. Expulsion fuse replacement	Installations of new and CAL FIRE-approved power fuses to replace existing expulsion fuse equipment.	9	Traditional expulsive fuses can emit hot gases and molten metal which can ignite fires.	High
Asset management and inspections	**5.3.4.1**	30. Detailed inspections of distribution electric lines and equipment	In accordance with GO 165, careful visual inspections of overhead electric distribution lines and equipment where individual pieces of equipment and structures are carefully examined, visually and through use of routine diagnostic test, as appropriate, and (if practical and if useful information can be so gathered)	9	Failure to regularly inspect distribution equipment can lead to equipment failure, especially under weather stressors, which creates significant wildfire risk.	High

Initiative Category	WMP Activity Code	Initiative	WSD Definitions	Risk Reduction Scale (1 - 10)	Rationale for Risk Rating (for incremental work associated with Wildfire Mitigation activities for 2020).	Risk Reduction Rating
			opened, and the condition of each rated and recorded.			
Grid operations and protocols	**5.3.6.1**	65. Automatic recloser operations	Designing and executing protocols to deactivate automatic reclosers based on local conditions for ignition probability and wildfire consequence.	9	Reclosing relays automatically reclose after a set number of cycles/durations following a fault. If the fault is caused by debris on a line/equipment and the circuit recloses the debris may ignite.	High
Grid design and system hardening	**5.3.3.9**	21. Installation of system automation equipment	Installation of electric equipment that increases the ability of the utility to automate system operation and monitoring, including equipment that can be adjusted remotely such as automatic reclosers	9	System automation can automatically respond or rapidly prompt a system operator to respond to changing system and weather conditions. This not only improves situational awareness but also	High

Initiative Category	WMP Activity Code	Initiative	WSD Definitions	Risk Reduction Scale (1 - 10)	Rationale for Risk Rating (for incremental work associated with Wildfire Mitigation activities for 2020).	Risk Reduction Rating
			(switching devices designed to detect and interrupt momentary faults that can reclose automatically and detect if a fault remains, remaining open if so).		allows for remote disabling of reclosers, activation of PSPS actions, and more. All of these may reduce fire risk and reduce safety risks to field personnel that would otherwise be required in the field.	
Emergency planning and preparedness	**5.3.9.5**	82. Preparedness and planning for service restoration	Development of plans to prepare the utility to restore service after emergencies, such as developing employee and staff trainings, and to conduct inspections and remediation necessary to re-energize lines and restore service to customers.	9	Proper restoration planning and orders will require patrol inspections before re-energizing following wind, fire, or PSPS events, allow for synchronization and balancing of resources to promote grid stability. These measures reduce fire, personnel safety, and equipment damage risks	High

Initiative Category	WMP Activity Code	Initiative	WSD Definitions	Risk Reduction Scale (1 - 10)	Rationale for Risk Rating (for incremental work associated with Wildfire Mitigation activities for 2020).	Risk Reduction Rating
Asset management and inspections	**5.3.4.2**	31. Detailed inspections of transmission electric lines and equipment	Careful visual inspections of overhead electric transmission lines and equipment where individual pieces of equipment and structures are carefully examined, visually and through use of routine diagnostic test, as appropriate, and (if practical and if useful information can be so gathered) opened, and the condition of each rated and recorded.	8	Failure to regularly inspect transmission equipment can lead to equipment failure, especially under weather stressors, which creates significant wildfire risk.	High
Vegetation management and inspections	**5.3.5.2**	46. Detailed inspections of vegetation around distribution electric lines and equipment	Careful visual inspections of vegetation around the right-of-way, where individual trees are carefully examined, visually, and the condition of each rated and recorded.	8	Vegetation contact with energized equipment poses a very high fire risk. Inspections ensure that proper clearances are maintained, and hazard trees are removed.	High

Initiative Category	WMP Activity Code	Initiative	WSD Definitions	Risk Reduction Scale (1 - 10)	Rationale for Risk Rating (for incremental work associated with Wildfire Mitigation activities for 2020).	Risk Reduction Rating
Vegetation management and inspections	**5.3.5.3**	47. Detailed inspections of vegetation around transmission electric lines and equipment	Careful visual inspections of vegetation around the right-of-way, where individual trees are carefully examined, visually, and the condition of each rated and recorded.	8	Vegetation contact with energized equipment poses a very high fire risk. Inspections ensure that proper clearances are maintained, and hazard trees are removed.	High
Vegetation management and inspections	**5.3.5.16**	60. Removal and remediation of trees with strike potential to electric lines and equipment	Actions taken to remove or otherwise remediate trees that could potentially strike electrical equipment, if adverse events such as failure at the ground level of the tree or branch breakout within the canopy of the tree, occur.	8	Vegetation contact with energized equipment poses a very high fire risk. Inspections ensure that proper clearances are maintained, and hazard trees are removed.	High

Initiative Category	WMP Activity Code	Initiative	WSD Definitions	Risk Reduction Scale (1 - 10)	Rationale for Risk Rating (for incremental work associated with Wildfire Mitigation activities for 2020).	Risk Reduction Rating
Stakeholder cooperation and community engagement	**5.3.10.4**	87. Forest service and fuel reduction cooperation and joint roadmap	Strategy and actions taken to engage with local, state, and federal entities responsible for or participating in forest management and fuel reduction activities; and design utility cooperation strategy and joint stakeholder roadmap (plan for coordinating stakeholder efforts for forest management and fuel reduction activities).	8	Vegetation contact with energized equipment poses a very high fire risk. Inspections ensure that proper clearances are maintained, and hazard trees are removed. A substantial portion of the vegetation which may contact energized lines/equipment is growing on land not owned/maintained by the utility therefore cooperation with outside groups is necessary.	High
Asset management and inspections	**5.3.4.13**	42. Pole loading assessment program to determine safety factor	Calculations to determine whether a pole meets pole loading safety factor requirements of GO 95, including planning and information	8	Pole failure due to loading or wind contributes to a substantial wildfire risk	High

Initiative Category	WMP Activity Code	Initiative	WSD Definitions	Risk Reduction Scale (1 - 10)	Rationale for Risk Rating (for incremental work associated with Wildfire Mitigation activities for 2020).	Risk Reduction Rating
			collection needed to support said calculations. Calculations shall consider many factors including the size, location, and type of pole; types of attachments; length of conductors attached; and number and design of supporting guys, per D.15-11-021.			
Stakeholder cooperation and community engagement	**5.3.10.3**	86. Cooperation with suppression agencies	Coordination with CAL FIRE, federal fire authorities, county fire authorities, and local fire authorities to support planning and operations, including support of aerial and ground firefighting in real time, including information-sharing, dispatch of	8	Coordination with outside agencies for fire suppression and incident command is essential. Utility suppression capabilities are minimal or non-existent.	High

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			resources, and dedicated staff.			
Grid design and system hardening	**5.3.3.5**	17. Crossarm maintenance, repair, and replacement	Remediation, adjustments, or installations of new equipment to improve or replace existing crossarms, defined as horizontal support attached to poles or structures generally at right angles to the conductor supported in accordance with GO 95.	7	Crossarm failure can lead to energized wire contacts with other wires, equipment, or vegetation and create ignitions.	High
Grid design and system hardening	**5.3.3.10**	22. Maintenance, repair, and replacement of connectors, including hotline clamps	Remediation, adjustments, or installations of new equipment to improve or replace existing connector equipment, such as hotline clamps.	7	Failure to regularly maintain, repair, and replace damaged equipment can lead to equipment failure, especially under weather stressors, which	High

Initiative Category	WMP Activity Code	Initiative	WSD Definitions	Risk Reduction Scale (1 - 10)	Rationale for Risk Rating (for incremental work associated with Wildfire Mitigation activities for 2020).	Risk Reduction Rating
					creates significant wildfire risk.	
Grid design and system hardening	**5.3.3.14**	26. Transformers maintenance and replacement	Remediation, adjustments, or installations of new equipment to improve or replace existing transformer equipment.	7	Failure to regularly maintain, repair, and replace transformers can lead to equipment failure, especially under weather stressors, which creates significant wildfire risk.	High
Asset management and inspections	**5.3.4.7**	36. LiDAR inspections of distribution electric lines and equipment	Inspections of overhead electric transmission lines, equipment, and right-of-way using LiDAR (Light Detection and Ranging, a remote sensing method that uses light in the form of a pulsed laser to measure variable distances).	7	Failure to regularly inspect equipment can lead to equipment failure, especially under weather stressors, which creates significant wildfire risk.	High

Initiative Category	WMP Activity Code	Initiative	WSD Definitions	Risk Reduction Scale (1 - 10)	Rationale for Risk Rating (for incremental work associated with Wildfire Mitigation activities for 2020).	Risk Reduction Rating
Vegetation management and inspections	**5.3.5.7**	51. LiDAR inspections of vegetation around distribution electric lines and equipment	Inspections of right-of-way using LiDAR (Light Detection and Ranging, a remote sensing method that uses light in the form of a pulsed laser to measure variable distances).	7	Vegetation contact with energized equipment poses a very high fire risk. Inspections ensure that proper clearances are maintained, and hazard trees are removed.	High
Vegetation management and inspections	**5.3.5.8**	52. LiDAR inspections of vegetation around transmission electric lines and equipment	Inspections of right-of-way using LiDAR (Light Detection and Ranging, a remote sensing method that uses light in the form of a pulsed laser to measure variable distances).	7	Vegetation contact with energized equipment poses a very high fire risk. Inspections ensure that proper clearances are maintained, and hazard trees are removed.	High
Vegetation management and inspections	**5.3.5.11**	55. Patrol inspections of vegetation around distribution electric lines and equipment	Visual inspections of vegetation along rights-of-way that is designed to identify obvious hazards. Patrol inspections may be carried out in the course of other company business.	7	Vegetation contact with energized equipment poses a very high fire risk. Inspections ensure that proper clearances are maintained, and hazard trees are removed.	High

Initiative Category	WMP Activity Code	Initiative	WSD Definitions	Risk Reduction Scale (1 - 10)	Rationale for Risk Rating (for incremental work associated with Wildfire Mitigation activities for 2020).	Risk Reduction Rating
Vegetation management and inspections	**5.3.5.12**	56. Patrol inspections of vegetation around transmission electric lines and equipment	Visual inspections of vegetation along rights-of-way that is designed to identify obvious hazards. Patrol inspections may be carried out in the course of other company business.	7	Vegetation contact with energized equipment poses a very high fire risk. Inspections ensure that proper clearances are maintained, and hazard trees are removed.	High
Vegetation management and inspections	**5.3.5.15**	59. Remediation of at-risk species	Actions taken to reduce the ignition probability and wildfire consequence attributable to at-risk vegetation species, such as trimming, removal, and replacement.	7	Vegetation contact with energized equipment poses a very high fire risk. At-risk species tend to increase fire risk more than others. Therefore, special care must be provided to attain and maintain proper clearances through removal/replacement or trimming.	High

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Grid operations and protocols	**5.3.6.5**	69. PSPS events and mitigation of PSPS impacts	Designing, executing, and improving upon protocols to conduct PSPS events, including development of advanced methodologies to determine when to use PSPS, and to mitigate the impact of PSPS events on affected customers and local residents.	7	PSPS can significantly reduce the risk of wildfire ignition but increase other risks to the community due to lack of power for traffic lights, healthcare needs, gas pumps, water pumps, etc. Therefore, utilities must have clearly articulated triggers for implementing PSPS, communicate the imposition and expected duration of a PSPS event (with regular updates), and actions in place to mitigate the community impacts of PSPS events.	High
Asset management and inspections	**5.3.4.8**	37. LiDAR inspections of transmission electric lines and equipment	Inspections of overhead electric transmission lines, equipment, and right-of-way using LiDAR (Light Detection and	6	Failure to regularly inspect equipment can lead to equipment failure, especially under weather stressors, which creates	Medium

Initiative Category	WMP Activity Code	Initiative	WSD Definitions	Risk Reduction Scale (1 - 10)	Rationale for Risk Rating (for incremental work associated with Wildfire Mitigation activities for 2020).	Risk Reduction Rating
			Ranging, a remote sensing method that uses light in the form of a pulsed laser to measure variable distances).		significant wildfire risk. Transmission generally poses a lower risk than distribution due to larger rights of way, among other factors.	
Grid design and system hardening	**5.3.3.2**	14. Circuit breaker maintenance and installation to de-energize lines upon detecting a fault	Remediation, adjustments, or installations of new equipment to improve or replace existing fast switching circuit breaker equipment to improve the ability to protect Electrical circuits from damage caused by overload of electricity or short circuit.	6	Failure to regularly maintain equipment can lead to equipment failure, especially under weather stressors, which creates significant wildfire risk.	Medium

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Grid design and system hardening	**5.3.3.4**	16. Covered conductor maintenance	Remediation and adjustments to installed covered or insulated conductors. In accordance with GO 95, conductor is defined as a material suitable for: (1) carrying electric current, usually in the form of a wire, cable or bus bar, or (2) transmitting light in the case of fiber optics; insulated conductors as those which are surrounded by an insulating material (in accordance with Rule 21.6), the dielectric strength of which is sufficient to withstand the maximum difference of potential at normal operating voltages of the circuit	6	Failure to regularly maintain equipment can lead to equipment failure, especially under weather stressors, which creates significant wildfire risk.	Medium

Initiative Category	WMP Activity Code	Initiative	WSD Definitions	Risk Reduction Scale (1 - 10)	Rationale for Risk Rating (for incremental work associated with Wildfire Mitigation activities for 2020).	Risk Reduction Rating
			without breakdown or puncture; and suitable protective covering as a covering of wood or other non-conductive material having the electrical insulating efficiency (12kV/in. dry) and impact strength (20ft.-lbs) of 1.5 inches of redwood or other material meeting the requirements of Rule 22.8-A, 22.8-B, 22.8-C or 22.8-D.			
Grid design and system hardening	**5.3.3.8**	20. Grid topology improvements to mitigate or reduce PSPS events	Plan to support and actions taken to mitigate or reduce PSPS events in terms of geographic scope and number of customers affected, such as installation and operation of electrical equipment to	6	PSPS can significantly reduce the risk of wildfire ignition but increase other risks to the community due to lack of power for traffic lights, healthcare needs, gas pumps, water pumps, etc. Therefore, if utilities can reduce	Medium

Initiative Category	WMP Activity Code	Initiative	WSD Definitions	Risk Reduction Scale (1 - 10)	Rationale for Risk Rating (for incremental work associated with Wildfire Mitigation activities for 2020).	Risk Reduction Rating
			sectionalize or island portions of the grid, microgrids, or local generation.		the size of the area or the period of time an area is affected by a PSPS to only the area with the risk requiring a PSPS action, the harm to the community from lack of power is reduced.	
Grid design and system hardening	**5.3.3.17**	29. Updates to grid topology to minimize risk of ignition in HFTDs	Changes in the plan, installation, construction, removal, or undergrounding to minimize the risk of ignition due to the design, location, or configuration of utility electric equipment in HFTDs.	6	Reducing the number of energized line miles and pieces of equipment in HFTDs through topology changes reduces the likelihood of ignition, the likelihood of PSPS events, and impact to equipment from wildfires.	Medium

Initiative Category	WMP Activity Code	Initiative	WSD Definitions	Risk Reduction Scale (1 - 10)	Rationale for Risk Rating (for incremental work associated with Wildfire Mitigation activities for 2020).	Risk Reduction Rating
Situational awareness and forecasting	**5.3.2.1**	07. Advanced weather monitoring and weather stations	Purchase, installation, maintenance, and operation of weather stations. Collection, recording, and analysis of weather data from weather stations and from external sources.	6	Use of advanced weather monitoring stations enhances system operators' situational awareness of critical fire conditions in the service territory that may be significantly different from the larger area. High winds and low humidity need to be closely monitored to decide whether mitigating grid operations need to be implemented such as disabling reclosers or enacting PSPS.	Medium
Situational awareness and forecasting	**5.3.2.3**	09. Fault indicators for detecting faults on electric lines and equipment	Installation and maintenance of fault indicators.	6	Enhances situational awareness of system operators of faults which may be due to contact with bare line or	Medium

Initiative Category	WMP Activity Code	Initiative	WSD Definitions	Risk Reduction Scale (1 - 10)	Rationale for Risk Rating (for incremental work associated with Wildfire Mitigation activities for 2020).	Risk Reduction Rating
					energized equipment.	
Emergency planning and preparedness	**5.3.9.6**	83. Protocols in place to learn from wildfire events	Tools and procedures to monitor effectiveness of strategy and actions taken to prepare for emergencies and of strategy and actions taken during and after emergencies, including based on an accounting of the outcomes of wildfire events.	6	Identifying what went wrong from previous utility wildfire events can help the utility prevent recurrence and prevent others from creating similar dangerous conditions. Continuous improvement and continuous risk reduction should be the goal. This can also reduce or eliminate wasteful spending on initiatives that don't successfully reduce risk.	Medium
Situational awareness and forecasting	**5.3.2.6**	12. Weather forecasting and estimating impacts on electric lines and equipment	Development methodology for forecast of weather conditions relevant to utility Operations,	5	Understanding detailed weather forecasts and integrating them into system planning and	Medium

Initiative Category	WMP Activity Code	Initiative	WSD Definitions	Risk Reduction Scale (1 - 10)	Rationale for Risk Rating (for incremental work associated with Wildfire Mitigation activities for 2020).	Risk Reduction Rating
			forecasting weather conditions, and conducting analysis to incorporate into utility decision-making, learning, and updates to reduce false positives and false negatives of forecast PSPS conditions.		operations can reduce fire risk events and influence whether to implement PSPS events.	
Grid design and system hardening	**5.3.3.1**	13. Capacitor maintenance and replacement program	Remediation, adjustments, or installations of new equipment to improve or replace existing capacitor equipment.	5	Failure to regularly maintain equipment can lead to equipment failure, especially under weather stressors, which creates significant wildfire risk.	Medium
Grid design and system hardening	**5.3.3.11**	23. Mitigation of impact on customers and other residents affected during PSPS event	Actions taken to improve access to electricity for customers and other residents during PSPS events, such as installation and operation of local generation equipment (at the	5	PSPS events significantly reduce fire risks but introduce other risks to the community especially for vulnerable populations. Local generation can	Medium

Initiative Category	WMP Activity Code	Initiative	WSD Definitions	Risk Reduction Scale (1 - 10)	Rationale for Risk Rating (for incremental work associated with Wildfire Mitigation activities for 2020).	Risk Reduction Rating
			community, household, or other level).		mitigate these risks.	
Grid design and system hardening	**5.3.3.13**	25. Pole loading infrastructure hardening and replacement program based on pole loading assessment program	Actions taken to remediate, adjust, or install replacement equipment for poles that the utility has identified as failing to meet safety factor requirements in accordance with GO 95 or additional utility standards in the utility's pole loading assessment program.	5	Pole failure due to loading or wind contributes to a substantial wildfire risk. More resilient poles can reduce or eliminate this risk.	Medium
Grid design and system hardening	**5.3.3.15**	27. Transmission tower maintenance and replacement	Remediation, adjustments, or installations of new equipment to improve or replace existing transmission towers (e.g., structures such as	5	Transmission tower failure due to loading or wind contributes to a substantial wildfire risk. More resilient poles can reduce or eliminate this risk.	Medium

Initiative Category	WMP Activity Code	Initiative	WSD Definitions	Risk Reduction Scale (1 - 10)	Rationale for Risk Rating (for incremental work associated with Wildfire Mitigation activities for 2020).	Risk Reduction Rating
			lattice steel towers or tubular steel poles that support lines at or above 65 kV).			
Asset management and inspections	**5.3.4.11**	40. Patrol inspections of distribution electric lines and equipment	In accordance with GO 165, simple visual inspections of overhead electric distribution lines and equipment that is designed to identify obvious structural problems and hazards. Patrol inspections may be carried out in the course of other company business.	5	Failure to regularly inspect equipment can lead to equipment failure, especially under weather stressors, which creates significant wildfire risk.	Medium
Asset management and inspections	**5.3.4.12**	41. Patrol inspections of transmission electric lines and equipment	Simple visual inspections of overhead electric transmission lines and equipment that is designed to identify obvious structural problems and hazards. Patrol inspections may be carried out in the	5	Failure to regularly inspect equipment can lead to equipment failure, especially under weather stressors, which creates significant wildfire risk.	Medium

Initiative Category	WMP Activity Code	Initiative	WSD Definitions	Risk Reduction Scale (1 - 10)	Rationale for Risk Rating (for incremental work associated with Wildfire Mitigation activities for 2020).	Risk Reduction Rating
			course of other company business.			
Vegetation management and inspections	**5.3.5.5**	49. Fuel management and reduction of "slash" from vegetation management activities	Plan and execution of fuel management activities that reduce the availability of fuel in proximity to potential sources of ignition, including both reduction or adjustment of live fuel (in terms of species or otherwise) and of dead fuel, including "slash" from vegetation management activities that produce vegetation material such as branch trimmings and felled trees.	5	Removing vegetation and fuel sources from vegetation management activities reduces the likelihood that if an ignition occurs that such ignition will sustain itself and spread to create a wildfire.	Medium

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Vegetation management and inspections	**5.3.5.14**	58. Recruiting and training of vegetation management personnel	Programs to ensure that the utility is able to identify and hire qualified vegetation management personnel and to ensure that both full-time employees and contractors tasked with vegetation management responsibilities are adequately trained to perform vegetation management work, according to the utility wildfire mitigation plan, in addition to rules and regulations for safety.	5	It is important to use and retain qualified vegetation management personnel so that they can understand and implement proper clearances based upon the management cycles and the growth potential of the vegetation, identify and treat at-risk species, identify hazard trees, appropriately clear around poles, treat/remove slash, and ensure vegetation management actions are performed safely.	Medium

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Vegetation management and inspections	**5.3.5.18**	62. Substation vegetation management	Based on location and risk to substation equipment only, actions taken to reduce the ignition probability and wildfire consequence attributable to contact from vegetation to substation equipment.	5	Vegetation contact with energized equipment poses a very high fire risk. Inspections ensure that proper clearances are maintained, and hazard trees are removed. Substations typically have wide clearances and thick layers of gravel between electrified equipment and outside vegetation but encroachments from the outside and growth from the inside must be controlled.	Medium
Data governance	**5.3.7.4**	74. Tracking and analysis of risk event data	Tools and procedures to monitor, record, and conduct analysis of data on near miss events.	5	Tracking outages and events, their causes, and whether any ignitions took place as a result is key to forming lessons learned and promoting	Medium

Initiative Category	WMP Activity Code	Initiative	WSD Definitions	Risk Reduction Scale (1 - 10)	Rationale for Risk Rating (for incremental work associated with Wildfire Mitigation activities for 2020).	Risk Reduction Rating
					continuous improvement.	
Emergency planning and preparedness	**5.3.9.3**	80. Customer support in emergencies	Resources dedicated to customer support during emergencies, such as website pages and other digital resources, dedicated phone lines, etc.	5	Customer support during emergencies can, among other things, prevent distractions for essential personnel, maintain order, and speed evacuation orders.	Medium
Situational awareness and forecasting	**5.3.2.2**	08. Continuous monitoring sensors	Installation, maintenance, and monitoring of sensors and associated equipment used to monitor the condition of electric lines and equipment.	4	Continuous monitoring sensors can detect equipment problems before inspection or regular maintenance discovers the issue. This increases the margin for safety and prevents equipment failures which may create ignitions.	Medium

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Situational awareness and forecasting	**5.3.2.4**	10. Forecast of a fire risk index, fire potential index, or similar	Index that uses a combination of weather parameters (such as wind speed, humidity, and temperature), vegetation, and fuel conditions, and other factors to judge current fire risk and to create a forecast indicative of fire risk. A sufficiently granular index shall inform operational decision-making.	4	Knowledge of fire risk indexes can inform daily operation planning, require the disabling of reclosers, halt maintenance activities, and indicate the need for a PSPS event.	Medium
Situational awareness and forecasting	**5.3.2.5**	11. Personnel monitoring areas of electric lines and equipment in elevated fire risk conditions	Personnel position within utility service territory to monitor system conditions and weather on site. Field observations shall inform operational decisions.	4	Increases response time and informs operational decision making by providing real-time observations to system operators.	Medium

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Asset management and inspections	**5.3.4.3**	32. Improvement of inspections	Identifying and addressing deficiencies in inspections protocols and implementation by improving training and the evaluation of inspectors.	4	Continuous improvement to existing procedures. As gaps and deficiencies are uncovered, reassessment of activities will enable more risk reduction value in future inspection practices.	Medium
Asset management and inspections	**5.3.4.4**	33. Infrared inspections of distribution electric lines and equipment	Inspections of overhead electric distribution lines, equipment, and right-of-way using infrared (heat-sensing) technology and cameras that can identify "hot spots", or conditions that indicate deterioration or potential equipment failures, of electrical equipment.	4	Above baseline of risk establishment, allows for real-time determination of electrical equipment that is at risk of failure.	Medium

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Asset management and inspections	**5.3.4.15**	44. Substation inspections	In accordance with GO 175, inspection of substations performed by qualified persons and according to the frequency established by the utility, including record-keeping.	4	Failure to inspect and maintain equipment creates unnecessary risk. Adhering to General Orders and technical requirements ensures baseline state of equipment management.	Medium
Vegetation management and inspections	**5.3.5.4**	48. Emergency response vegetation management due to red flag warning or other urgent conditions	Plan and execution of vegetation management activities, such as trimming or removal, executed based upon and in advance of forecast weather conditions that indicate high fire threat in terms of ignition probability and wildfire consequence.	4	Establishing operational procedures for high risk conditions, which may include de-accelerating work or setting limitations based on ignition potential index. This is above baseline risk determination.	Medium
Vegetation management and inspections	**5.3.5.6**	50. Improvement of inspections	Identifying and addressing deficiencies in inspections protocols and implementation by	4	Continuous improvement to existing procedures. As gaps and deficiencies are	Medium

Initiative Category	WMP Activity Code	Initiative	WSD Definitions	Risk Reduction Scale (1 - 10)	Rationale for Risk Rating (for incremental work associated with Wildfire Mitigation activities for 2020).	Risk Reduction Rating
			improving training and the evaluation of inspectors.		uncovered, reassessment of activities will enable more risk reduction value in future inspection practices.	
Vegetation management and inspections	**5.3.5.17**	61. Substation inspections	Inspection of vegetation surrounding substations, performed by qualified persons and according to the frequency established by the utility, including record-keeping.	4	Failure to inspect and maintain equipment creates unnecessary risk. Adhering to General Orders and technical requirements ensures baseline state of equipment management.	Medium
Grid operations and protocols	**5.3.6.2**	66. Crew-accompanying ignition prevention and suppression resources and services	Those firefighting staff and equipment (such as fire suppression engines and trailers, firefighting hose, valves, and water) that are deployed with construction crews and other electric workers to provide site-specific fire prevention and	4	Continual assessment of utility resource and personnel sufficiency year over year. Greater emphasis on emergencies and service restoration, reducing time and scale of impact. Small ignitions are less destructive but	Medium

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			ignition mitigation during on site work		can quickly spread if unmanaged.	
Grid operations and protocols	**5.3.6.3**	67. Personnel work procedures and training in conditions of elevated fire risk	Work activity guidelines that designate what type of work can be performed during operating conditions of different levels of wildfire risk. Training for personnel on these guidelines and the procedures they prescribe, from normal operating procedures to increased mitigation measures to constraints on work performed.	4	Establishing operational procedures for high risk conditions, which may include de-accelerating work or setting limitations based on ignition potential index. This is above baseline risk determination.	Medium

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Grid operations and protocols	**5.3.6.6**	70. Stationed and on-call ignition prevention and suppression resources and services	Firefighting staff and equipment (such as fire suppression engines and trailers, firefighting hose, valves, firefighting foam, chemical extinguishing agent, and water) stationed at utility facilities or standing by to respond to calls for fire suppression assistance.	4	Continual assessment of utility resource and personnel sufficiency year over year. Greater emphasis on emergencies and service restoration, reducing time and scale of impact. Small ignitions are less destructive but can quickly spread if unmanaged.	Medium
Emergency planning and preparedness	**5.3.9.1**	78. Adequate and trained workforce for service restoration	Actions taken to identify, hire, retain, and train qualified workforce to conduct service restoration in response to emergencies, including short-term contracting strategy and implementation.	4	Continual assessment of utility resource and personnel sufficiency year over year. Greater emphasis on emergencies and service restoration, reducing time and scale of impact.	Medium
Asset management and inspections	**5.3.4.5**	34. Infrared inspections of transmission	Same as above, but with transmission requirements.	4	Above baseline of risk establishment, allows for real-time	Medium

Initiative Category	WMP Activity Code	Initiative	WSD Definitions	Risk Reduction Scale (1 - 10)	Rationale for Risk Rating (for incremental work associated with Wildfire Mitigation activities for 2020).	Risk Reduction Rating
		electric lines and equipment			determination of electrical equipment that is at risk of failure.	
Risk assessment and mapping	**5.3.1.1**	01. A summarized risk map showing the overall ignition probability and estimated wildfire consequence along electric lines and equipment	Development and use of tools and processes to develop and update risk map and simulations and to estimate risk reduction potential of initiatives for a given portion of the grid (or more granularly, e.g., circuit, span, or asset). May include verification efforts, independent assessment by experts, and updates.	3	This activity establishes a baseline of risk to measure fire/ignition potential with current and planned system upgrades, additions, and removals.	Low
Risk assessment and mapping	**5.3.1.2**	02. Climate-driven risk map and modeling based on various relevant weather scenarios	Development and use of tools and processes to estimate incremental risk of foreseeable climate scenarios, such as drought, across a	3	This activity establishes a baseline of risk to measure fire/ignition potential with current and planned system	Low

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			given portion of the grid (or more granularly, e.g., circuit, span, or asset). May include verification efforts, independent assessment by experts, and updates.		upgrades, additions, and removals.	
Risk assessment and mapping	**5.3.1.3**	03. Ignition probability mapping showing the probability of ignition along the electric lines and equipment	Development and use of tools and processes to assess the risk of ignition across regions of the grid (or more granularly, e.g., circuits, spans, or assets).	3	This activity establishes a baseline of risk to measure fire/ignition potential with current and planned system upgrades, additions, and removals.	Low
Risk assessment and mapping	**5.3.1.4**	04. Initiative mapping and estimation of wildfire and PSPS risk reduction impact	Development of a tool to estimate the risk reduction efficacy (for both wildfire and PSPS risk) and risk-spend efficiency of various initiatives.	3	This activity establishes a baseline of risk to measure fire/ignition potential with current and planned system upgrades, additions, and removals.	Low

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Risk assessment and mapping	**5.3.1.5**	05. Match drop simulations showing the potential wildfire consequence of ignitions that occur along the electric lines and equipment	Development and use of tools and processes to assess the impact of potential ignition and risk to communities (e.g., in terms of potential fatalities, structures burned, monetary damages, area burned, impact on air quality and greenhouse gas, or GHG, reduction goals, etc.).	3	This activity establishes a baseline of risk to measure fire/ignition potential with current and planned system upgrades, additions, and removals.	Low
Grid design and system hardening	**5.3.3.12**	24. Other corrective action	Other maintenance, repair, or replacement of utility equipment and structures so that they function properly and safely, including remediation activities (such as insulator washing) of other electric equipment deficiencies that	3	A standardized assessment on categories with "other" require more assumptions to rank higher.	Low

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			may increase ignition probability due to potential equipment failure or other drivers.			
Asset management and inspections	**5.3.4.6**	35. Intrusive pole inspections	In accordance with GO 165, intrusive inspections involve movement of soil, taking samples for analysis, or using more sophisticated diagnostic tools beyond visual inspections or instrument reading.	3	GO rules and regulations apply. Establishes baseline of risk reduction for incremental activities.	Low
Vegetation management and inspections	**5.3.5.19**	63. Vegetation inventory system	Inputs, operation, and support for centralized inventory of vegetation clearances updated based upon inspection results, including (1) inventory of species, (2) forecasting of growth, (3)	3	Should be an ongoing effort to establish the baseline for vegetation fuel and fuel type inventory.	Low

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			forecasting of when growth threatens minimum right-of-way clearances ("grow-in" risk) or creates fall-in/fly-in risk.			
Resource allocation methodology	**5.3.8.2**	76. Risk reduction scenario development and analysis	Development of modeling capabilities for different risk reduction scenarios based on wildfire mitigation initiative implementation; analysis and application to utility decision-making.	3	Risk reduction modeling is spearheaded by RAMP and S-MAP proceedings as well as expectation of enhancements to risk spend efficiency modeling approaches and the WSD data schema. Utilities will vary in subjectivity to this activity standard and thus ranked lower as this activity establishes more of a baseline determination based on the utility's applicability.	Low

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Resource allocation methodology	**5.3.8.3**	77. Risk spend efficiency analysis	Tools, procedures, and expertise to support analysis of wildfire mitigation initiative risk-spend efficiency, in terms of MAVF or MARS methodologies.	3	Risk reduction modeling is spearheaded by RAMP and S-MAP proceedings as well as expectation of enhancements to risk spend efficiency modeling approaches and the WSD data schema. Utilities will vary in subjectivity to this activity standard and thus ranked lower as this activity establishes more of a baseline determination based on the utility's applicability.	Low
Asset management and inspections	**5.3.4.9**	38. Other discretionary inspection of distribution electric lines and equipment, beyond inspections mandated by rules and regulations	Inspections of overhead electric distribution lines, equipment, and right-of-way that exceed or otherwise go beyond those mandated by rules	2	A standardized assessment on categories with "other" require more assumptions to rank higher.	Low

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			and regulations, including GO 165, in terms of frequency, inspection checklist requirements or detail, analysis of and response to problems identified, or other aspects of inspection or records kept.			
Asset management and inspections	**5.3.4.10**	39. Other discretionary inspection of transmission electric lines and equipment, beyond inspections mandated by rules and regulations	Inspections of overhead electric transmission lines, equipment, and right-of-way that exceed or otherwise go beyond those mandated by rules and regulations, including GO 165, in terms of frequency, inspection checklist requirements or detail, analysis of and response to problems identified, or other	2	A standardized assessment on categories with "other" require more assumptions to rank higher.	Low

Initiative Category	WMP Activity Code	Initiative	WSD Definitions	Risk Reduction Scale (1 - 10)	Rationale for Risk Rating (for incremental work associated with Wildfire Mitigation activities for 2020).	Risk Reduction Rating
			aspects of inspection or records kept.			
Asset management and inspections	**5.3.4.14**	43. Quality assurance / quality control of inspections	Establishment and function of audit process to manage and confirm work completed by employees or subcontractors, including packaging QA/QC information for input to decision-making and related integrated workforce management processes.	2	Data verification in support of data management and repository/database development and contributes to other activities. Means of execution has less than medium impact on risk of ignition events.	Low
Vegetation management and inspections	**5.3.5.1**	45. Additional efforts to manage community and environmental impacts	Plan and execution of strategy to mitigate negative impacts from utility vegetation management to local communities and the	2	Coordination efforts must run in parallel and may develop over the course of the executed WMP cycle.	Low

Initiative Category	WMP Activity Code	Initiative	WSD Definitions	Risk Reduction Scale (1 - 10)	Rationale for Risk Rating (for incremental work associated with Wildfire Mitigation activities for 2020).	Risk Reduction Rating
			environment, such as coordination with communities to plan and execute vegetation management work or promotion of fire- resistant planting practices			
Vegetation management and inspections	**5.3.5.9**	53. Other discretionary inspection of vegetation around distribution electric lines and equipment, beyond inspections mandated by rules and regulations	Inspections of rights-of-way and adjacent vegetation that may be hazardous, which exceeds or otherwise go beyond those mandated by rules and regulations, in terms of frequency, inspection checklist requirements or detail, analysis of and response to problems identified, or other aspects of inspection or records kept.	2	A standardized assessment on categories with "other" require more assumptions to rank higher.	Low

Initiative Category	WMP Activity Code	Initiative	WSD Definitions	Risk Reduction Scale (1 - 10)	Rationale for Risk Rating (for incremental work associated with Wildfire Mitigation activities for 2020).	Risk Reduction Rating
Vegetation management and inspections	**5.3.5.10**	54. Other discretionary inspection of vegetation around transmission electric lines and equipment, beyond inspections mandated by rules and regulations	Same as above, but with transmission requirements.	2	A standardized assessment on categories with "other" require more assumptions to rank higher.	Low
Vegetation management and inspections	**5.3.5.13**	57. Quality assurance / quality control of inspections	Establishment and function of audit process to manage and confirm work completed by employees or subcontractors, including packaging QA/QC information for input to decision-making and related integrated workforce management processes.	2	Data verification in support of data management and repository/database development and contributes to other activities. Means of execution has minimal impact on risk of ignition events.	Low
Data governance	**5.3.7.1**	71. Centralized repository for data	Designing, maintaining, hosting, and upgrading a platform that supports storage,	2	Data management and schema development will be an iterative process and crucial in parallel activities	Low

Initiative Category	WMP Activity Code	Initiative	WSD Definitions	Risk Reduction Scale (1 - 10)	Rationale for Risk Rating (for incremental work associated with Wildfire Mitigation activities for 2020).	Risk Reduction Rating
			processing, and utilization of all utility proprietary data and data compiled by the utility from other sources.		to reducing risk of wildfire consequence and PSPS impacts.	
Data governance	**5.3.7.3**	73. Documentation and disclosure of wildfire-related data and algorithms	Design and execution of processes to document and disclose wildfire-related data and algorithms to accord with rules and regulations, including use of scenarios for forecasting and stress testing.	2	Data management and schema development will be an iterative process and crucial in parallel activities to reducing risk of wildfire consequence and PSPS impacts. Disclosure of resources are structured by WSD compliance guidelines until a centralized repository for all wildfire information is generated amongst respondent entities.	Low

Initiative Category	WMP Activity Code	Initiative	WSD Definitions	Risk Reduction Scale (1 - 10)	Rationale for Risk Rating (for incremental work associated with Wildfire Mitigation activities for 2020).	Risk Reduction Rating
Resource allocation methodology	**5.3.8.1**	75. Allocation methodology development and application	Development of prioritization methodology for human and financial resources, including application of said methodology to utility decision-making.	2	Continual assessment of utility resource and personnel sufficiency year over year.	Low
Emergency planning and preparedness	**5.3.9.2**	79. Community outreach, public awareness, and communications efforts	Actions to identify and contact key community stakeholders; increase public awareness of emergency planning and preparedness information; and design, translate, distribute, and evaluate effectiveness of communications taken before, during, and after a wildfire, including Access and Functional Needs populations and Limited English	2	Assessment of customer needs and criteria for communications support. This activity does not directly reduce wildfire consequence but does reduce impacts from PSPS activation and restoration activities.	Low

Initiative Category	WMP Activity Code	Initiative	WSD Definitions	Risk Reduction Scale (1 - 10)	Rationale for Risk Rating (for incremental work associated with Wildfire Mitigation activities for 2020).	Risk Reduction Rating
			Proficiency populations in particular.			
Risk assessment and mapping	**5.3.1.6**	06. Weather-driven risk map and modeling based on various relevant weather scenarios	Removed for 2021	1	This initiative activity has been removed in 2021 and provides the justification for the lower risk rating.	Low
Data governance	**5.3.7.2**	72. Collaborative research on utility ignition and/or wildfire	Developing and executing research work on utility ignition and/or wildfire topics in collaboration with other non-utility partners, such as academic institutions and research groups, to include data-sharing and funding as applicable.	1	In comparison to initiative activities, utilities have little control over the sphere of technological advancements. Shared knowledge has been an implicit practice throughout the development of WMP guidelines and compliance requirements and thus, iterative.	Low

Initiative Category	WMP Activity Code	Initiative	WSD Definitions	Risk Reduction Scale (1 - 10)	Rationale for Risk Rating (for incremental work associated with Wildfire Mitigation activities for 2020).	Risk Reduction Rating
Stakeholder cooperation and community engagement	**5.3.10.1**	84. Community engagement	Strategy and actions taken to identify and contact key community stakeholders; increase public awareness and support of utility wildfire mitigation activity; and design, translate, distribute, and evaluate effectiveness of related communications. Includes specific strategies and actions taken to address concerns and serve needs of Access and Functional Needs populations and Limited English Proficiency populations in particular.	1	While this greatly increases customer awareness to the threats of wildfire and PSPS impacts, the onus is on the utility to ensure activities are executed properly and inform the public of developments and project implementation. Third-party risk reduction is valued under this activity, though deemed out of scope of measuring utility risk reduction of wildfire consequence and PSPS impact.	Low

Initiative Category	WMP Activity Code	Initiative	WSD Definitions	Risk Reduction Scale (1 - 10)	Rationale for Risk Rating (for incremental work associated with Wildfire Mitigation activities for 2020).	Risk Reduction Rating
Stakeholder cooperation and community engagement	**5.3.10.2**	85. Cooperation and best practice sharing with agencies outside CA	Strategy and actions taken to engage with agencies outside of California to exchange best practices both for utility wildfire mitigation and for stakeholder cooperation to mitigate and respond to wildfires.	1	Collaboration with adjacent communities and local public safety partners have proven successful in comparison to exploring opportunities outside of the state. In the current WMP cycle, there has been minimum examples of interstate development apart from West Coast Commission gatherings and developed technologies vetted from countries like Australia.	Low

5.3 PacifiCorp Data Request Log

SUBMITTAL DATE	SUBMITTAL TITLE	Files Submitted	SUBMITTED BY	DUE DATE	DATE RETURNED
5/19/2021	**Pacific Power Data Request 1**	Pacific Power Data Request 1.pdf Transmittal_210518_1001.pdf	Andrew Dressel	5/21/2021	
5/21/2021	Pacific Power Data Request 1_Response	PacifiCorp - Data Request 1 - Response - 5.21.pdf	Traci Schultz		5/21/2021
	_PC_20201029.gdb	gdb files			
		gdb files			
		gdb files			
		gdb files			
		gdb files			
		gdb files			
		gdb files			
		gdb files			
		gdb files			
	Question 1 2021 WMP Update Spatial Component March 2021 - PC_Q4_2020_v2.gdb	gdb files			
		gdb files			
		gdb files			
		gdb files			
		gdb files			
		gdb files			
		gdb files			
		gdb files			
		gdb files			
		gdb files			
		gdb files			
	Question 1	Question 1 (WMP Attachment 1) R18-10-007 PacifiCorp WF Tables.xlsx Question 1 PacifiCorp 2020 WMP SDR Responses-Final.xlsx Question 1 R 18 10 1 for WMP Attachment 2.3 filed March 5,2021 (non-spatial data update).XLS			

SUBMITTAL DATE	SUBMITTAL TITLE	Files Submitted	SUBMITTED BY	DUE DATE	DATE RETURNED
	Question 2	Question 2_R.18-10-007 PAC First Quarterly Report 9-9-20.pdf Question 2_R.18-10-007 PAC Second Quarterly Report 12-11-20 Attachment A.xlsx Question 2_R18.10-007 PAC Second Quarterly Report 12-11-20.pdf			
	Question 3	Question 3 R18-10-007 PacifiCorp Data Collection Report 7-30-19.pdf			
	Question 5.zip	Question 5 PaciifiCorp_2020 Q4 QIU_20210401.xlsx Question 5 R.18.10-007 PacifiCorp Q4 WMP Quarterly Initiative Update COS.pdf			
	Question 6	Question 6 - Master CA_Outages_2020.xlsx			
	Question 7	Question 7 - 2020 Major events.xlsx			
	Question 8	Question 8 - R.18-10-007 PacifiCorp WMP Annual Report on Compliance (3-31-21).pdf Question 8_Attachment B - Initiative Level Detail (Guidance 5 and 6 Worksheet).xlsx WSD Audit 5.xlsx			
	_WMPMA Documents	CA Supplemental Advice 585-E-A PacifiCorp Establish WMPMA (8-5-19) Advice Dist.pdf Initial Advice Letter to Establish Account - CA Advice 585-E PacifiCorp Establish WMPIMA (6-3-19).pdf PacifiCorp Disposition Letter AL 585-E and 585-E-A_WMPMA Closeout.pdf			
	Data_Table8.gdb	gdb files			
		gdb files			
		gdb files			
	Question 9 - Policies and Procedures	gdb files			
	Data_Table9MapLayer 1.gdb	gdb files			
		gdb files			
		gdb files			
		gdb files			

SUBMITTAL DATE	SUBMITTAL TITLE	Files Submitted	SUBMITTED BY	DUE DATE	DATE RETURNED
	Data_Table9MapLayer3.gdb	gdb files			
		gdb files			
	Question 10	Question 10 - Vegetation Management SOP.pdf Question 10_Vegetation Management Training_April 2020.pdf			
5/21/2021	**PacifiCorp Data Request 2_210520**	PacifiCorp Data Request 2_210521 Transmittal_PAC_1003	Andrew Dressel	5/25/2021	
	PacifiCorp Data Request 2_Responses_5.25.21	PacifiCorp Data Request 2_Responses_5.25.21	Traci Schultz		5/25/2021
	Question 1 Risk Assessment and Mapping	Attachment A (2020 GO 166 Annual Report)- Final.doc PacifiCorp RCP Action Statement 20201230.pdf PacifiCorp RCP NONC 20201230.pdf R.18-10-007 PacifiCorp Remedial Compliance Plan (7-27-20).pdf	Traci Schultz		
	Question 3 Veg Management	Pacific Power AuditException_CY_2020.xlsx	Traci Schultz		5/25/2021
	Question 4 Equipment Inspection	CA 2020 Audit Results.xlsx Overhead Detailed Inspection Program Audit Process (May 2021).docx Pacific Power Facility Inspection Audit Policy for Transmission and Distribution Lines for California, Oregon and Washington Policy No 123-PP.pdf Yreka 06247006.0_25 WS 64863.xlsx Yreka audit 3-24-2020.docx Yreka audit 6-19-2020.docx	Traci Schultz		5/25/2021
5/21/2021	**PacifiCorp Data Request 3_210521**	PacifiCorp Data Request 3_210521 Transmittal_PAC_1004	Andrew Dressel	5/26/2021	
	PacifiCorp Data Request No. 3_5_26_2021	IE Data Request 3.xlsx PacifiCorp Data Request 3 5.26.21.pdf Radio Tower Feed 5G69.kmz	Traci Schultz		5/26/2021
5/27/2021	PacifiCorp Data Request 4_210527	PacifiCorp Data Request 4_210527 Transmittal_PAC_1005	Andrew Dressel	6/2/2021	

SUBMITTAL DATE	SUBMITTAL TITLE	Files Submitted	SUBMITTED BY	DUE DATE	DATE RETURNED
	Question 1	16619_4764_PacifiCorp 5G69 Radio Tower - Plan & Profile.pdf 16619_4764_PacifiCorp 5G69 Radio Tower - Pole Drawings.pdf 16619_4764_PacifiCorp 5G69 Radio Tower - Pole Report.pdf APM_2019_Final.pdf EB331 – Poles – Fire Protection.pdf ER191 – Line Protective Devices – Three Phase-Triple Single Recloser Assembly.pdf WO#6771706 Radio Tower Project.pdf	Traci Schultz		6/2/2021
	Question 1.1	WO 06771706 5G69 Radio Tower Feed OMS.pdf WO#6771706 Radio Tower Maps.pdf WO#6771706 Radio Tower Project.pdf	Traci Schultz		6/2/2021
	Question 2	PacifiCorp Data Request 4 6.2.21 (Q 1-5) DP550 Fuse, Power, SMU-20, 14.4 kV.pdf DP551 Fuse, Power, SMU-20, 25 kV.pdf DP553 Fuse, Power, SMU-20, 35 kV.pdf	Traci Schultz		6/2/2021
	Question 4	EB000TOC-Poles, TOC.pdf EB001-Poles, General Information.pdf EB011-Poles, Class Selection.pdf EB331-Poles-FireProtection-Mesh.pdf EB401-Poles, Wood.pdf EB403-Pole, Fiberglass.pdf Power Line Systems CADD Review for GO 95 Heavy Loading.pdf	Traci Schultz		6/2/2021
	Question 5	EA500 - Pole Mounted Weather Monitoring Station.pdf Western Weather 4600004522 contract_.pdf Western Weather NC 582 sole source.pdf	Traci Schultz		6/2/2021

SUBMITTAL DATE	SUBMITTAL TITLE	Files Submitted	SUBMITTED BY	DUE DATE	DATE RETURNED
	Questions 6 & 7	PacifiCorp DR No.4 Q6-7 Construction Standards.docx PCC-200_4.16.19.pdf PCC200-D Draft Flowchart_2020.XLSX PCC-200-T_6.05.20.pdf	Traci Schultz		6/2/2021
6/1/2021	**PacifiCorp Data Request 5_210601**	PacifiCorp Data Request 5_210601 Transmittal_PAC_1006	Andrew Dressel	6/3/2021	
	Response	1.03.01.17.001.v4_PPE_Policy_2019.pdf Data Request 5 - 2020 Activities and Location Information Summary_6.1.21.xlsx Data Request 5 - Inspections.xlsx PacifiCorp Data Request 5 6.3.pdf	Traci Schultz		6/8/2021
6/2/2021	**PacifiCorp Data Request 6_210603**	PacifiCorp Data Request 6_210603 Transmittal_PAC_1007	Andrew Dressel	6/7/2021	
	Response	Pacific Power Vegetation Management PacifiCorp Data Request 6 - 6.7.21.pdf Transmission and Distribution Vegetation Management Program SOP.pdf	Traci Schultz		6/8/2021
6/4/2021	**PacifiCorp Data Request 7_210604**	PacifiCorp Data Request 7_210604 Transmittal_PAC_1008	Andrew Dressel	6/9/2021	
	Response	Crossarm Data_DR7_Q3.xlsx Data Request 7_Q5_OHDIST_Summary.xlsx Data Request 7_Q6_OHTRANS_Summary.xlsx DR7 - Q1 - Copco - WO# 10068476 Final Copco Project Description & Scoping.pdf DR7 - Q1 - WO#10068413 - Mott - Project Definition and Scope - Supplemental.pdf DR7 - Q1 - WO#10069059 - Alturas - Project Definition and Scope - Supplemental.pdf DR7- Q1- Initiative 5.3.3.9- 2020 Activities Supplemental.xlsx DR7- Q1- Copco2 - WO 10068476.pdf	Traci Schultz		6/9/2021

SUBMITTAL DATE	SUBMITTAL TITLE	Files Submitted	SUBMITTED BY	DUE DATE	DATE RETURNED
		PacifiCorp Data Request 7 - 6.9.21.pdf			

5.4 IE Finding Summary

SOW Category	2020 Initiative Number	Initiative Name	Finding	Detail on finding
WMP Activity Completion	5.3.3.2	Circuit Breaker Maintenance	The IE determined that PacifiCorp does not have a specific initiative for circuit breaker maintenance and made a recommendation that for future recording purposes cost associated with circuit breaker maintenance captured under alternate initiatives be recorded as part of 5.3.3.2.	The IE determined that PacifiCorp does not have a specific initiative for circuit breaker maintenance and made a recommendation that for future recording purposes cost associated with circuit breaker maintenance captured under alternate initiatives be recorded as part of 5.3.3.2.
WMP Activity Completion	5.3.3.5	Crossarm Replacement	136 of 136 units replaced. The EC achieved objectives.	The IE determined that there existed reasonable evidence that PacifiCorp achieved their planned target of $272,000 (136 units) spent on crossarm replacement.
WMP Activity Completion	5.3.3.6	Targeted Pole Replacement	Could only verify 29 of 189 poles replaced	Due to time constraints, the IE was unable to make a determination on if PacifiCorp was able to meet its program target for 2020. Further evaluation is needed to make a final determination on the 2020 status of Targeted Pole Replacement.
WMP Activity Completion	5.3.5.5	Radial Pole Clearing/ Fuel Management and Reduction of "Slash"	The IE determined that based off the field verification reports for the 56 locations inspected that there was a 41 % failure rate. This leads the IE to believe that PacifiCorp was not able to meet their program targets for 2020.	Non-compliant vegetation management issues found during field inspections.
WMP Activity Completion	5.3.4.1	Detailed Inspections of Distribution Electric Lines and Equipment	The IE has found that the provided policies and procedures	The IE recommends the WSD further investigate that the work was

SOW Category	2020 Initiative Number	Initiative Name	Finding	Detail on finding
			adequately cover all requirements set forth for this initiative in PacifiCorp's Wildfire Mitigation Plan.	performed by requesting supporting evidence such as internal work orders.
WMP Activity Completion	5.3.4.2	Detailed Inspections of Transmission Electric Lines and Equipment	The IE has found that the provided policies and procedures adequately cover all requirements set forth for this initiative in PacifiCorp's Wildfire Mitigation Plan.	The IE recommends the WSD further investigate that the work was performed by requesting supporting evidence such as internal work orders.
WMP Activity Completion	5.3.5.2	Detailed Inspections of Vegetation Around Distribution Electric Lines and Equipment	Additional inquiry needed	It was noted that some trees missed by the inspection company needed to be cleared. Due to the limited time and evidence provided, the IE was unable to definitively determine if there was a deficiency for this initiative.
WMP Activity Completion	5.3.4.1	Detailed Inspection of Vegetation – Distribution	Could only verify that 619 of 825 line miles were inspected	The IE recommends the WSD further investigate that the work was performed by requesting additional supporting evidence or by requesting an explanation of the difference in line miles from PacifiCorp.
WMP Activity Completion	5.3.4.2	Detailed Inspections of Vegetation – Transmission	Could only verify that 136.5 of 345 line miles were inspected	The IE recommends further investigation into the difference in line miles from PacifiCorp, and that PacifiCorp develop and document the schedule for annual inspections going forward.
WMP Activity Completion	5.3.5.20	Vegetation Management to Achieve Clearances	PacifiCorp reclassified objectives under another initiative category in 2021, preventing a clear determination of	PacifiCorp has made substantive changes to categorization of Vegetation Management for clearances between its 2020 WMP and 2021

SOW Category	2020 Initiative Number	Initiative Name	Finding	Detail on finding
			output activities associated with this WMP initiative activity.	WMP, meaning that the Total VM Targets for each year were different. The IE recommends PacifiCorp normalize its categorizations going forward or map the old targets to the new targets.
WMP Activity Completion	5.3.5.3	Detailed Inspections of Vegetation Around Transmission Electric Lines and Equipment	184 of 345 line miles inspected	The 161 line-mile shortage has already been documented by PacifiCorp, but additional inquiries about where the inspection shortfalls occurred versus the planned, and if those areas missed included Tier 3 and Tier 2 HFTDs.
WMP Activity Completion	5.3.4.11	Patrol Inspections of Vegetation Around Distribution Electric Lines and Equipment	784 of 1,941 line miles inspected	The deficiency has already been documented by PacifiCorp, but the IE recommends the WSD continue to monitor or follow-up on this issue.
WMP Activity Completion	5.3.4.12	Patrol Inspections of Vegetation Around Transmission Electric Lines and Equipment	323 of 657 line miles inspected	The IE recommend the WSD further investigate that the work was performed by requesting additional supporting evidence or by requesting an explanation of the deficiency in PacifiCorp's accounting initiative.
WMP Activity Completion	5.3.10.3	Cooperation with Suppression Agencies	PacifiCorp does not implement this initiative	Due to time constraints, no additional documentation was reviewed for this initiative. The IE recommends PacifiCorp look into enacting this initiative for their next WMP update.
WMP Activity Completion	5.3.10.4	Forest Service and Fuel Reduction Cooperation and Joint Roadmap	PacifiCorp does not implement this initiative	Due to time constraints, no additional documentation was reviewed for this

SOW Category	2020 Initiative Number	Initiative Name	Finding	Detail on finding
				initiative. The IE recommends PacifiCorp look into enacting this initiative for their next WMP update.
WMP Activity Completion	5.3.3.10	Maintenance, Repair, and Replacement of Connectors, including Hotline Clamps	PacifiCorp does not implement this initiative	Due to time constraints, no additional documentation was reviewed for this initiative. The IE recommends PacifiCorp look into enacting this initiative for their next WMP update.
WMP Activity Completion	5.3.3.14	Transformer Maintenance and Replacement	PacifiCorp does not implement this initiative	Due to time constraints, no additional documentation was reviewed for this initiative. The IE recommends PacifiCorp look into describing this initiative separately in their next WMP update.
WMP Activity Completion	5.3.5.11	LiDAR Inspection of Vegetation Around Distribution Electric Lines and Equipment	PacifiCorp does not implement this initiative	Because there are no targets, there are no findings to report.
WMP Activity Completion	5.3.5.8	LiDAR Inspection of Vegetation Around Transmission Electric Lines and Equipment	PacifiCorp does not implement this initiative	Because there are no targets, there are no findings to report.
WMP Activity Completion	5.3.3.4	Covered Conductor	1.4 of 38 line miles converted to covered conductor	The IE found several noncompliance issues during field verifications.
WMP Activity Completion	5.3.3.9	Relay/Recloser Replacement	28 of 28 reclosers replaced	PacifiCorp reports exceeding spend in System Automation updates. Due to time constraints for this Report, no additional program documentation was reviewed to verify these projects. The IE recommends the WSD validate the initiative implementation details described in this initiative.

SOW Category	2020 Initiative Number	Initiative Name	Finding	Detail on finding
WMP Activity Completion	5.3.3.7	Expulsion Fuse Replacement	PacifiCorp does not implement this initiative	Due to time constraints, no additional documentation was reviewed for this initiative. The IE recommends PacifiCorp look into describing this initiative separately in their next WMP update.
WMP Activity Completion	5.3.3.16	Undergrounding of electric lines and/or equipment	PacifiCorp does not implement this initiative	Due to time constraints, no additional documentation was reviewed for this initiative. The IE recommends the WSD examine the progress made on this initiative.
WMP Activity Completion	5.3.4.13	Pole loading assessment program to determine safety factor	PacifiCorp does not implement this initiative	Due to time constraints, no additional documentation was reviewed for this initiative. The IE recommends PacifiCorp look into describing this initiative separately in their next WMP update.
WMP Activity Completion	5.3.5.15	Remediation of at-risk species	PacifiCorp does not implement this initiative	Due to time constraints, no additional documentation was reviewed for this initiative. The IE recommends PacifiCorp look into describing this initiative separately in their next WMP update.
WMP Activity Completion	5.3.3.9	Installation of system automation equipment	PacifiCorp does not implement this initiative	PacifiCorp reports exceeding spend in System Automation updates. Additional program documentation review would be needed to validate the work and Quality Control performed.
WMP Activity Completion	5.3.4.7	LiDAR inspections of distribution electric lines and equipment	PacifiCorp does not implement this initiative	Due to the time constraints, no additional documentation review was done on this initiative. The IE

SOW Category	2020 Initiative Number	Initiative Name	Finding	Detail on finding
				recommends the WSD validate the initiative implementation details described in this initiative.
WMP Activity Completion	5.3.5.16	Removal and remediation of trees with strike potential to electric lines and equipment	PacifiCorp does not implement this initiative	The IE recommends PacifiCorp look into describing this initiative separately in their next WMP update.
WMP Activity Completion	5.3.6.1	Automatic recloser operations	PacifiCorp does not implement this initiative	Due to time constraints the IE was unable to inquiry further on the details of the implementation of restrictive recloser and system operating. The IE recommends the WSD conduct additional follow up on this initiative.
WMP Activity Completion	5.3.6.3	Protocols for PSPS re-energization	PacifiCorp does not implement this initiative	Due to time constraints the IE did not review section 5.3.6.3 from a Protocols for PSPS re-energization perspective. Further inquiry is recommended to evaluate the risk of not having a specific program for this initiative.
WMP Activity Completion	5.3.6.5	PSPS events and mitigation of PSPS impacts	PacifiCorp does not implement this initiative	Due to time constraints, the IE did not review sections 4.4 nor 5.6.2. Further inquiry and review would be recommended to determine if goals were committed for 2020 and if they were accomplished.
WMP Activity Completion	5.3.9.4	Disaster and emergency preparedness plan	PacifiCorp does not implement this initiative	Due to time constraints the IE was unable to review the information in the WMP to determine if goals were committed for 2020 and if they were accomplished. Further inquiry and review is recommended.

SOW Category	2020 Initiative Number	Initiative Name	Finding	Detail on finding
WMP Activity Completion	5.3.9.5	Preparedness and planning for service restoration	PacifiCorp does not implement this initiative	Due to time constraints the IE was unable to review the information in the WMP to determine if goals were committed for 2020 and if they were accomplished. Further inquiry and review is recommended.