



**OFFICE OF ENERGY INFRASTRUCTURE SAFETY**

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Caroline Thomas Jacobs, Director

February 12, 2024

To: 2023-2025 Wildfire Mitigation Plans docket (2023-2025-WMPs)  
Subject: Decision on PacifiCorp's 2023-2025 Wildfire Mitigation Plan

Dear Wildfire Mitigation Plan stakeholders:

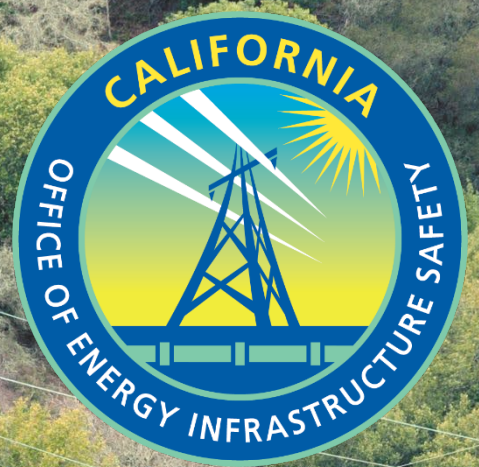
Enclosed is the Office of Energy Infrastructure Safety's (Energy Safety's) Decision approving PacifiCorp's 2023-2025 Wildfire Mitigation Plan.

On December 28, 2023, a draft of this Decision was published on Energy Safety's website and served to Energy Safety's 2023-2025 Wildfire Mitigation Plans service list for public review and comment.

Opening comments on the draft Decision were due on January 17, 2024, and reply comments were due on January 29, 2024. The comments were considered in the final evaluation, leading to some changes to the Decision. A summary of these changes can be found in Appendix F. In addition to these changes, Energy Safety made non-substantive changes to clarify content and correct typographical errors in the text.

Sincerely,

Shannon O'Rourke  
Deputy Director | Electrical Infrastructure Directorate  
Office of Energy Infrastructure Safety



OFFICE OF ENERGY INFRASTRUCTURE SAFETY  
**DECISION ON 2023-2025 WILDFIRE  
MITIGATION PLAN**  
**PACIFICORP**

February 2024

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# 1. Executive Summary

The Office of Energy Infrastructure Safety (Energy Safety) works to ensure electrical corporations take effective actions to reduce utility-related wildfire risk. Pursuant to Public Utilities Code section 8386.3(a), this Decision serves as Energy Safety's assessment and approval of PacifiCorp's 2023-2025 Wildfire Mitigation Plan, submitted on May 8, 2023. Energy Safety's Decision considers comments from the public and other stakeholders.

Energy Safety required that PacifiCorp address a number of critical issues in its original Wildfire Mitigation Plan through a Revision Notice. PacifiCorp subsequently revised its plan in its Revision Notice Response. With the incorporation of changes made in response to the Revision Notice, PacifiCorp's Wildfire Mitigation Plan is comparable to, and at times exceeds, the plans of the other small and multijurisdictional utility electrical corporations. For example, PacifiCorp is undertaking proactive replacement of all non-exempt equipment in the high fire threat district with CAL FIRE-exempt alternatives. It is targeting the replacement at 5,000 locations in 2023 and the remaining 500 in 2024. In addition, PacifiCorp is planning to complete the development of its Public Safety Power Shutoff situational awareness dashboard and implement improvements to its Public Safety Partner Portal in 2024. PacifiCorp is also planning to automate collection and dissemination of Public Safety Power Shutoff data by 2026. PacifiCorp's improvements to its data interfaces and its automation of data collection will bring it more in line with the practices of California's larger electrical corporations.

Despite its strengths, there are some areas of PacifiCorp's Wildfire Mitigation Plan that can be further developed and improved. For example, PacifiCorp has not demonstrated that it is consistently and properly identifying Level 1 conditions as imminent threats or that its remediation timeframe effectively mitigates the associated risk. Energy Safety expects PacifiCorp to provide a plan to have third-party external audits performed on all Level 1 conditions identified in the high fire threat district. Finally, PacifiCorp, along with the other electrical corporations, is not sufficiently addressing the known failures of covered conductor in its maintenance and inspections procedures.





## 2. Introduction and Background

PacifiCorp submitted its 2023-2025 Wildfire Mitigation Plan (Base WMP or WMP) covering a three-year term from 2023 through the end of 2025 (the current WMP cycle) on May 8, 2023, in response to the reporting requirements set forth in Energy Safety's 2023-2025 WMP Technical Guidelines (Technical Guidelines)<sup>1</sup> and the processes set forth in Energy Safety's WMP Process and Evaluation Guidelines (Process Guidelines).<sup>2</sup>

Pursuant to Public Utilities Code section 8386.3(a), this Decision is Energy Safety's assessment of PacifiCorp's 2023-2025 WMP.

Energy Safety approves PacifiCorp's 2023-2025 WMP. In 2024, PacifiCorp must submit a 2025 Update consistent with the 2025 WMP Guidelines. Energy Safety will approve or deny PacifiCorp's 2025 Update to its Base Plan.

### 2.1 Consultation with California Department of Forestry and Fire Protection

The Office of the State Fire Marshal is part of the California Department of Forestry and Fire Protection (CAL FIRE). Public Utilities Code section 8386.3(a) requires Energy Safety to consult with the Office of the State Fire Marshal in reviewing electrical corporations'<sup>3</sup> WMPs and WMP Updates. The Office of the State Fire Marshal provided meaningful consultation and input on the evaluation, but this Decision is solely an action of Energy Safety and not the Office of the State Fire Marshal or CAL FIRE.

### 2.2 Stakeholder Comments

Energy Safety invited stakeholders, including members of the public, to provide comments on the utilities' 2023-2025 WMPs and Revision Notices. Opening comments on PacifiCorp's Base WMP were due on June 29, 2023, and reply comments were due on July 10, 2023. Opening comments on PacifiCorp's Revision Notice were due on October 26, 2023, and reply comments were due on November 6, 2023. See Appendices D and E for lists of stakeholders

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<sup>1</sup> [Energy Safety's 2023-2025 Wildfire Mitigation Plan Technical Guidelines \(Dec. 2022\) \(hereafter Technical Guidelines\)](https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53286&shareable=true) (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53286&shareable=true, accessed May 5, 2023).

<sup>2</sup> [Energy Safety's 2023-2025 Wildfire Mitigation Plan Process and Evaluation Guidelines \(Dec. 2022\) \(hereafter Process Guidelines\)](https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53287&shareable=true) (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53287&shareable=true, accessed May 5, 2023).

<sup>3</sup> In this document, "utility" should be understood to mean "electrical corporation."

that submitted comments, including comments that Energy Safety concurred with and incorporated into its evaluation.

### 3. Energy Safety's 2023 Evaluation Process

Energy Safety issued the following guidelines for electrical corporations' 2023-2025 WMPs:

- **2023-2025 WMP Technical Guidelines**, which sets forth substantive and procedural requirements for electrical corporations to prepare and submit their WMPs.<sup>4</sup>
- **ITO Supplement to the 2023-2025 WMP Technical Guidelines**, which establishes the modified reporting requirements for independent transmission operators (ITOs).<sup>5</sup>
- **2023-2025 WMP Process and Evaluation Guidelines**, which outlines the process for Energy Safety's evaluation of WMPs, details the public participation process, and establishes submission requirements for the electrical corporations.<sup>6</sup>
- **2023-2025 Maturity Model and Survey**, which provides a quantitative method for assessing electrical corporation wildfire risk mitigation capabilities and examining how electrical corporations propose to continuously improve in key areas of their WMPs.<sup>7, 8</sup>

The WMP evaluation process includes some or all the following steps for each utility, which are described in more detail in the remainder of this section:

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<sup>4</sup> [Technical Guidelines](https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53286&shareable=true) (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53286&shareable=true, accessed May 5, 2023).

<sup>5</sup> [Energy Safety's Independent Transmission Operator Supplement to the 2023-2025 Wildfire Mitigation Plan Technical Guidelines \(Dec. 2022\)](https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53290&shareable=true) (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53290&shareable=true, accessed May 5, 2023).

<sup>6</sup> [Process Guidelines](https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53287&shareable=true) (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53287&shareable=true, accessed May 5, 2023).

<sup>7</sup> [Second Revised Final Maturity Model and Maturity Survey Letter \(Feb. 2023\)](https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53393&shareable=true) (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53393&shareable=true, accessed May 5, 2023);

[2023-2025 Electrical Corporation Wildfire Mitigation Maturity Model \(Second Revised Final, Feb. 2023\)](https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53394&shareable=true) (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53394&shareable=true, accessed May 5, 2023);

[2023 Electrical Corporation Wildfire Mitigation Maturity Survey \(Second Revised Final, Feb. 2023\)](https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53395&shareable=true) (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53395&shareable=true, accessed May 5, 2023). This is the version that electrical corporations saw when filling out the survey.

<sup>8</sup> [2023 Electrical Corporation Wildfire Mitigation Maturity Survey \(Revised Final, April 2023\)](https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53708&shareable=true) (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53708&shareable=true, accessed May 5, 2023). This is the version used by Energy Safety when scoring the survey.

- Completeness check of the utilities' WMP pre-submissions.
- Energy Safety's evaluation of utilities' WMPs, including consideration of Maturity Survey results, areas where the utility has progressed, and areas where the utility must improve.
- Issuance of a Revision Notice if Energy Safety identifies critical issues associated with a utility's WMP.
- Publication of Energy Safety draft Decision.
- Publication of Energy Safety's Decision approving or denying a utility's WMP.
- Various forms of public participation throughout the process.

### 3.1 WMP Completeness

The first step in Energy Safety's WMP evaluation is a completeness check.<sup>9</sup> PacifiCorp provided its WMP pre-submission to Energy Safety on March 6, 2023.

Energy Safety determined that PacifiCorp's WMP pre-submission did not satisfy the completeness check and notified PacifiCorp on March 27, 2023, of what information was required to make its WMP complete.

PacifiCorp submitted its revised Base WMP on May 8, 2023.

### 3.2 Maturity Model and Survey

Energy Safety used the 2023-2025 Electrical Corporation Wildfire Mitigation Maturity Model<sup>10</sup> (Maturity Model) and 2023 Electrical Corporation Wildfire Mitigation Maturity Survey<sup>11</sup> (Maturity Survey), which together provided a quantitative method to assess the maturity of each utility's wildfire risk mitigation program. The current version of the Maturity Model is an update to the original version that Energy Safety used to assess utility maturity during the first WMP cycle (2020-2022).

The Maturity Model consists of 37 individual capabilities describing the ability of electrical corporations to mitigate wildfire risk and Public Safety Power Shutoff (PSPS) risk within their service territory. The 37 capabilities are aggregated into seven categories. Maturity levels range from 0 (below minimum requirements) to 4 (beyond best practice). For each utility,

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<sup>9</sup> [Process Guidelines](https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53287&shareable=true), Section 4.1, pages 3-5 (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53287&shareable=true, accessed May 5, 2023).

<sup>10</sup> [2023-2025 Electrical Corporation Wildfire Mitigation Maturity Model \(Second Revised Final, Feb. 2023\)](https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53394&shareable=true) (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53394&shareable=true, accessed May 5, 2023).

<sup>11</sup> [2023 Electrical Corporation Wildfire Mitigation Maturity Survey \(Revised Final, April 2023\)](https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53708&shareable=true) (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53708&shareable=true, accessed May 5, 2023). This is the version used by Energy Safety when scoring the survey.

Energy Safety calculated maturity levels for each capability, each category, five cross-category themes, and the overall WMP, based on the utility's answers to Maturity Survey questions and the scoring system described in the Maturity Model.

Energy Safety evaluated each utility's reported and projected wildfire mitigation maturity in the context of the utility's corresponding current and planned initiatives described in its WMP.

The results from the 2023 Maturity Survey establish a baseline for maturity as well as the utility's anticipated progress over this three-year plan period.

Energy Safety assessed the results of each utility's Maturity Survey and discussed how the utility is progressing—or not—in maturity relative to each mitigation initiative. PacifiCorp's results specific to each initiative are discussed in Sections 6 through 9 of this Decision, and overall results for PacifiCorp can be found in Appendix G.

### 3.3 Areas for Continued Improvement

Energy Safety's evaluation of the 2023-2025 WMPs focused on each utility's strategies for reducing the risk of utility-related ignitions. Energy Safety assessed the electrical corporation's progress on areas for improvement resulting from 2022 WMP evaluations, evaluating the feasibility of its strategies, and measuring year-to-year trends. As a result of this evaluation, Energy Safety identified areas where the utility must continue to improve its wildfire mitigation capabilities in future plans.<sup>12</sup>

Areas for continued improvement relative to each mitigation initiative are discussed in Sections 6 through 10 of this Decision. Specific areas for continued improvement prescribed by Energy Safety in 2023, including specific required progress, are listed in Section 11.

### 3.4 Revision Notice

Public Utilities Code section 8386.3(a) states, "Before approval, [Energy Safety] may require modifications of the [WMP]." If Energy Safety requires modifications to a WMP, it does so by issuing a Revision Notice to a utility.<sup>13</sup>

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<sup>12</sup> [Process Guidelines](#), Section 4.7  
(<https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53287&shareable=true>, accessed May 5, 2023).

<sup>13</sup> [Process Guidelines](#), Section 4.4, page 6  
(<https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53287&shareable=true>, accessed May 5, 2023).

Energy Safety issued a Revision Notice to PacifiCorp on September 11, 2023.<sup>14</sup> PacifiCorp submitted its Revision Notice Response on October 12, 2023.<sup>15,16</sup> Appendix C lists the critical issues contained in the Revision Notice, a brief overview of the utility's response, and Energy Safety's assessment of the utility's response. Energy Safety considered PacifiCorp's Revision Notice Response in its comprehensive WMP evaluation and this Decision includes Energy Safety's evaluation of both PacifiCorp's Revision Notice Response and its 2023-2025 WMP.

## 3.5 Decision

In its evaluation of an electrical corporation's 2023-2025 WMP, Energy Safety considers the areas where the electrical corporation must improve, as well as the progress it plans to achieve in its areas of strength. As a result of its evaluation, Energy Safety determines whether the 2023-2025 WMP is approved or denied.<sup>17</sup>

If the WMP is approved, Energy Safety finds the electrical corporation's WMP is sufficient and expects it to complete mitigation initiatives as described in its WMP. An approved WMP demonstrates adequate progress toward wildfire mitigation, while still showing areas where the electrical corporation must improve.

If the WMP is denied, Energy Safety finds the electrical corporation's WMP is not satisfactory or does not include sufficient detail within a section or sub-section of the WMP. There may still be areas of strength within a denied WMP, but the issues are critical enough to warrant denial.

Energy Safety recognizes that planning for wildfire risk is a maturing capability and expects that electrical corporations will continue to improve year over year. Therefore, Energy Safety's Decision includes areas for continued improvement, identifying areas where the utility must continue to mature in its capabilities.

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<sup>14</sup> Energy Safety's Issuance of Revision Notice for PacifiCorp's 2023-2025 Wildfire Mitigation Plan (<https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=55588&shareable=true>, accessed September 14, 2023).

<sup>15</sup> PacifiCorp's [Revision Notice Response](https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=55771&shareable=true) (<https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=55771&shareable=true>, accessed November 13, 2023) and PacifiCorp's [Revised 2023-2025 Base WMP](https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=55773&shareable=true) (<https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=55773&shareable=true>, accessed November 13, 2023).

<sup>16</sup> PacifiCorp's Revision Notice Response was due on October 11, 2023; due to a technical error it was submitted on October 12, 2023.

<sup>17</sup> [Process Guidelines](#), Section 5.3, page 10 (<https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53287&shareable=true>, accessed May 5, 2023).

Energy Safety also highlights in its Decision areas of strength where the electrical corporation plans noteworthy improvements to its wildfire mitigation programs, sets ambitious and feasible targets for its programs, and/or sets out to achieve more than what is required.

Pursuant to Public Utilities Code section 8386.3(a), this Decision is the totality of Energy Safety's review of PacifiCorp's 2023-2025 WMP. PacifiCorp's 2023-2025 WMP is approved.

### **3.6 Change Order Requests**

For information regarding Energy Safety's change order process, refer to Section 12 of the Process Guidelines.

## 4. Introductory Sections of the WMP

In response to Sections 1 through 4 of the Technical Guidelines, PacifiCorp provided basic information regarding persons responsible for executing the plan and adherence to statutory requirements.<sup>18</sup>

PacifiCorp provided the required information for these sections:

- Section 1: Executive Summary (Summary of the 2020–2022 WMP Cycle, Summary of the 2023–2025 Base WMP).
- Section 2: Responsible Persons (titles and credentials for: executive-level owner with overall responsibility; program owners with responsibility for each of the main components of the plan; as applicable, general ownership for questions related to or activities described in the WMP).
- Section 3: Statutory Requirements Checklist.
  - This section provides a checklist of the statutory requirements for a WMP as detailed in Public Utilities Code section 8386(c).<sup>19</sup> By completing the checklist, the electrical corporation affirms that its WMP addresses each requirement. PacifiCorp completed this checklist.
- Section 4: Overview of WMP (Primary Goal; WMP Objectives; Proposed Expenditures; Risk-Informed Framework).

### 4.1 PacifiCorp's Wildfire Mitigation Expenditures

Section 4.3 of the Technical Guidelines requires electrical corporations to summarize projected expenditures for the current WMP cycle, as well as planned and actual expenditures from the previous WMP cycle (i.e., 2020–2022).<sup>20</sup>

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<sup>18</sup> [Technical Guidelines](https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53286&shareable=true), Sections 1 through 4, pages 6-14 (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53286&shareable=true, accessed May 5, 2023).

<sup>19</sup> [Public Utilities Code section 8386](https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?sectionNum=8386.&lawCode=PUC) (https://leginfo.legislature.ca.gov/faces/codes\_displaySection.xhtml?sectionNum=8386.&lawCode=PUC, accessed May 9, 2023).

<sup>20</sup> Energy Safety's WMP evaluation and decision on a WMP is not an approval of, or agreement with, costs listed in the WMP.



PacifiCorp provided all required information regarding expenditures. A summary of this information is presented below. Table 4.1-1 presents a comparison of territory-wide projected expenditures by wildfire mitigation initiative category across the small and multi-jurisdictional utilities (SMJUs). Table 4.1-2 provides the same information but divided by planned expenditures within and outside the California Public Utilities Commission's (CPUC's) high fire threat district (HFTD). These tables present total projected expenditure for the current 2023-2025 WMP cycle.<sup>21</sup>

Since all electrical corporations spend a considerably higher percentage of their wildfire mitigation expenditures within the grid design and vegetation management categories, Figures 4.1-1 and 4.1-2 provide a more detailed breakdown of how expenditures within these categories are divided across major activity types.

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<sup>21</sup> Liberty and Bear Valley's projected expenditure data for the 2023-2025 WMP cycle are derived from Table 11 of their 2022 Q4 Quarterly Data Reports (QDRs); PacifiCorp's are derived from Table 11 of its 2023 Q1 QDR. See links below:

[Liberty's 2022 Q4 QDR](https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53425&shareable=true)

(<https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53425&shareable=true>, accessed August 7, 2023);

[Bear Valley's 2022 Q4 QDR](https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53474&shareable=true)

(<https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53474&shareable=true>, accessed August 7, 2023);

[PacifiCorp's 2023 Q1 QDR](https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=54232&shareable=true)

(<https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=54232&shareable=true>, accessed August 7, 2023).

Table 4.1-1: SMJU Territory-Wide Expenditures per Initiative Category<sup>22</sup>

WMP Initiative Category	PacifiCorp	%	Liberty	%	Bear Valley	%	Grand Total	%
Grid Design, Operations, and Maintenance	\$242.6 M	79%	\$97.9 M	66%	\$68.4 M	86%	<b>\$408.9 M</b>	<b>76%</b>
Vegetation Management and Inspection	\$55.5 M	18%	\$41.8 M	28%	\$9.5 M	12%	<b>\$106.8 M</b>	<b>20%</b>
Emergency Preparedness	\$500.0 K	0%	\$4.6 M	3%	\$121.8 K	0%	<b>\$5.3 M</b>	<b>1%</b>
Situational Awareness and Forecasting	\$3.6 M	1%	\$3.0 M	2%	\$797.2 K	1%	<b>\$7.4 M</b>	<b>1%</b>
Community Outreach and Engagement	\$270.0 K	0%	\$270.0 K	0%	\$764.7 K	1%	<b>\$1.3 M</b>	<b>0%</b>
Risk Methodology and Assessment	\$938.0 K	0%	\$0	0%	\$187.6 K	0%	<b>\$1.1 M</b>	<b>0%</b>
Wildfire Mitigation Strategy Development	\$1.9 M	1%	\$0	0%	\$91.5 K	0%	<b>\$2.0 M</b>	<b>0%</b>
Overview of the Service Territory	\$0	0%	\$0	0%	\$76.2 K	0%	<b>\$76.2 K</b>	<b>0%</b>
PSPS	\$2.4 M	1%				0%	<b>\$2.4 M</b>	<b>0%</b>
<b>Grand Total</b>	<b>\$307.7 M</b>	<b>100%</b>	<b>\$147.6 M</b>	<b>100%</b>	<b>\$79.9 M</b>	<b>100%</b>	<b>\$535.3 M</b>	<b>100%</b>

Table 4.1-2: SMJU Expenditures per Initiative Category, HFTD vs non-HFTD

WMP Initiative Category	PacifiCorp				Liberty				Bear Valley			
	Total Territory	HFTD	Non-HFTD	% Spend in HFTD	Total Territory	HFTD	Non-HFTD	% Spend in HFTD	Total Territory	HFTD	Non-HFTD	% Spend in HFTD
Grid Design, Operations, and Maintenance	\$242.6 M	\$207.9 M	\$34.7 M	86%	\$97.9 M	\$97.9 M	-	100%	\$68.4 M	\$68.4 M	-	100%
Vegetation Management and Inspection	\$55.5 M	\$1.8 M	\$53.6 M	3%	\$41.8 M	\$41.8 M	-	100%	\$9.5 M	\$9.5 M	-	100%
Emergency Preparedness	\$500.0 K	-	\$500.0 K	0%	\$4.6 M	\$4.6 M	-	100%	\$121.8 K	\$121.8 K	-	100%
Situational Awareness and Forecasting	\$3.6 M	-	\$3.6 M	0%	\$3.0 M	\$3.0 M	-	100%	\$797.2 K	\$797.2 K	-	100%
Community Outreach and Engagement	\$270.0 K	-	\$270.0 K	0%	\$270.0 K	\$270.0 K	-	100%	\$764.7 K	\$764.7 K	-	100%
Overview of the Service Territory	-	-	-	0%	-	-	-	0%	\$76.2 K	\$76.2 K	-	100%
Wildfire Mitigation Strategy Development	\$1.9 M	-	\$1.9 M	0%	-	-	-	0%	\$91.5 K	\$91.5 K	-	100%
Risk Methodology and Assessment	\$938.0 K	-	\$938.0 K	0%	-	-	-	0%	\$187.6 K	\$187.6 K	-	100%
PSPS	\$2.4 M	-	\$2.4 M	0%				0%				0%

<sup>22</sup> The “Environmental Compliance and Permitting” initiative category above correlates to the “Overview of the Service Territory” initiative in WMPs.

Figure 4.1-1: PacifiCorp Grid Design, Operations, and Maintenance Projected Expenditures (HFTD)

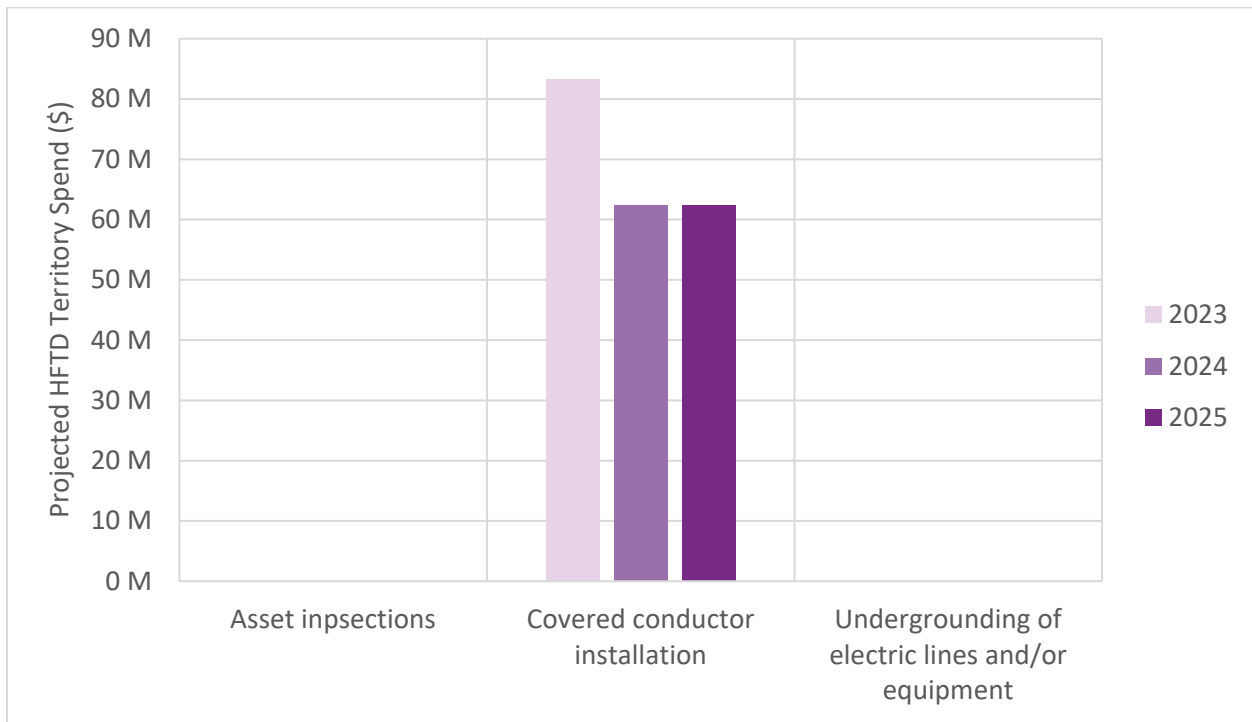
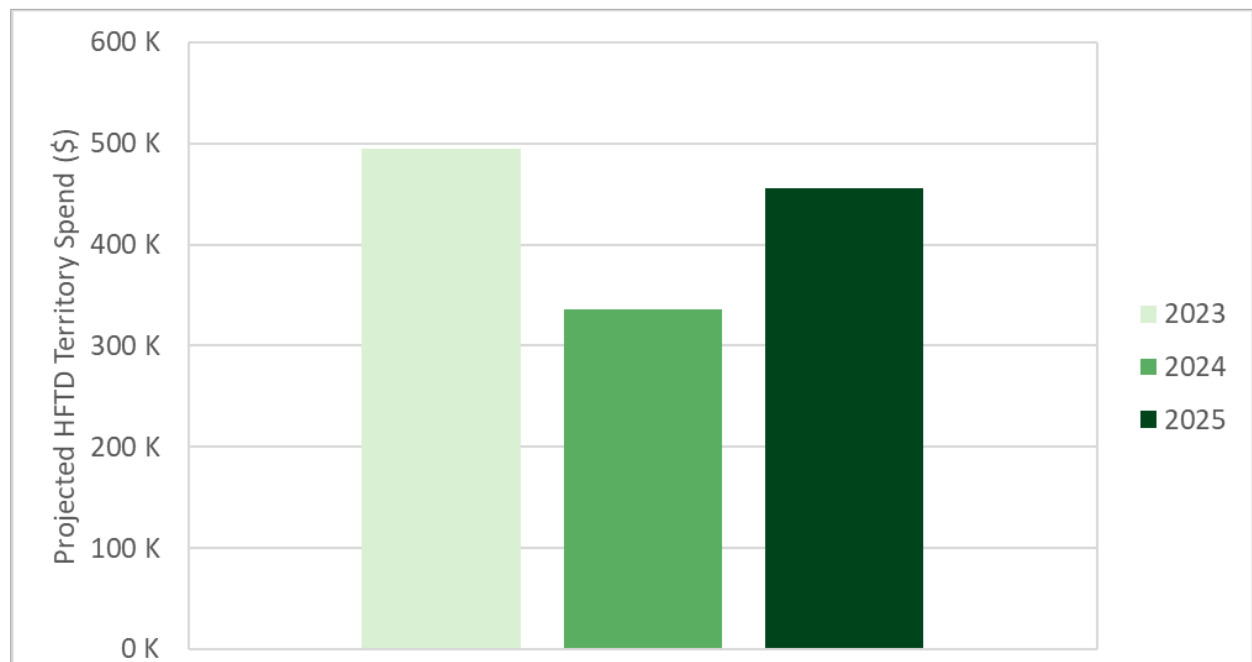


Figure 4.1-2: PacifiCorp Vegetation Management and Inspections Projected Expenditures (HFTD)



## 4.2 PacifiCorp Revision Notice General Critical Issues

As described in Section 3.4, Energy Safety issued PacifiCorp a Revision Notice on September 11, 2023, in response to its WMP. PacifiCorp submitted its Revision Notice Response on October 12, 2023.<sup>23</sup> This section evaluates that response as it relates to critical issues that impacted more than one mitigation category. The remaining Revision Notice issues, Energy Safety evaluations, and PacifiCorp responses are located in their respective mitigation initiative sections.

### 4.2.1 RN-PC-23-01: PacifiCorp does not provide the status of its 2022 areas for continued improvement

Energy Safety required PacifiCorp to provide a complete Appendix D as directed by the Technical Guidelines. Specifically, Energy Safety directed that the appendix must list all 2022 areas for continued improvement identified by Energy Safety's Decision on PacifiCorp's 2022 WMP Update.<sup>24</sup> PacifiCorp was also required to provide a response to each of the 2022 areas for continued improvement in the format required by the Technical Guidelines.

#### 4.2.1.1 RN-PC-23-01: PacifiCorp Response Summary

In PacifiCorp's Revision Notice Response, it provided an updated Appendix D with responses to each of the 2022 areas for continued improvement.

#### 4.2.1.2 RN-PC-23-01: Energy Safety Evaluation

PacifiCorp has resolved the critical issue described in RN-PC-23-01 because it provided the required Appendix D with responses to all 2022 areas for continued improvement, as required by the Technical Guidelines.

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<sup>23</sup> [PacifiCorp's Revision Notice Response](https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=55771&shareable=true)

(<https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=55771&shareable=true>, accessed December 18, 2023).

<sup>24</sup> [Final Decision on PacifiCorp's 2022 WMP Update](https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53298&shareable=true), pages 86-96

(<https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53298&shareable=true>, accessed August 17, 2023).

## 5. Overview of the Service Territory

In response to Section 5 of the Technical Guidelines, PacifiCorp provided a high-level overview of its service territory that includes key characteristics of its electrical infrastructure, environmental settings, and community values at risk.<sup>25</sup>

Below are Energy Safety's summary and findings regarding PacifiCorp's reporting on its service territory.

### 5.1 Service Territory

Section 5.1 of the Technical Guidelines requires PacifiCorp to provide a high-level description of its service territory, including areas served, number of customers served, and geospatial maps.<sup>26</sup>

PacifiCorp reported that its service territory includes 11,292 square miles and serves roughly 47,333 customers. PacifiCorp also stated that 1,162 square miles of its territory are in the CPUC's HFTD Tier 2 and 3 lands, which is 36 percent of its territory. Compared to the peer utilities of Liberty Utilities (Liberty) and Bear Valley Electric Service, Inc. (Bear Valley), PacifiCorp's service territory is the largest in size, serves the second most customers, and encompasses the largest number of square miles of HFTD in its territory. Figures 5.1-1 and 5.1-2 below summarize the square miles served, including square miles of HFTD Tier 2 and 3 lands, and customers served in PacifiCorp, Liberty, and Bear Valley service territories.

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<sup>25</sup> [Technical Guidelines](#), Section 5, "Overview of the Service Territory," pages 15-29 (<https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53286&shareable=true>, accessed May 5, 2023).

<sup>26</sup> [Technical Guidelines](#), Section 5.4, "Service Territory," pages 15-16 (<https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53286&shareable=true>, accessed May 5, 2023).

Figure 5.1-1: Cross-Utility Square Miles Served

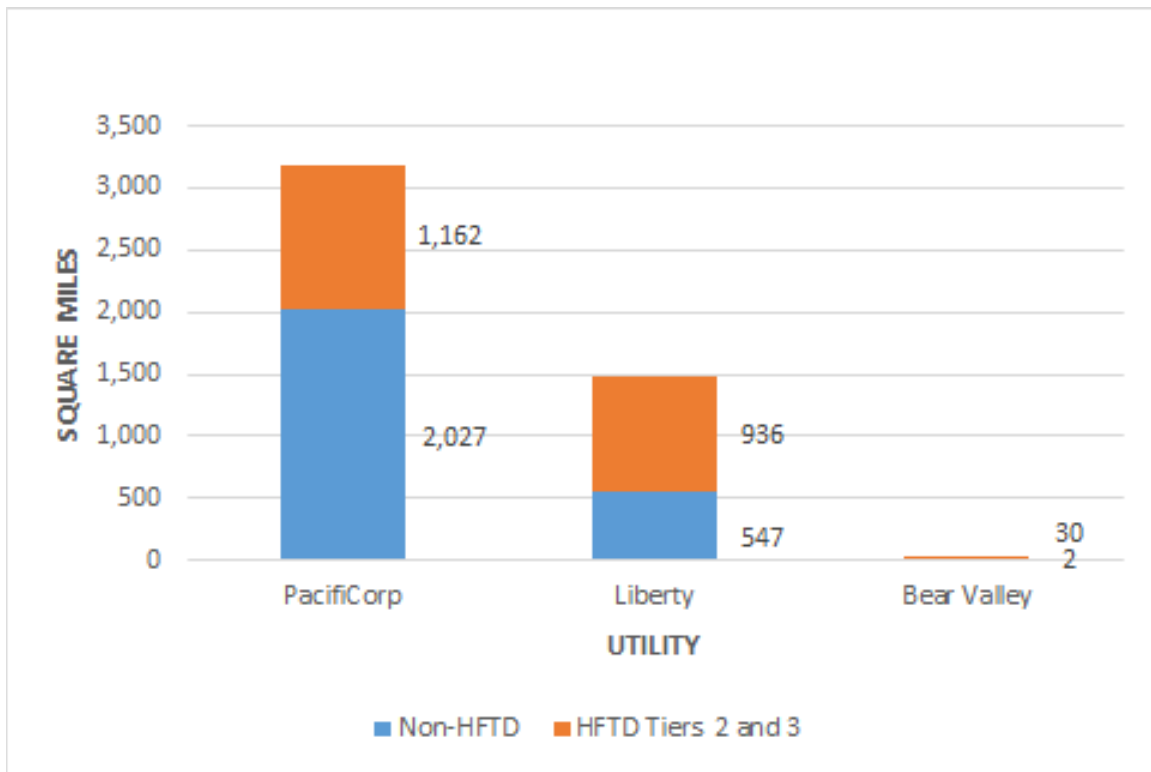
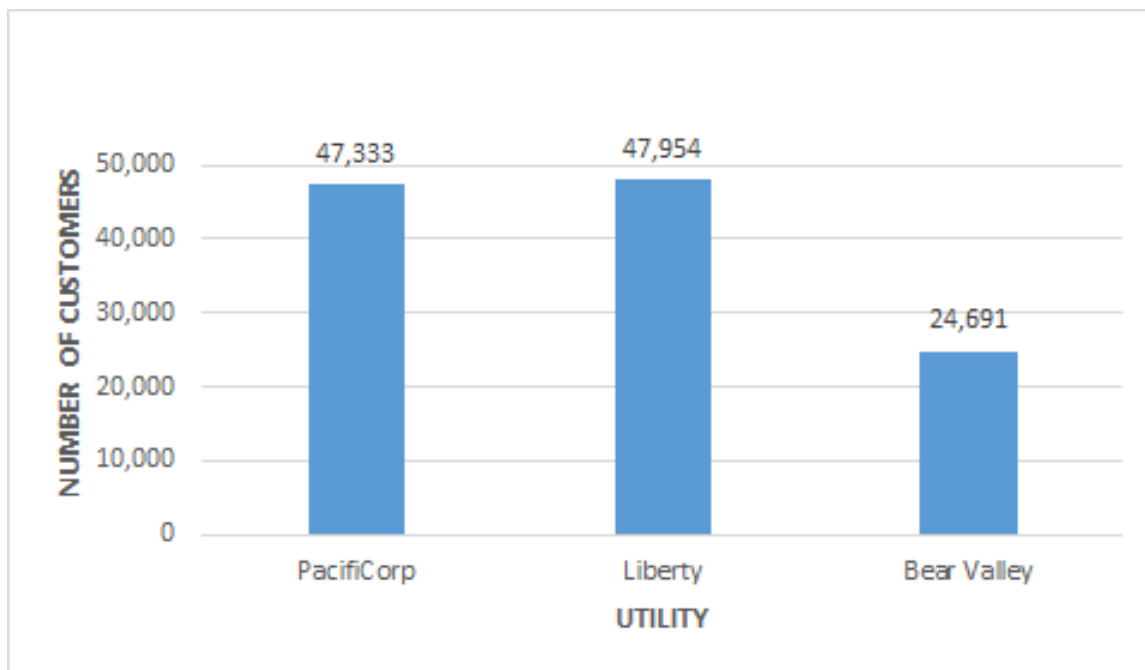


Figure 5.1-2: Cross-Utility Number of Customers Served



## 5.2 Electrical Infrastructure

Section 5.2 of the Technical Guidelines requires PacifiCorp to provide a high-level description of its infrastructure, including all power generation facilities, transmission and distribution lines and associated equipment, substations, and other major equipment.<sup>27</sup>

PacifiCorp provided a table showing the breakdown of conductor line miles of overhead and underground lines in and outside of its HFTD. Figures 5.2-1, 5.2-2, and 5.2-3<sup>28</sup> below summarize conductor line miles presented by PacifiCorp in comparison to its peer utilities.

Figure 5.2-1: Cross-Utility Miles of Overhead Distribution Lines



<sup>27</sup> [Technical Guidelines](#), Section 5.2, “Electrical Infrastructure,” pages 16-17 (<https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53286&shareable=true>, accessed May 5, 2023).

<sup>28</sup> Figures 5.2-1, 5.2-2, and 5.2-3 have been updated to reflect correct Liberty data.

Figure 5.2-2: Cross-Utility Miles of Overhead Transmission Lines

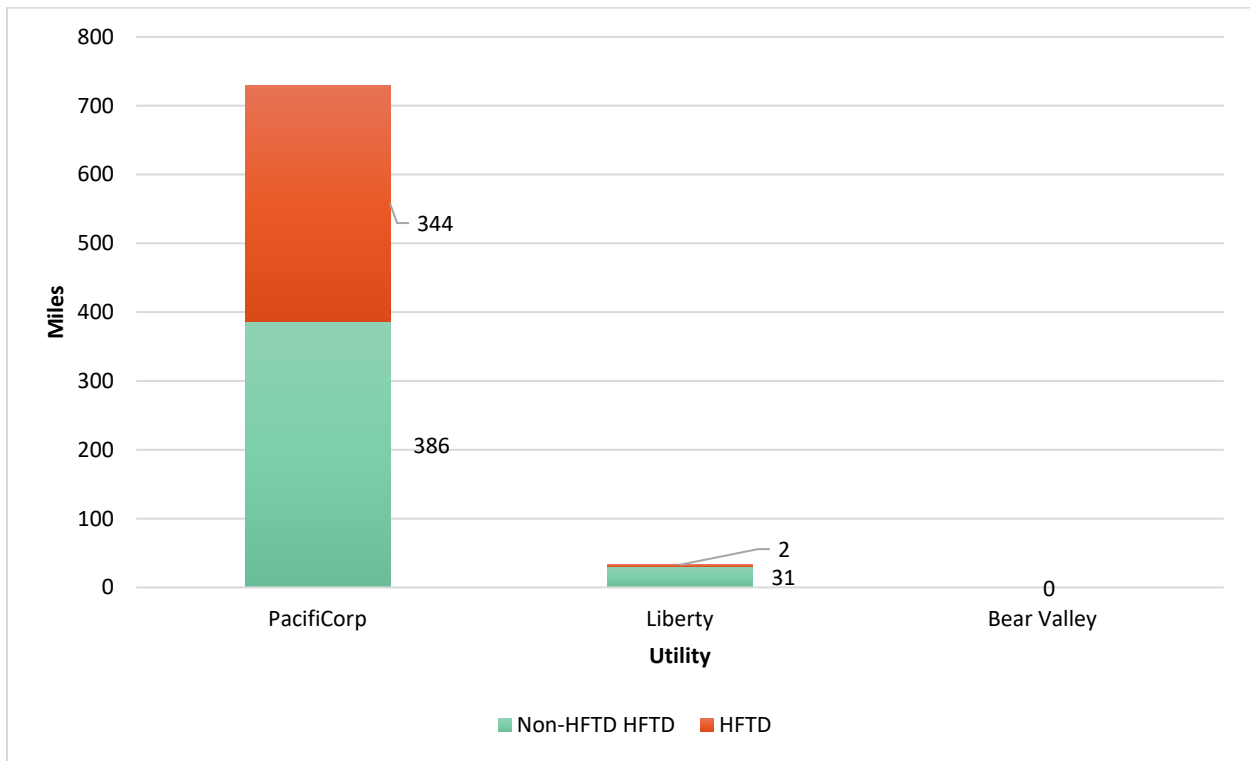
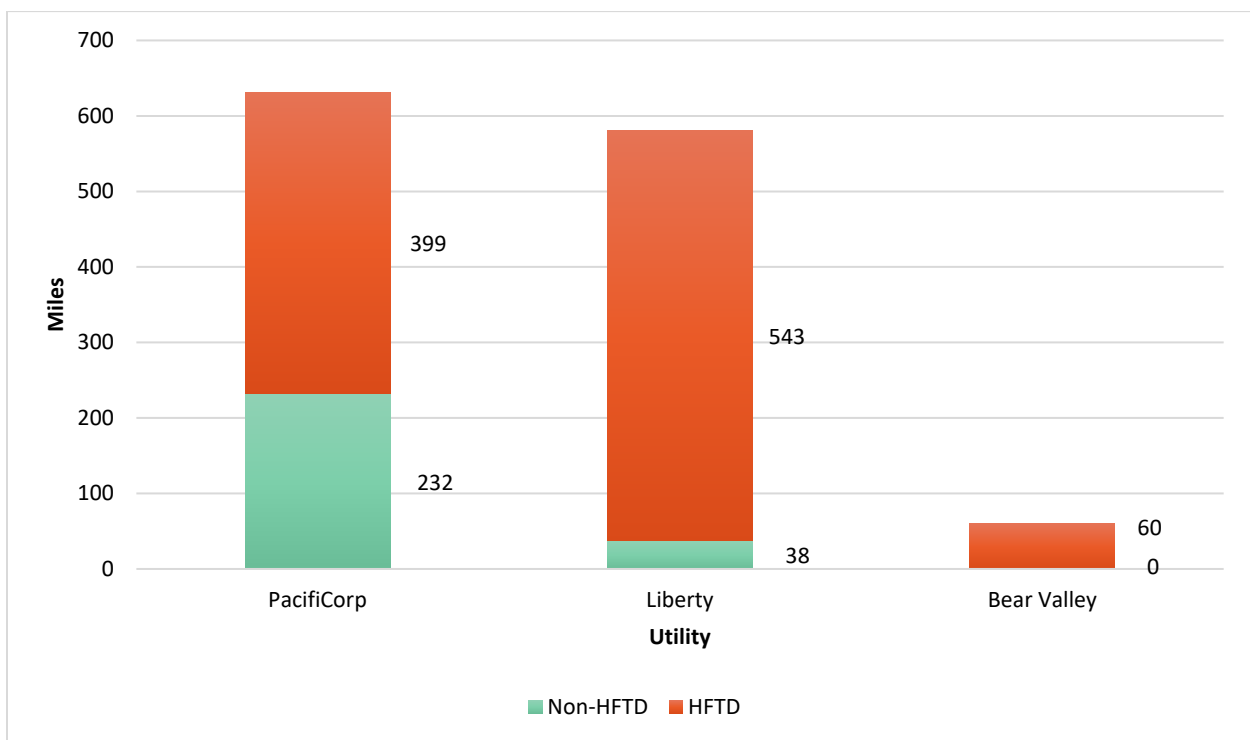


Figure 5.2-3: Cross-Utility Miles of Underground Distribution and Transmission Lines





## 5.3 Environmental Settings

Section 5.3 of the Technical Guidelines requires PacifiCorp to provide a high-level overview of the environmental settings within its service territory.<sup>29</sup>

### 5.3.1 Fire Ecology

Section 5.3.1 of the Technical Guidelines requires PacifiCorp to provide a brief narrative of the fire ecologies across its service territory, including how ecological features influence the propensity of the electrical corporation's service territory to experience wildfires. The Technical Guidelines also require tabulated statistics.<sup>30</sup>

PacifiCorp provided a narrative describing the vegetative coverage across its service territory. PacifiCorp additionally provided a table describing the existing vegetation types in PacifiCorp's service territory and/or pie chart showing a breakdown of the vegetation types in its service territory in percentages.

### 5.3.2 Catastrophic Wildfire History

Section 5.3.2 of the Technical Guidelines requires PacifiCorp to provide a brief narrative summarizing its wildfire history for the past 20 years as recorded by the electrical corporation, CAL FIRE, or another authoritative source.<sup>31</sup>

PacifiCorp reported 2 catastrophic wildfires that were attributed to its facilities or equipment from 2015-2022.<sup>32</sup> Energy Safety defines catastrophic wildfires as those that resulted in at least one death, damaged over 500 structures, or burned over 5,000 acres. Figures 5.3-1, 5.3-2, and 5.3-3 below summarize the reported information on catastrophic wildfires for PacifiCorp, Liberty, and Bear Valley.

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<sup>29</sup> [Technical Guidelines](#), Section 5.3, "Environmental Settings," pages 17-26 (<https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53286&shareable=true>, accessed May 5, 2023).

<sup>30</sup> [Technical Guidelines](#), Section 5.3.1, "Fire Ecology," pages 17-18 (<https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53286&shareable=true>, accessed May 5, 2023).

<sup>31</sup> [Technical Guidelines](#), Section 5.3.2, "Catastrophic Wildfire History," pages 18-20 (<https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53286&shareable=true>, accessed May 5, 2023).

<sup>32</sup> The reporting period for catastrophic wildfires represented here begins in 2015 because data limitations experienced by utilities. Also, although no data on wildfires associated with SDG&E appear in the charts in this section, SDG&E had two catastrophic wildfires between 2002 and 2022, both in 2007. These fires collectively burned 207,462 acres, caused 2 fatalities, and damaged or destroyed 1,984 structures.

Figure 5.3-1: Cross-Utility Number of Catastrophic Wildfires (2015-2022)

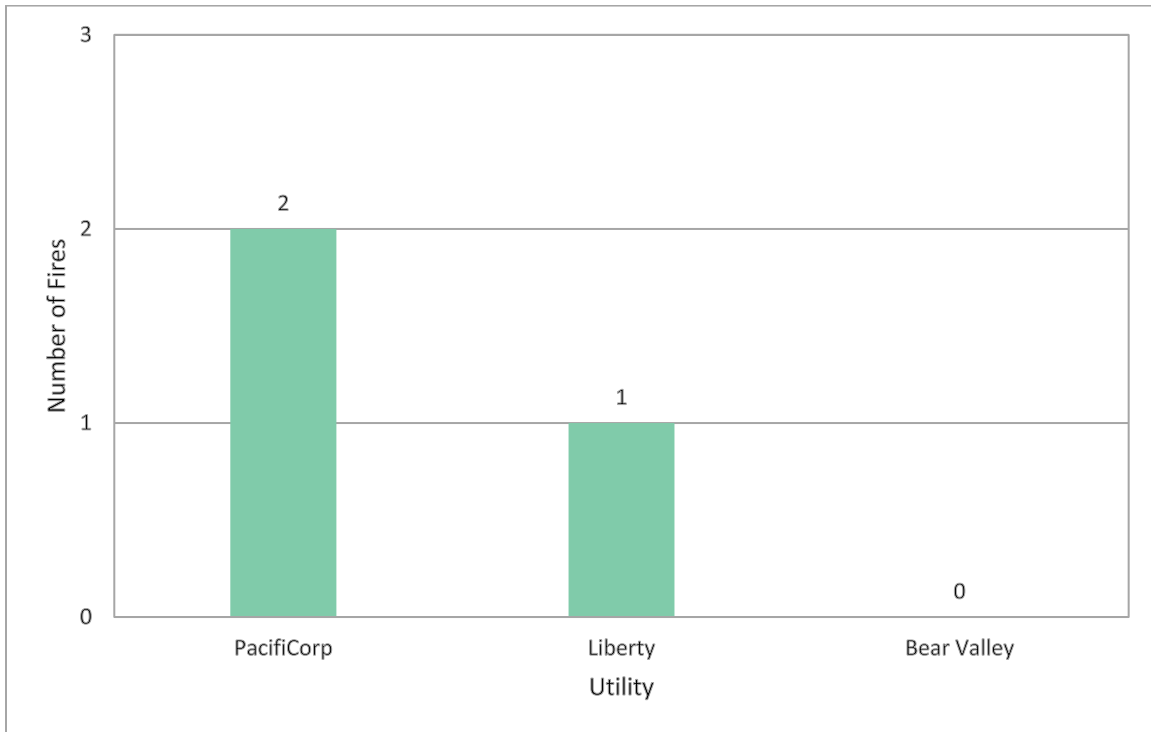


Figure 5.3-2: Cross-Utility Acres Burned by Catastrophic Wildfires (2015-2022)

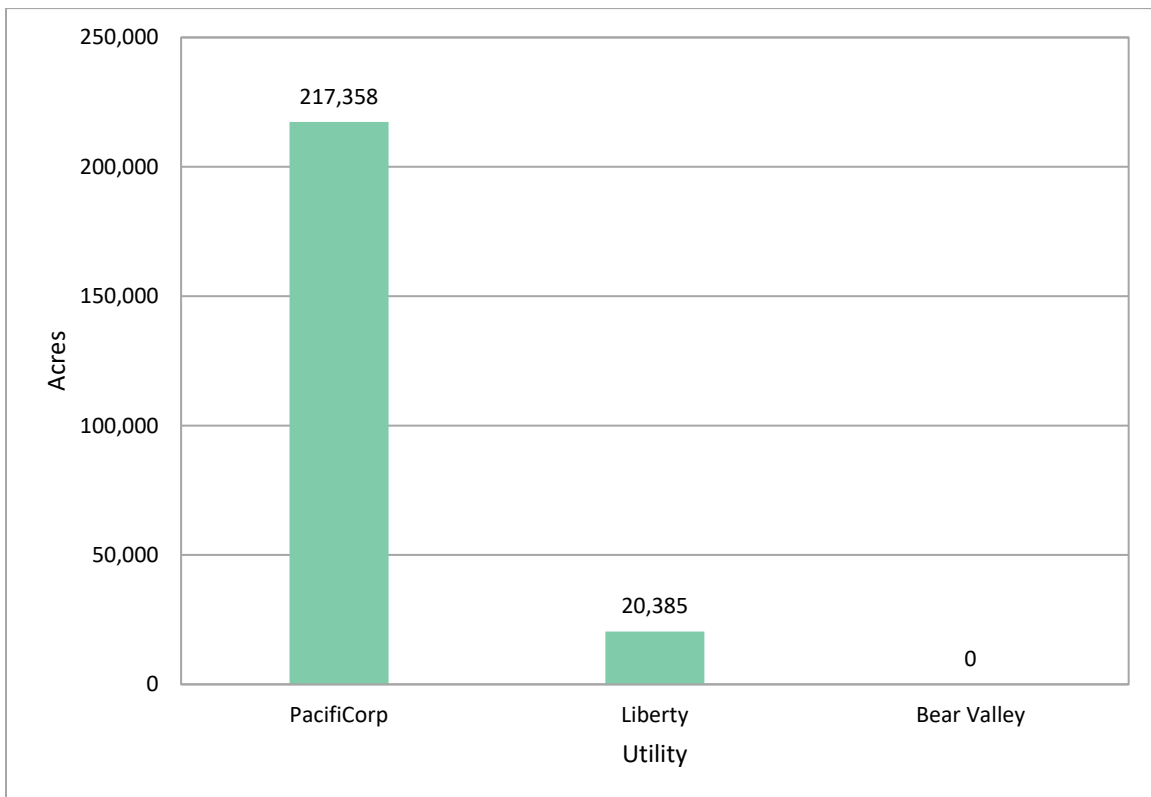
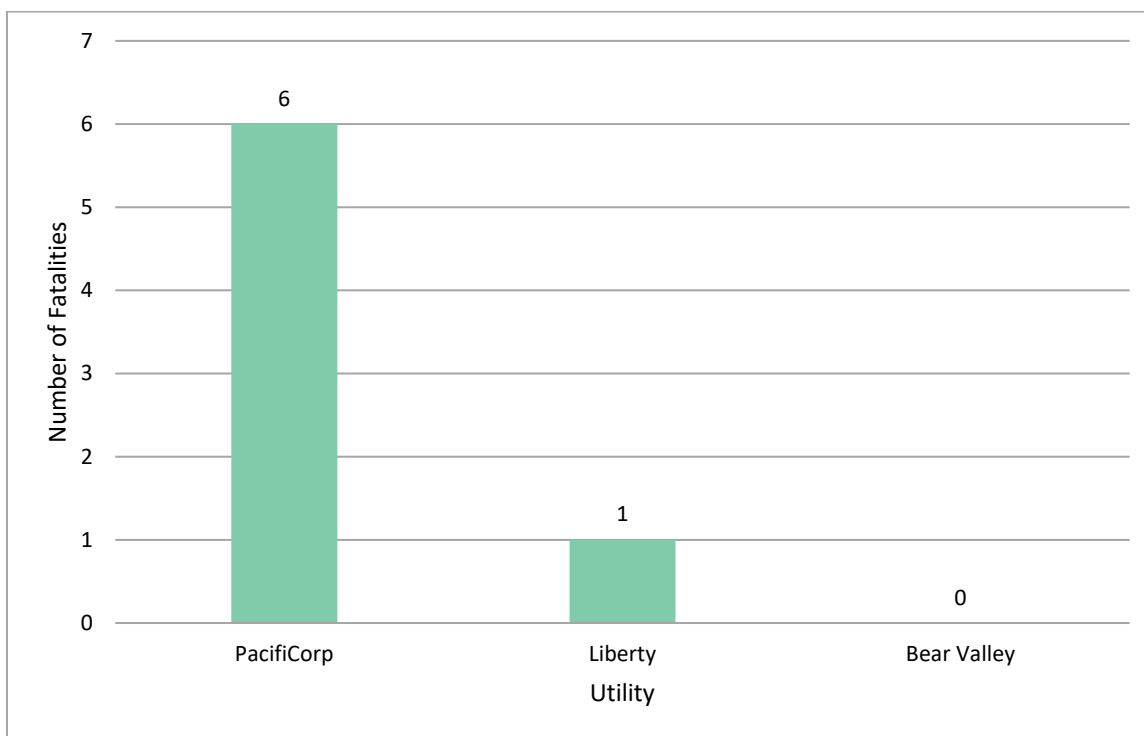


Figure 5.3-3: Cross-Utility Number of Fatalities Caused by Catastrophic Wildfires (2015-2022)



## 5.4 Community Values at Risk

Section 5.4 of the Technical Guidelines requires PacifiCorp to identify the community values at risk across its service territory, including the distribution of urban, rural, and highly rural customers; the wildland-urban interface (WUI) in its territory; the community values at risk from wildfire as defined by the electrical corporation; the distribution of critical facilities within its territory; and a summary of how the utility complies with environmental laws.<sup>33</sup>

PacifiCorp listed the percentages and number of people in its territory that are located in urban, rural, and highly rural areas and briefly summarized where these areas occur in its territory. PacifiCorp also described where the WUI occurs in its territory and provided Figure 5-19 “Pacific Power’s Service Territory and WUI.”<sup>34</sup>

PacifiCorp summarized the critical facilities in the HFTD within its territory by providing Table 5-9 “Distribution of Pacific Power’s Assets in the HFTD.”<sup>35</sup>

<sup>33</sup> [Technical Guidelines](https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53286&shareable=true), Section 5.4, “Community Values at Risk,” pages 26-29 (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53286&shareable=true, accessed May 5, 2023).

<sup>34</sup> PacifiCorp’s 2023-2025 WMP, page 57.

<sup>35</sup> PacifiCorp’s 2023-2025 WMP, page 62.

### 5.4.1 Environmental Compliance and Permitting

Section 5.4.5 of the Technical Guidelines requires PacifiCorp to summarize how it ensures it complies with applicable environmental laws and permits related to the implementation of its WMP, including its procedures/processes to ensure compliance, roadblocks it has encountered, and any notable changes to its environmental compliance and permitting procedures since the last WMP submission.<sup>36</sup>

New construction and/or large maintenance projects must comply, as necessary, with the California Environmental Quality Act, the Clean Water Act (sections 401 and 404), California Fish and Game Code (section 1602), the National Environmental Policy Act, the National Historic Preservation Act, Forest Practice Act and Rules, among other federal, state, and local requirements. Utilities must also obtain permits from land management agencies such as the National Forest Service, Bureau of Land Management, National Park Service, California Coastal Commission, among others.

The linear nature of utility infrastructure often warrants several permits for one project, including different permit conditions, environmental requirements, and post-work reporting requirements. Compliance with permitting requirements add time and complexity to project planning, cost and mitigations related to environmental analysis and impact, and sometimes result in long-term monitoring or restoration projects. These are all considerations factoring into a utility's project planning and execution.

PacifiCorp summarized how it plans to ensure compliance with applicable environmental laws, regulations, and permitting requirements in planning wildfire mitigation projects.

## 5.5 Areas for Continued Improvement

Energy Safety has no areas for continued improvement for PacifiCorp under the service territory overview section of its Base WMP.

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<sup>36</sup> [Technical Guidelines](https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53286&shareable=true), Section 5.4.5, "Environmental Compliance and Permitting," pages 28-29 (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53286&shareable=true, accessed May 5, 2023).

## 6. Risk Methodology and Assessment

In response to Section 6 of the Technical Guidelines, PacifiCorp provided information on how it operates its grid to reduce wildfire risk, including in relation to equipment settings, grid response procedures and notifications, and personnel work procedures and training.<sup>37</sup>

Below is Energy Safety's evaluation regarding PacifiCorp's objectives and targets, maturity levels, and strengths in this area. In addition, Energy Safety has identified areas where PacifiCorp must improve, described at the end of this section.

### 6.1 Methodology

Section 6.1 of the Technical Guidelines requires PacifiCorp to provide an overview of its risk calculation approach, including graphs showing the calculation process, a concise narrative explaining key elements, and definitions of risks and risk components.<sup>38</sup>

This section includes an overview of PacifiCorp's risk calculation approach.

PacifiCorp calculates its risk by quantifying likelihood of a wildfire risk event (LoRE) and consequence of a wildfire risk event (CoRE) for identified risk categories,<sup>39</sup> then multiplying these values to arrive at a risk score. PacifiCorp uses the risk score to inform prioritization and select mitigation approaches. This methodology is for wildfire risk only; PacifiCorp has not yet incorporated PSPS risk into its risk calculation.<sup>40</sup> PacifiCorp anticipates including PSPS risk by Q1 of 2024.<sup>41</sup>

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<sup>37</sup> [Technical Guidelines](https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53286&shareable=true), Section 6, "Risk Methodology and Assessment," pages 30-58 (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53286&shareable=true, accessed May 5, 2023).

<sup>38</sup> [Technical Guidelines](https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53286&shareable=true), Section 6.1, "Methodology," pages 30-35 (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53286&shareable=true, accessed May 5, 2023).

<sup>39</sup> PacifiCorp's 2023-2025 WMP, pages 66-69.

<sup>40</sup> PacifiCorp's 2023-2025 WMP, page 68.

<sup>41</sup> PacifiCorp's 2023-2025 WMP, page 100.

## 6.2 Risk Analysis Framework

Section 6.2 of the Technical Guidelines requires PacifiCorp to provide a high-level overview of its risk analysis framework, including a summary of key modeling assumptions, input data, and modeling tools used.<sup>42</sup>

This section includes an overview of PacifiCorp's risk analysis framework.

PacifiCorp's risk analysis framework consists of four likelihood components and three consequence components that are used to aggregate wildfire risk, or what PacifiCorp calls "ignition risk."<sup>43</sup>

As of August 2023, PacifiCorp transitioned to a new Wildfire Risk Reduction Model (WRRM),<sup>44</sup> which will allow PacifiCorp to adopt a more data-driven and analytical approach to risk modeling. This model includes Risk Associated with Ignition Location (RAIL) and Risk Associated with Value Exposure (RAVE) sub models.<sup>45</sup> This transition demonstrates an improvement in PacifiCorp's risk modeling, as described below under Section 6.4, "PacifiCorp's WMP Strengths."

PacifiCorp models consequence at the asset level using simulations and calculates the average, the standard deviation, and percentiles for each output.<sup>46</sup> Consequence is aggregated based on percentiles.

## 6.3 Maturity Survey Results

According to its responses to the 2023 Maturity Survey, PacifiCorp has a 2023 maturity level of 0 for risk assessment and mitigation strategy and projects no maturity level change for 2024. For 2025, PacifiCorp projects that it will significantly increase in maturity to a level of 1.5 (Figure 6.3-1).

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<sup>42</sup> [Technical Guidelines](#), Section 6.2, "Risk Analysis Framework," pages 36-44 (<https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53286&shareable=true>, accessed May 5, 2023).

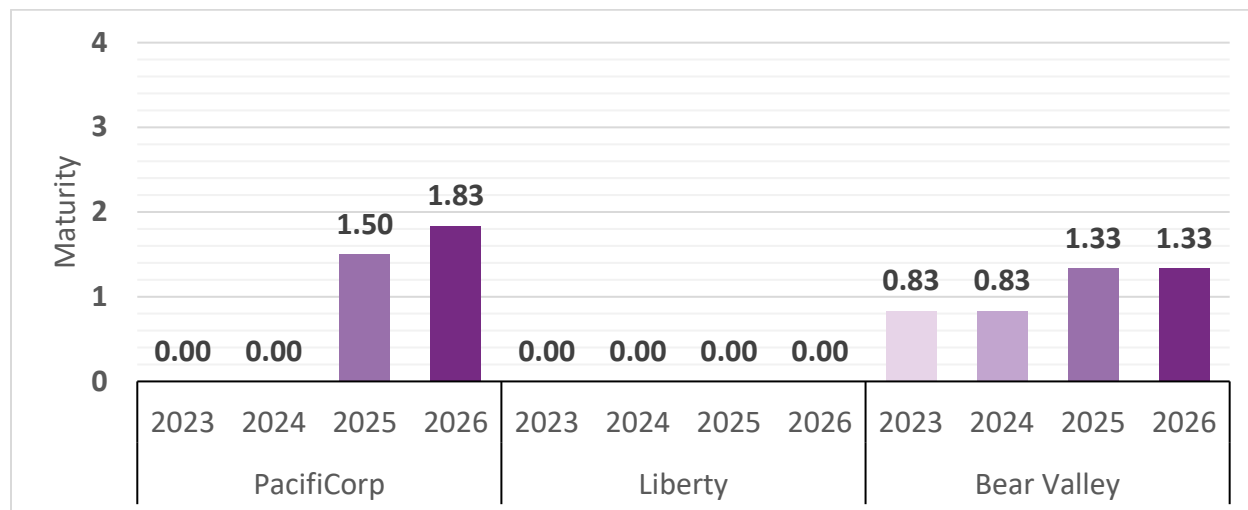
<sup>43</sup> PacifiCorp's 2023-2025 WMP, page 74.

<sup>44</sup> [Data Request OEIS-P-WMP 2023-PC-010](#), Question 3 (<https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56027&shareable=true>, accessed December 21, 2023).

<sup>45</sup> PacifiCorp's 2023-2025 WMP, pages 75-76.

<sup>46</sup> PacifiCorp's 2023-2025 WMP, pages 82-83.

Figure 6.3-1: Cross-Utility Maturity for Risk Assessment and Mitigation Strategy (Minimum Values)

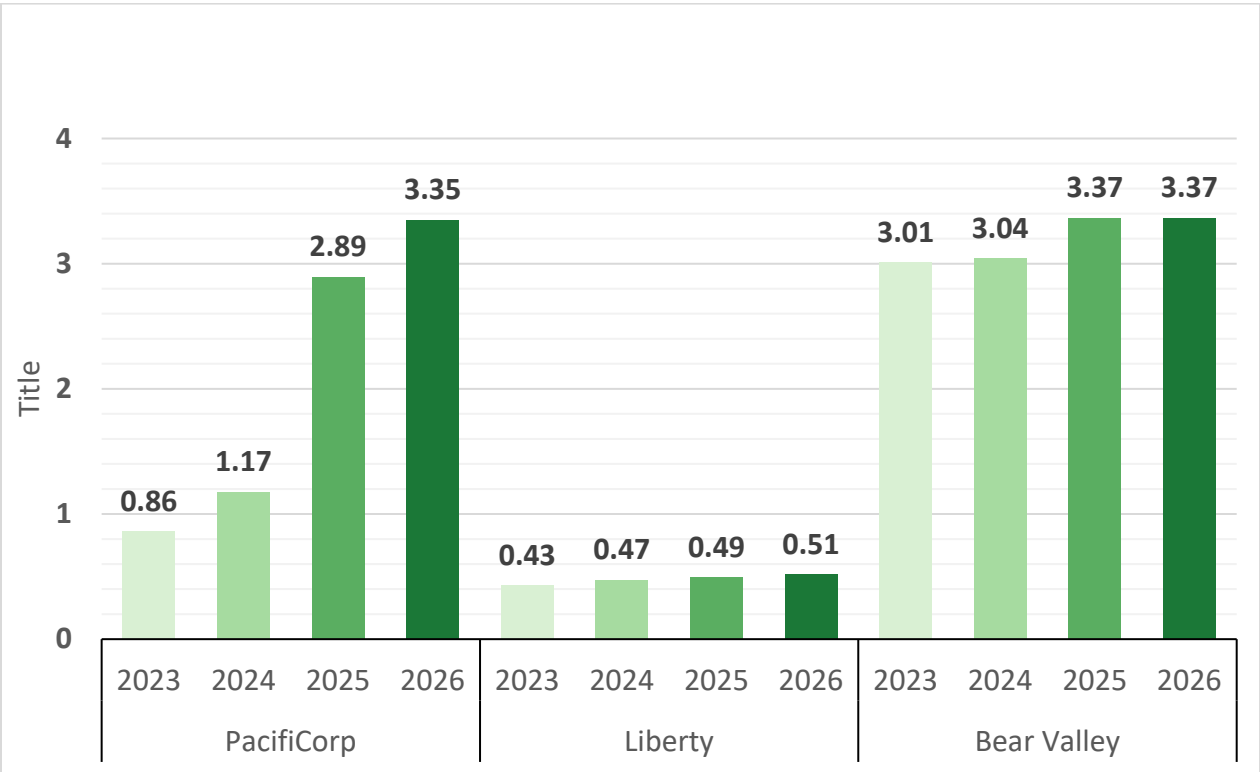


The utility's maturity level for the risk assessment and mitigation strategy category described above is calculated using the minimum value sub-capability of each capability. Using the capability average is another way to look at PacifiCorp's performance in risk assessment and mitigation strategy. The capability average is determined from the average of all component sub-capabilities and is an additional tool to evaluate the utilities' maturity.<sup>47</sup>

When the category maturity is calculated using the capability average (rather than the minimum), PacifiCorp has a maturity level for risk assessment and mitigation strategy of 0.86 in 2023, and projects increases to 1.17 in 2024 and 2.89 in 2025 (Figure 6.3-2).

<sup>47</sup> For further information on maturity level determinations, see Section 4 of the 2023-2025 Electrical Corporation Wildfire Mitigation Maturity Model (second revision), published February 21, 2023.

Figure 6.3-2: Cross-Utility Maturity for Risk Assessment and Mitigation Strategy (Average Values)



The rest of this section reports on maturity levels considering the minimum values.

PacifiCorp’s maturity level in this category is limited by its response to the following questions:

- PacifiCorp reports that its model verification and validation documentation are not available to the public.<sup>48</sup> To increase its maturity level, PacifiCorp would need to make model verification and validation documentation available to the public.
- PacifiCorp reports that its model technical documentation is not available to the public.<sup>49</sup> To increase its maturity level, PacifiCorp would need to make its model technical documentation available to the public.

PacifiCorp’s current maturity level in this category is around the same as its peers, with Liberty and Bear Valley reporting at levels 0.00 and 0.83, respectively. See Figure 6.3-1.

Based on its responses to the 2023 Maturity Survey, PacifiCorp reported its highest levels of projected maturity in the following capabilities for 2023 and 2024:

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<sup>48</sup> PacifiCorp’s 2023 Maturity Survey, response to 1.1.8.Q4.

<sup>49</sup> PacifiCorp’s 2023 Maturity Survey, response to 1.1.8.Q3.



- Comprehensiveness<sup>50,51</sup>
- Learning and continuous improvement<sup>52</sup>

Based on its responses to the 2023 Maturity Survey, PacifiCorp reported its lowest levels of projected maturity in the following capabilities for 2023 and 2024:

- Transparency<sup>53, 54</sup>
- Validation<sup>55, 56</sup>

## 6.4 PacifiCorp's WMP Strengths

PacifiCorp projects improvement in risk methodology and assessment over the WMP cycle in the following areas: risk analysis results and presentation.

PacifiCorp projects progress in its risk modeling as a result of its transition to a new WRRM.<sup>57</sup> This model will enable PacifiCorp to deconstruct wildfire risk into its component parts and incorporate more empirical analysis into risk assessment and mitigation decisions. The RAIL and RAVE subcomponents of the model allow for more tailored responses to wildfire risks in PacifiCorp's unique territory. For example, the models allow PacifiCorp to distinguish between wind-driven and terrain-driven wildfire risks.

### 6.4.1 2022 Areas for Continued Improvement

Energy Safety evaluated the progress PacifiCorp made toward addressing areas for continued improvement identified in Energy Safety's 2022 WMP Decision. PacifiCorp adequately addressed the 2022 areas for continued improvement for this topic. See Appendix B for the status of each 2022 area for continued improvement.

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<sup>50</sup> PacifiCorp's 2023 Maturity Survey, response to 1.1.2.Q1.

<sup>51</sup> The degree to which utility wildfire risk model includes various inputs, risk variables as an example, and outputs, such as risk impact to various stakeholders.

<sup>52</sup> PacifiCorp's 2023 Maturity Survey, response to 1.1.4.Q1.

<sup>53</sup> PacifiCorp's 2023 Maturity Survey, response to 1.1.9.Q1.

<sup>54</sup> The degree to which risk model documentation, data, and performance summary is made available to the public.

<sup>55</sup> PacifiCorp's 2023 Maturity Survey, response to 1.1.8.Q2.

<sup>56</sup> The degree to which model processes are verified to be working as intended, and factors like assumptions and limitations are reviewed for applicability after model updates.

<sup>57</sup> PacifiCorp's 2023-2025 WMP, pages 80-84.

## 6.5 Areas for Continued Improvement

PacifiCorp must continue to improve in the following areas.

### 6.5.1 Cross-Utility Collaboration on Risk Model Development

PacifiCorp and the other IOUs participated in past Energy Safety-led risk modeling working group meetings. The risk modeling working group meetings facilitate collaboration among the IOUs on complex technical issues related to risk modeling. The risk modeling working group meetings are ongoing. PacifiCorp and the other IOUs must continue to participate in all Energy Safety-led risk modeling working group meetings.

### 6.5.2 Calculating Risk Scores Using 95th Percentile Values

PacifiCorp's use of 95<sup>th</sup> percentiles to calculate and aggregate risk scores at the circuit level could lead to unrealistically high risk scores at the territory level, and this may affect PacifiCorp's ability to optimally prioritize mitigations. Instead, mathematical standards support calculating and aggregating consequence values using probability distributions. In its 2025 Update, PacifiCorp must provide a plan with milestones for transitioning from using 95<sup>th</sup> percentile values to probability distributions in its next Base WMP when calculating and aggregating risk scores for mitigation evaluation, cost/benefit calculations, and risk ranking. If PacifiCorp is unable to transition to using probability distributions, it must propose an alternative strategy that would produce risk scores closer to what using the probability distributions would produce or demonstrate that current methodologies are adequate.

As part of this demonstration, PacifiCorp must explain how its methodologies have concrete validations, including estimations for usage of percentiles and probability distributions where possible. It must also explain why or how it is unable to move toward use of probability distributions when calculating and aggregating risk scores (discussing any existing limitations or potential weaknesses). PacifiCorp must additionally provide an explanation for each calculation of risk scores where it is aggregating risk scores in which a 95<sup>th</sup> percentile value was used; describe any steps PacifiCorp is taking to explore use of probability distributions in the future; and demonstrate that its current methodologies are providing accurate outputs for calculating known risk.

### 6.5.3 PSPS and Wildfire Risk Trade-Off Transparency

PacifiCorp must be more transparent and further describe how it determines PSPS and wildfire risk trade-offs. Section 6 of the Technical Guidelines requires discussion of calculation processes that together inform utility PSPS and wildfire risk trade-offs, or how it

uses risk ranking and risk buy-down to determine risk mitigation selection.<sup>58</sup> PacifiCorp must provide transparency to ensure it is properly balancing the safety, reliability, and cost impacts of its planned mitigations. PacifiCorp must provide further transparency regarding PSPS and wildfire risk trade-offs, or how it uses risk ranking and risk buy-down to determine risk mitigation selection.

PacifiCorp is implementing a new risk model that was not complete at the time of its 2023-2025 WMP submission.<sup>59</sup> PacifiCorp identified many aspects of its risk modeling approach that will be impacted by the new vendor risk model. In its 2025 Update, PacifiCorp must describe how it prioritizes PSPS risk in its risk-based decisions, along with any trade-offs between wildfire risk and PSPS risk.

#### 6.5.4 Collaboration Between Vendor And Utility Risk Teams

PacifiCorp is adopting new risk modeling capabilities, many through the use of a vendor,<sup>60</sup> but PacifiCorp has not demonstrated how a vendor will be integrated into PacifiCorp's risk modeling going forward. The use of a vendor risk model may significantly change how PacifiCorp identifies, evaluates, and mitigates risks. The vendor risk model introduces advanced analysis and reports.<sup>61</sup> Using the model, PacifiCorp expects to provide its risk and risk component calculations in its 2025 Update and improve its risk model maturity. PacifiCorp contracted with the vendor due to PacifiCorp's limited internal risk modeling capabilities and difficulty in assembling an internal team with these capabilities.

Further transparency and more detail regarding which tasks are completed by its internal risk team versus the vendor are needed to better explain how PacifiCorp is conducting its risk analysis and decision making. PacifiCorp must follow the Technical Guidelines requirements,<sup>62</sup> even when responsibilities fall under the vendor. To improve transparency, PacifiCorp must provide information in its 2025 Update that demonstrates how PacifiCorp is integrating its vendor into its risk modeling capabilities.

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<sup>58</sup> [Technical Guidelines](https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53286&shareable=true), Section 6, "Risk Methodology and Assessment," pages 39-67 (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53286&shareable=true, accessed August 15, 2023).

<sup>59</sup> PacifiCorp's 2023-2025 WMP, page 67.

<sup>60</sup> PacifiCorp's 2023-2025 WMP, page 115-121.

<sup>61</sup> PacifiCorp's 2023-2025 WMP, pages 85-86.

<sup>62</sup> [Technical Guidelines](https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53286&shareable=true), Section 6.2 "Risk Analysis Framework," pages 36-45; Section 6.3 "Risk Scenarios," pages 45-50; Section 6.4 "Risk Analysis Results and Presentation," pages 50-54; Section 6.6 "Quality Assurance and Control," pages 54-56; Section 7.1 "Risk Evaluation," pages 59-66; and Section 7.2 "Wildfire Mitigation Strategy," pages 66-75 (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53286&shareable=true, accessed September 13, 2023).

### 6.5.5 Independent Review Plan Transparency

PacifiCorp states that it is not currently soliciting external independent review of the data used by its risk models and that the data are currently only internally reviewed by subject matter experts.<sup>63</sup> This is a weakness in its current risk model initiatives that PacifiCorp must address. Independent review is a critical step in refining a risk assessment methodology because it provides assurance that the data put into and generated by the risk models are accurate and comprehensive. PacifiCorp's current implementation of its risk models does not preclude it from providing a comprehensive plan for integrating independent review. In its 2025 Update, PacifiCorp must present actionable tasks it will complete by its 2026-2028 Base WMP to ensure it is fully compliant with the independent review requirements outlined in Section 6.6.1 of the Technical Guidelines.<sup>64</sup>

Energy Safety sets forth specific areas for improvement and associated required progress in Section 11.

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<sup>63</sup> PacifiCorp's 2023-2025 WMP, pages 97-98.

<sup>64</sup> [Technical Guidelines](https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53286&shareable=true), Section 6.6.1, "Independent Review," pages 54-55 (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53286&shareable=true, accessed May 5, 2023).

## 7. Wildfire Mitigation Strategy Development

In response to Section 7 of the Technical Guidelines, PacifiCorp provided a high-level overview of its risk evaluation and process for deciding on a portfolio of mitigation initiatives to achieve the maximum feasible risk reduction while meeting WMP goals and objectives.<sup>65</sup>

Below is Energy Safety's evaluation regarding PacifiCorp's objectives and targets, maturity levels, and strengths in this area. In addition, Energy Safety has identified areas where PacifiCorp must improve, described at the end of this section.

### 7.1 Risk Evaluation

Section 7.1 of the Technical Guidelines requires PacifiCorp to describe its approach to risk evaluation based on risk analysis outcomes.<sup>66</sup> The approach should inform the development of a wildfire mitigation strategy that meets WMP goals and objectives.

PacifiCorp states that it is transitioning its risk evaluation approach to a more structured framework, which will include risk-spend efficiency (RSE).<sup>67</sup> PacifiCorp expects to implement RSE calculations for its grid hardening initiatives by Q4 of 2023.<sup>68</sup> Until this transition, PacifiCorp states that its default mitigation will be to replace bare wire with covered conductor. Under this approach, each project will default to covered conductor and then will be evaluated based on regulatory requirement, stakeholder input (including customers), wildfire risk impact, customer impact, feasibility, and costs. PacifiCorp states that based on those factors it may consider other mitigations, such as undergrounding.

#### 7.1.1 PacifiCorp's WMP Strengths

PacifiCorp projects improvement in its wildfire mitigation strategy development over the WMP cycle in the following area: risk informed prioritization.

When performing its risk evaluation, PacifiCorp currently uses a qualitative approach, considering factors such as regulatory requirements, wildfire risks, timing, costs, stakeholder

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<sup>65</sup> [Technical Guidelines](#), Section 7, "Wildfire Mitigation Strategy Development," pages 59-74 (<https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53286&shareable=true>, accessed May 5, 2023).

<sup>66</sup> [Technical Guidelines](#), Section 7.1, "Risk Evaluation," pages 59-66 (<https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53286&shareable=true>, accessed May 5, 2023).

<sup>67</sup> PacifiCorp's 2023-2025 WMP, pages 116-121. Risk-spend efficiency is also referred to as "risk buy-down."

<sup>68</sup> PacifiCorp's 2023-2025 WMP, Figure 7-7, "Timeline for RSE Implementation," page 120.

input, and cross-utility collaboration.<sup>69</sup> PacifiCorp projects progress in this area by transitioning toward an approach that will include more quantitative analysis and structured decision-making for risk evaluation.

### **7.1.1.1 2022 Areas for Continued Improvement**

Energy Safety evaluated the progress PacifiCorp made toward addressing areas for continued improvement identified in Energy Safety's 2022 WMP Decision. PacifiCorp adequately addressed the 2022 areas for continued improvement for this topic. See Appendix B for the status of each 2022 area for continued improvement.

## **7.1.2 Areas for Continued Improvement**

PacifiCorp must continue to improve in the following areas.

### **7.1.2.1 PSPS and Wildfire Risk Trade-Off Transparency**

PacifiCorp's explanation of how it makes mitigation selection decisions needs further development. As noted above in the area for continued improvement "PSPS and Wildfire Risk Trade-Off Transparency" (Section 6.5.3), PacifiCorp is implementing a new risk model, which was not complete as of the submission of its Base WMP. The incomplete status of PacifiCorp's model implementation during the current WMP reporting period limited the details PacifiCorp could provide in response to wildfire mitigation strategy development questions.

PacifiCorp must improve its explanation for how it uses risk ranking and risk buy-down to determine mitigation selection.<sup>70</sup> In its 2025 Update, PacifiCorp must describe how its prioritization of mitigation initiatives in practice compares to the list of mitigation initiatives ranked by risk buy-down estimate. Furthermore, PacifiCorp must provide an explanation for any instances where a mitigation initiative with a lower risk buy-down estimate is prioritized over an initiative with a higher risk buy-down estimate.

### **7.1.2.2 Vendor Fire Risk Model Implementation Milestones and Dates**

PacifiCorp's 2023-2025 Base WMP indicates that it is transitioning to a new risk modeling platform, however it does not provide a clearly defined schedule for this transition. PacifiCorp is currently modeling risk at the circuit level using static fire threat maps and is undergoing a transition to a risk modeling platform<sup>71</sup> that has capabilities that PacifiCorp's current approach lacks. PacifiCorp states that it expects the new model to enable risk modeling at a

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<sup>69</sup> PacifiCorp's 2023-2025 WMP, pages 107-109.

<sup>70</sup> [Technical Guidelines](https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53286&shareable=true), Section 7.1.4.1, "Identifying and Evaluating Mitigation Initiatives," pages 72 (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53286&shareable=true, accessed August 15, 2023).

<sup>71</sup> PacifiCorp's 2023-2025 WMP, page 67.

finer level of granularity and more frequent updates to fire threat maps. PacifiCorp expects the new capabilities to improve its risk evaluation process.

In its 2025 Update, PacifiCorp must describe how it will use the new vendor risk modeling software to improve operational and/or planning risk analysis and provide a plan with milestones and dates for achieving those improvements.

Energy Safety sets forth specific areas for improvement and associated required progress in Section 11.

## 7.2 Risk-Informed Framework

Section 4.4 of the Technical Guidelines requires PacifiCorp to adopt and describe its framework for making risk-informed decisions.<sup>72</sup>

### 7.2.1 2022 Areas for Continued Improvement

Energy Safety evaluated the progress PacifiCorp made toward addressing areas for continued improvement identified in Energy Safety's 2022 WMP Decision. PacifiCorp adequately addressed the 2022 areas for continued improvement for this topic. See Appendix B for the status of each 2022 area for continued improvement.

### 7.2.2 Areas for Continued Improvement

PacifiCorp must continue to improve in the following areas.

#### 7.2.2.1 Cross-Utility Collaboration on Best Practices for Inclusion of Climate Change Forecasts in Consequence Modeling, Inclusion of Community Vulnerability in Consequence Modeling, and Utility Vegetation Management for Wildfire Safety

PacifiCorp must make further improvements in cross-utility collaboration on best practices for:

- Inclusion of climate change forecasts in consequence modeling.
- Inclusion of community vulnerability in consequence modeling.
- Utility vegetation management for wildfire safety.

Although PacifiCorp joined the other IOUs in participating in past Energy Safety-sponsored scoping meetings, they have not reported any additional collaboration. In their 2025 Updates, the electrical corporations (not including independent transmission operators) must provide

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<sup>72</sup> [Technical Guidelines](https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53286&shareable=true), Section 4.4 "Risk-Informed Framework," pages 11-14 (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53286&shareable=true, accessed May 5, 2023).

a status update on any collaboration with each other that has taken place in these areas, including a list of any resulting changes made to their WMPs since the 2023-2025 WMP submission.

Energy Safety sets forth specific areas for improvement and associated required progress in Section 11.

## 7.3 Wildfire Mitigation Strategy

Section 7.2 of the Technical Guidelines requires PacifiCorp to describe its proposed wildfire mitigation strategies based on the evaluation process identified in Section 7.1 of its WMP.<sup>73</sup>

### 7.3.1 Maturity Survey Results

According to its responses to the 2023 Maturity Survey, PacifiCorp has a 2023 maturity level of 0.57 for risk prioritization. For 2024, PacifiCorp projects that it will slightly increase in maturity to a level of 1.14. For 2025, PacifiCorp projects that it will significantly increase in maturity to a level of 2.71.

Note that cross-category themes are calculated by averaging the relevant sub-capability maturity levels.<sup>74</sup>

PacifiCorp's maturity level in this cross-category theme is limited by its response to the following question:

- PacifiCorp reports that its models do not include risk buy-down estimates for each individual mitigation initiative.<sup>75</sup> To increase maturity level, PacifiCorp would need to include risk buy-down estimates for each individual mitigation initiative.

PacifiCorp's current maturity level in this cross-category theme is lower than its peers, with Liberty and Bear Valley reporting at levels 1.43 and 3.14, respectively. See Figure 7.3-1.

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<sup>73</sup> [Technical Guidelines](#), Section 7.2, pages 66-74

(<https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53286&shareable=true>, accessed May 5, 2023)

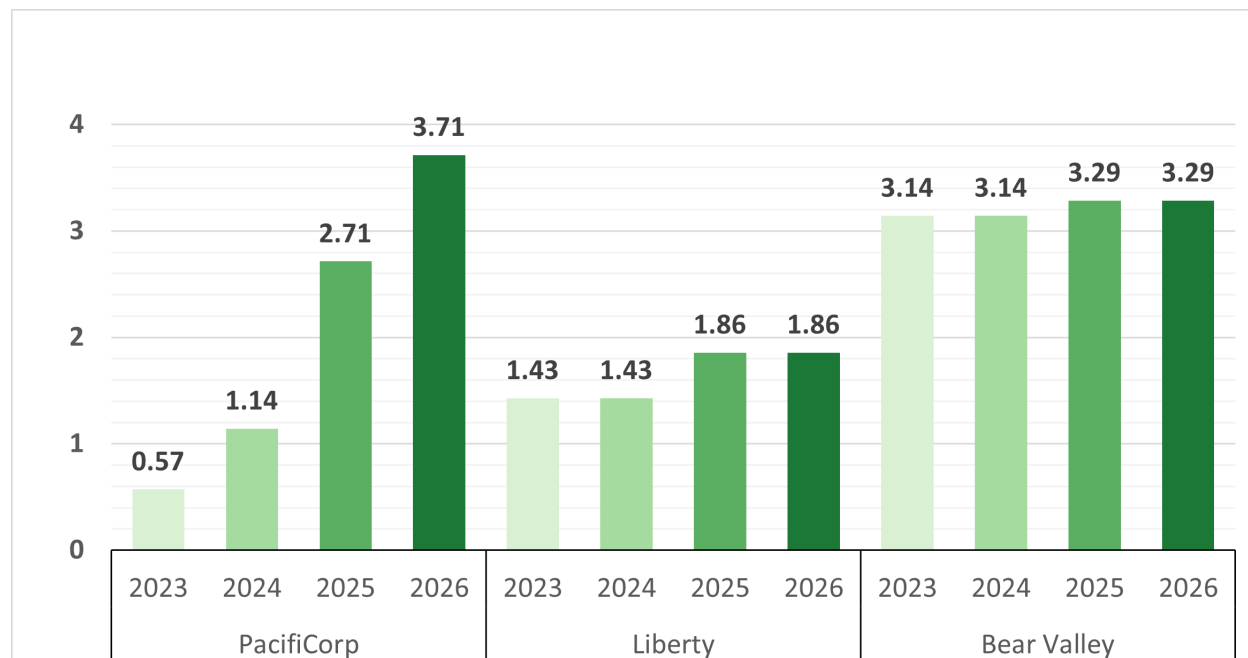
<sup>74</sup> [2023-2025 Electrical Corporation Wildfire Mitigation Maturity Model \(Second Revised Final, Feb. 2023\)](#) page 13

(<https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53394&shareable=true>, accessed May 5, 2023).

<sup>75</sup> PacifiCorp's 2023 Maturity Survey, response to 1.6.2.Q5.



Figure 7.3-1: Cross-Utility Maturity for Risk Prioritization (Cross-Category Theme; Average Values)



### 7.3.1.1 2022 Areas for Continued Improvement

Energy Safety evaluated the progress PacifiCorp made toward addressing areas for continued improvement identified in Energy Safety's 2022 WMP Decision. PacifiCorp adequately addressed the 2022 areas for continued improvement for this topic. See Appendix B for the status of each 2022 area for continued improvement.

## 7.3.2 Revision Notice Critical Issues

As described in Section 3.4, Energy Safety issued PacifiCorp a Revision Notice on September 11, 2023, in response to its WMP. PacifiCorp submitted its Revision Notice Response on October 12, 2023. This section evaluates that response as it relates to wildfire mitigation strategy.<sup>76</sup>

### 7.3.2.1 RN-PC-23-02: PacifiCorp's mitigation initiative prioritization schematic is missing required details

Energy Safety required PacifiCorp to revise its schematic (Figure 7-8) to include the necessary details to meet the minimum requirements as outlined in the Technical Guidelines.

<sup>76</sup> [PacifiCorp's Revision Notice Response](https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=55771&shareable=true)

(<https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=55771&shareable=true>, accessed December 5, 2023).

## RN-PC-23-02: PacifiCorp Response Summary

In PacifiCorp's Revision Notice Response, it provided a revised schematic meeting the minimum requirements outlined in the Technical Guidelines.<sup>77</sup> Specifically, the revised schematic now demonstrates:

1. Procedures and evaluation criteria used to evaluate and prioritize potential mitigation initiatives.
2. A step-by-step decision making process.
3. Consideration of factors such as:
  - a. Quantitative risk assessment.
  - b. Resource allocation.
  - c. Evaluation of other performance objectives (e.g., cost, timing).
  - d. Subject matter expert judgement.
  - e. Local factors.

## RN-PC-23-02: Energy Safety Evaluation

PacifiCorp has resolved the critical issue described in RN-PC-23-02 by providing a schematic that meets the minimum outlined requirements at a sufficient level of detail.

### **7.3.2.2 RN-PC-23-03: PacifiCorp does not clearly describe its current or future mitigation identification and evaluation procedures**

Energy Safety required PacifiCorp to fully respond to the requirements in Section 7.1.4.1 of the Technical Guidelines. Specifically, Energy Safety required PacifiCorp to:

1. Clearly describe the procedures PacifiCorp is currently using for identifying and
2. evaluating mitigation initiatives that will be in place until its RSE process is established. This description must include how PacifiCorp considers the criteria listed in its WMP,<sup>78</sup> how those criteria are prioritized and/or combined to inform PacifiCorp's decision-making process, and any procedures currently employed to determine cost effectiveness relative to risk reduction.
3. Clearly describe the procedures PacifiCorp is considering for future implementation for identifying and evaluating mitigation initiatives once its RSE process is established, including any procedures to determine cost effectiveness relative to risk reduction.

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<sup>77</sup> PacifiCorp's 2023-2025 WMP, pages 120-121.

<sup>78</sup> PacifiCorp's 2023-2025 WMP, page 115.

PacifiCorp must adapt the illustrative examples it provides in its WMP79 to make clear the approaches it is exploring implementing or has decided against and why.

4. Clearly list the uncertainties PacifiCorp faces in its risk model or mitigation evaluation, and how it accounts for these uncertainties in its decision-making process.

### **RN-PC-23-03: PacifiCorp Response Summary**

In PacifiCorp's Revision Notice Response, it provided procedures it is currently using to identify and evaluate mitigation initiatives and the procedures it expects to implement in the near future as part of its current risk model implementation initiative.<sup>80</sup>

### **RN-PC-23-03: Energy Safety Evaluation**

PacifiCorp has resolved the critical issue described in RN-PC-23-03 by providing the additional information with the minimum outlined requirements at a sufficient level of detail. PacifiCorp also acknowledged that there is required information it cannot provide until the completion of its risk model implementation.<sup>81</sup>

### **7.3.3 Areas for Continued Improvement**

Energy Safety has no areas for continued improvement for PacifiCorp under the wildfire mitigation strategy section of its Base WMP.

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<sup>79</sup> PacifiCorp's 2023-2025 WMP, pages 115-118.

<sup>80</sup> PacifiCorp's 2023-2025 WMP, pages 124-129.

<sup>81</sup> PacifiCorp's 2023-2025 WMP, pages 124-129.

## 8. Wildfire Mitigation Initiatives

This section comprises Energy Safety's evaluation of the mitigation initiatives PacifiCorp undertakes to reduce the risk of catastrophic wildfire. For each mitigation initiative this section provides an analysis of PacifiCorp's maturity level, the ways PacifiCorp is progressing and specific areas where PacifiCorp must continue to improve.

The following mitigation initiatives, each with corresponding capabilities and maturity levels, are discussed in Sections 8.1 through 8.5.

- Grid design, operations, and maintenance, including grid design and system hardening, asset inspections, equipment maintenance and repair, and grid operations and procedures.
- Vegetation management and inspections.
- Situational awareness and forecasting.
- Emergency preparedness.
- Community outreach and engagement.

PacifiCorp's approach to PSPS is discussed in Section 9. PacifiCorp's process for continuous improvement, including lessons learned, corrective action programs, and notices of violation and defect, are discussed in Section 10.

### 8.1 Grid Design, Operations, Maintenance

In response to Section 8.1 of the Technical Guidelines,<sup>82</sup> PacifiCorp provided information about its grid design and system hardening; asset inspections; equipment maintenance and repair; asset management and inspection enterprise systems; quality assurance and quality control; open work orders; grid operations and procedures; and workforce planning.

Below is Energy Safety's evaluation regarding PacifiCorp's objectives and targets, maturity levels, and strengths in these areas. In addition, Energy Safety has identified areas where PacifiCorp must improve, described at the end of each subsection.

#### 8.1.1 Objectives and Targets

As part of its Base WMP, PacifiCorp provided 3-year and 10-year objectives for its grid design, operations, and maintenance programs.<sup>83</sup>

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<sup>82</sup> [Technical Guidelines](#), Section 8.1, pages 75-93

(<https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53286&shareable=true>, accessed May 5, 2023).

<sup>83</sup> PacifiCorp's 2023-2025 WMP, pages 132-134.

PacifiCorp also defined quantitative targets for initiative activities for grid design, operations, and maintenance programs. PacifiCorp's Base WMP includes end-of-year targets for 2023, 2024, and 2025. Selected targets are included in Table 8.1-1 to demonstrate the utility's projected progress.

*Table 8.1-1: PacifiCorp Grid Design, Operations, and Maintenance – Selected Targets<sup>84</sup>*

Initiative Activity	Target Unit	2023 Target	2024 Target	2025 Target
<b>Covered Conductor Installation</b>	Line miles	130	80	80
<b>Expulsion fuse replacements</b>	Fuses	5,000	500	0
<b>Distribution pole replacement</b>	Poles	2,600	1,600	1,600
<b>Installation of system automation equipment</b>	Devices	40	20	10

## 8.1.2 Grid Design and System Hardening

Section 8.1.2 of the Technical Guidelines requires PacifiCorp to provide information on how it designs its system to reduce ignition risk and what it is doing to strengthen its distribution, transmission, and substation infrastructure to reduce the risk of utility-related ignitions resulting in catastrophic wildfires.<sup>85</sup>

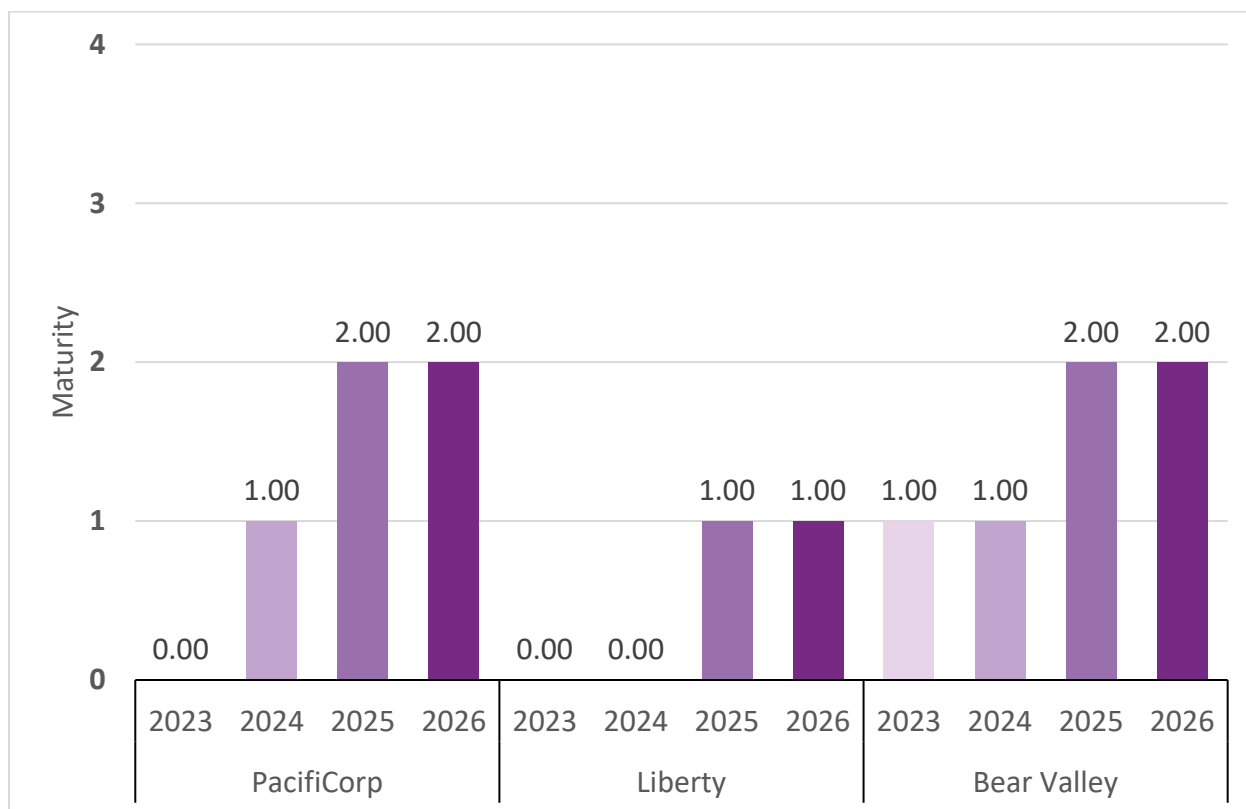
### 8.1.2.1 Maturity Survey Results

According to its responses to the 2023 Maturity Survey, PacifiCorp has a 2023 maturity level of 0 for grid design and resiliency. For 2024, PacifiCorp projects that it will increase in maturity to a level of 1. For 2025, PacifiCorp projects that it will increase in maturity to a level of 2 (Figure 8.1-1).

<sup>84</sup> PacifiCorp's 2023-2025 WMP, Table 8-3: Grid Design, Operations, and Maintenance Targets by Year, pages 143-144.

<sup>85</sup> [Technical Guidelines](https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53286&shareable=true), Section 8.1.2, page 82 (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53286&shareable=true, accessed May 5, 2023).

Figure 8.1-1: Cross-Utility Maturity for Grid Design and Resiliency<sup>86</sup> (Minimum Values)

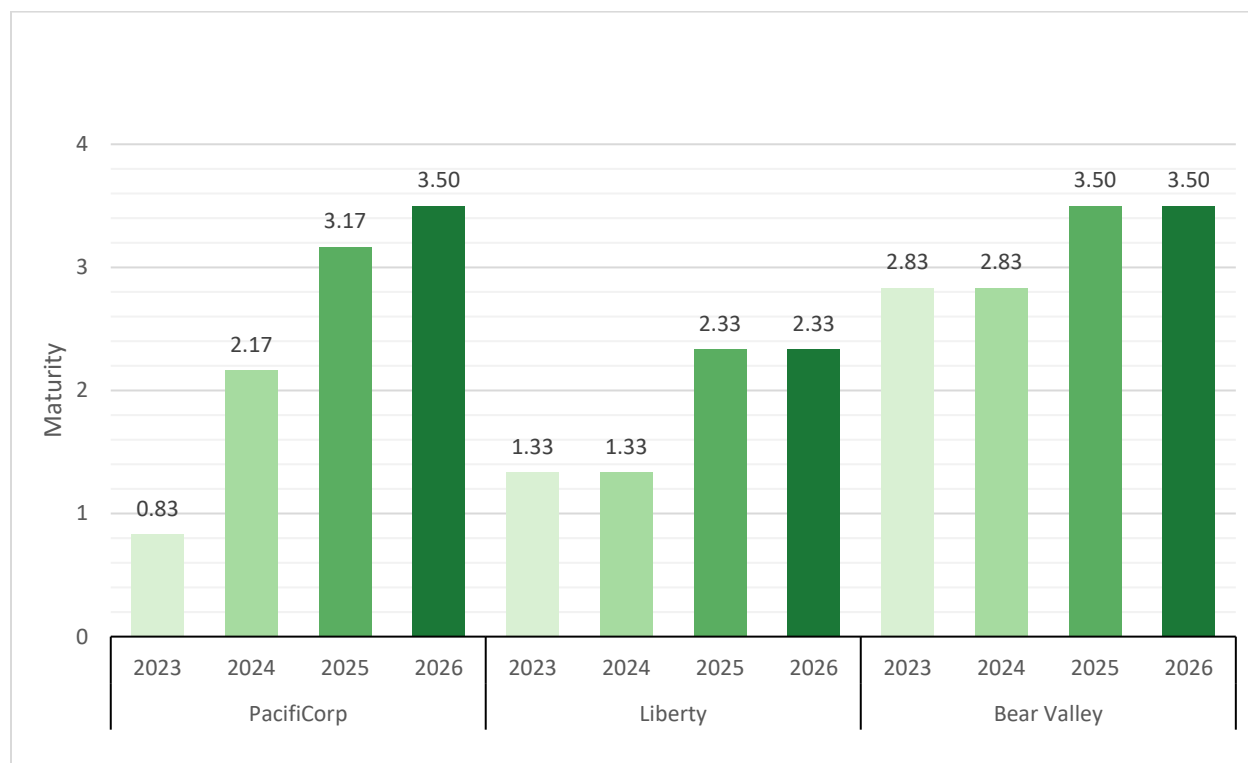


The utility’s maturity level for the grid design and resiliency capability described above is calculated using the minimum value of component sub-capabilities. The capability average is another way to look at PacifiCorp’s performance in grid design and resiliency. The capability average is determined from the average of all component sub-capabilities and is an additional tool to evaluate the utilities’ maturity.<sup>87</sup>

When the capability maturity is calculated using the average (rather than the minimum), PacifiCorp has a maturity level for grid design and resiliency of 0.83 in 2023, and projects significant increases in maturity to 2.17 in 2024 and 3.17 in 2025 (Figure 8.1-2).

<sup>86</sup> 2023 Maturity Survey Category C “Grid Design, Inspections, and Maintenance,” Capability 16 “Grid design and resiliency.”

<sup>87</sup> For further information on maturity level determinations, see Section 4 of the 2023-2025 Electrical Corporation Wildfire Mitigation Maturity Model (second revision), published February 21, 2023.

Figure 8.1-2: Cross-Utility Maturity for Grid Design and Resiliency<sup>88</sup> (Average Values)

The rest of this section reports on maturity levels considering the average values.

PacifiCorp's maturity level in this capability is limited by its response to the following question:

- PacifiCorp reports that the new initiatives it pursues are not validated by independent auditing of grid performance.<sup>89</sup> In order to increase maturity, PacifiCorp would need to perform such audits.

PacifiCorp's current maturity level in this capability is lower than its peers, with Liberty and Bear Valley reporting at levels 1.33 and 2.83, respectively. See Figure 8.1-2.

### 8.1.2.2 PacifiCorp's WMP Strengths

PacifiCorp projects improvement in grid design and system hardening over the WMP cycle in the following areas: system automation equipment, expulsion fuse replacements.

From 2023 to 2025, PacifiCorp plans to deploy 70 devices of system automation equipment, as seen in Table 8.1-1 above. These include relays, circuit breakers, reclosers, and

<sup>88</sup> 2023 Maturity Survey Category C "Grid Design, Inspections, and Maintenance," Capability 16 "Grid design and resiliency."

<sup>89</sup> PacifiCorp's 2023 Maturity Survey, response to 3.4.2.Q7.

communications equipment. PacifiCorp set these targets in recognition of progress that must be made in light of previously lower targets in prior years. In order to meet these targets, PacifiCorp has hired a construction management partner.<sup>90</sup>

PacifiCorp also expects to complete all of its expulsion fuse replacements in the HFTD by 2024, with 5,500 replacements planned in 2023 and 2024 (also see Table 8.1-1). PacifiCorp plans to bundle expulsion fuse replacements with covered conductor projects for efficiency.<sup>91</sup>

## 2022 Areas for Continued Improvement

Energy Safety evaluated the progress PacifiCorp made toward addressing areas for continued improvement identified in Energy Safety's 2022 WMP Decision. PacifiCorp adequately addressed the 2022 areas for continued improvement for this topic. See Appendix B for the status of each 2022 area for continued improvement.

### 8.1.2.3 Areas for Continued Improvement

PacifiCorp must continue to improve in the following area.

#### Covered Conductor Installation Progress

Historically, PacifiCorp has failed to meet its covered conductor targets.<sup>92</sup> For 2023, it has set a higher goal of 130 miles to catch up from previous missed targets, as seen in Table 8.1-1 above. PacifiCorp has shown limited progress towards meeting this goal to date, with 64 miles completed as reported in November 2023.<sup>93</sup> PacifiCorp must continue to provide updates on its progress meeting its covered conductor targets and must demonstrate that it is properly allocating resources to meet its targets. This should include the status of any covered conductor projects currently being planned and associated changes based on any additional constraints moving forward.

Energy Safety sets forth specific areas for improvement and associated required progress in Section 11.

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<sup>90</sup> PacifiCorp's 2023-2025 WMP, page 144.

<sup>91</sup> PacifiCorp's 2023-2025 WMP, page 145.

<sup>92</sup> Final Decision on PacifiCorp's 2022 WMP Update, Table 4.6.3-1: PacifiCorp 2020-2022 Covered Conductor Targets and Performance, page 42.

<sup>93</sup> PacifiCorp's 2023 Q3 Quarterly Data Report, Table 1 Row 4 (<https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=55922&shareable=true>, accessed December 19, 2023).



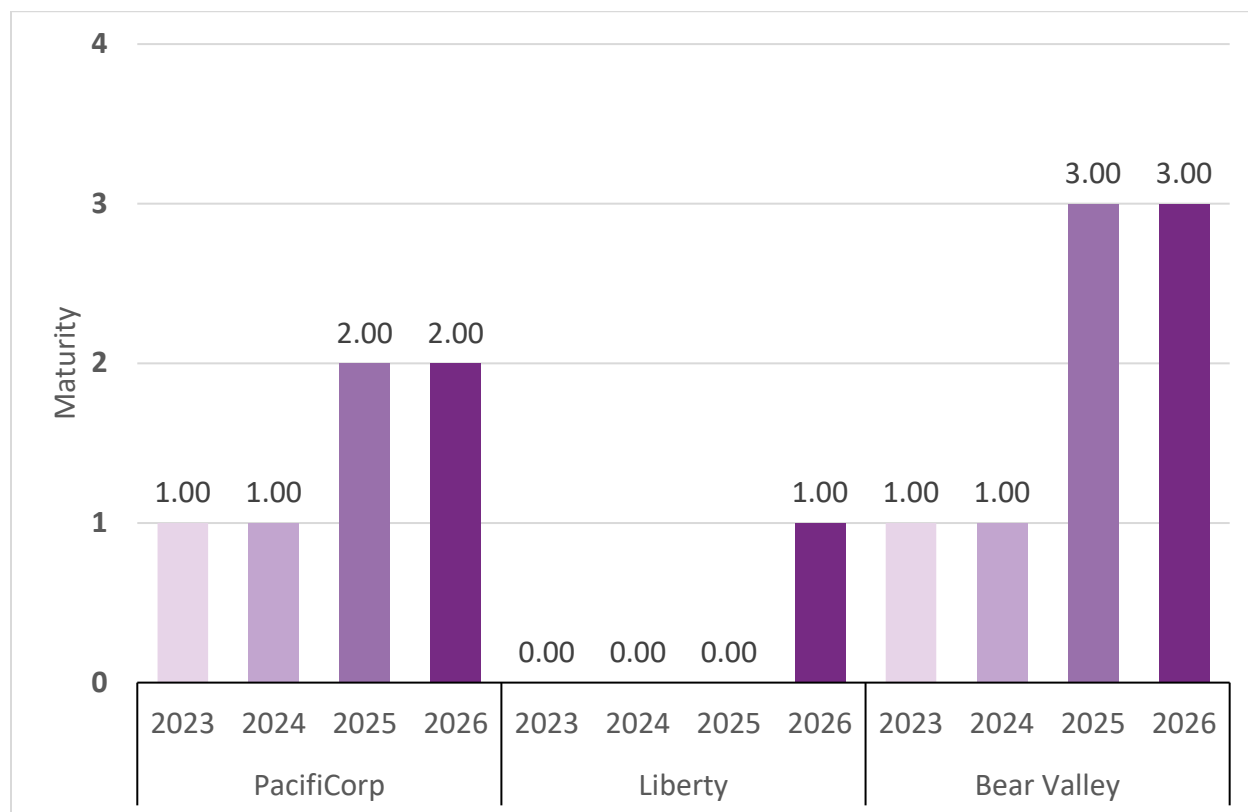
### 8.1.3 Asset Inspections

Section 8.1.3 of the Technical Guidelines requires PacifiCorp to provide an overview of its procedures for inspecting its assets.<sup>94</sup>

#### 8.1.3.1 Maturity Survey Results

According to its responses to the 2023 Maturity Survey, PacifiCorp has a 2023 maturity level of 1 for asset inspections. For 2024, PacifiCorp projects the same. For 2025, PacifiCorp projects that it will increase in maturity to a level of 2 (Figure 8.1-3).

Figure 8.1-3: Cross-Utility Maturity for Asset Inspections<sup>95</sup> (Minimum Values)



The utility’s maturity level for the asset inspections capability described above is calculated using the minimum value of component sub-capabilities. The capability average is another way to look at PacifiCorp’s performance in asset inspections. The capability average is

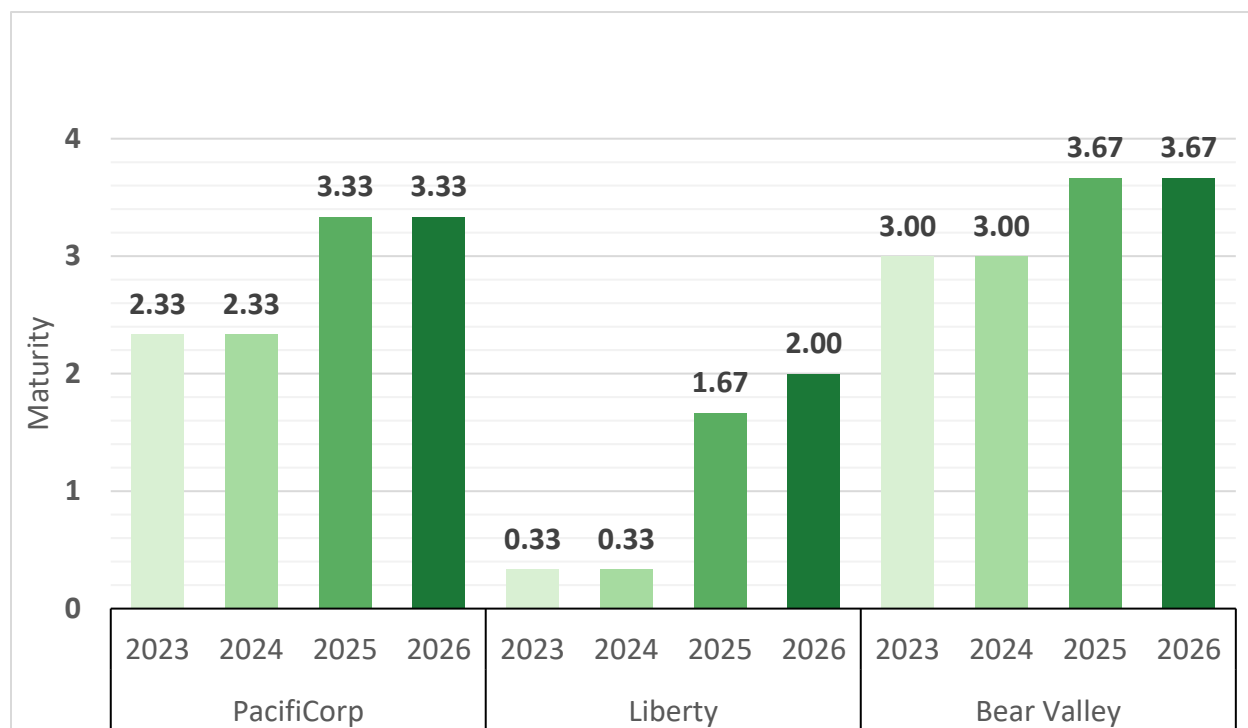
<sup>94</sup> [Technical Guidelines](#), Section 8.1.3, page 83-85 (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53286&shareable=true, accessed May 5, 2023).

<sup>95</sup> 2023 Maturity Survey Category C “Grid Design, Inspections, and Maintenance,” Capability 14 “Asset inspections.”

determined from the average of all component sub-capabilities and is an additional tool to evaluate the utilities' maturity.<sup>96</sup>

When the capability maturity is calculated using the average (rather than the minimum), PacifiCorp has a maturity level for asset inspections of 2.33 in 2023 and projects no maturity level change in 2024. It projects an increase to 3.33 in 2025 (Figure 8.1-4).

Figure 8.1-4: Cross-Utility Maturity for Asset Inspections<sup>97</sup> (Average Values)



The rest of this section reports on maturity levels considering the average values.

PacifiCorp's current maturity level in this capability is between that of its peers, with Liberty and Bear Valley reporting at levels 0.33 and 3.00, respectively. See Figure 8.1-4.

### 8.1.3.2 PacifiCorp's WMP Strengths

PacifiCorp projects improvement in asset inspections over the WMP cycle in the following area: infrared inspections.

<sup>96</sup> For further information on maturity level determinations, see Section 4 of the 2023-2025 Electrical Corporation Wildfire Mitigation Maturity Model (second revision), published February 21, 2023.

<sup>97</sup> 2023 Maturity Survey Category C "Grid Design, Inspections, and Maintenance," Capability 14 "Asset inspections."

PacifiCorp states it performs infrared enhanced inspections on all transmission assets in the HFTD annually, and all other transmission assets every two years.<sup>98</sup> By incorporating infrared technology on risk informed intervals, PacifiCorp has strengthened its asset inspection program.

PacifiCorp also states that it is expanding the scope of its distribution system infrared enhanced inspection pilot program from 47 miles in 2022 to 810 miles in 2023.<sup>99</sup> PacifiCorp plans to evaluate the results of the pilot program and determine if it will develop into a formal program over the course of the 2023-2025 WMP cycle.<sup>100</sup>

## 2022 Areas for Continued Improvement

Energy Safety evaluated the progress PacifiCorp made toward addressing areas for continued improvement identified in Energy Safety's 2022 WMP Decision. PacifiCorp adequately addressed the 2022 areas for continued improvement for this topic. See Appendix B for the status of each 2022 area for continued improvement.

### 8.1.3.3 Areas for Continued Improvement

PacifiCorp must continue to improve in the following areas.

#### QA/QC Pass Rate Targets for Rural Areas

PacifiCorp's Table 8-7 shows that PacifiCorp achieved a strong QA/QC pass rate of 97 percent for both detailed inspections and intrusive pole inspections in 2022.<sup>101</sup> However, PacifiCorp's target for detailed and intrusive inspection pass rates is only 80 percent for 2023-2025. In its 2025 update, PacifiCorp must set targets that align with both its current maturity and industry standards.

#### Covered Conductor Inspections and Maintenance

PacifiCorp states it will continue participating in covered conductor meetings and workshops with other utilities in 2023 and lists inspection practices as a discussion topic.<sup>102</sup> In its 2025 Update, PacifiCorp must discuss how it will account for failure modes unique to covered conductor in its inspections, including applying lessons learned from the joint covered conductor workshops to its inspection and maintenance programs. For example, one failure mode identified during the covered conductor joint workshops is corrosion caused by water

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<sup>98</sup> PacifiCorp's 2023-2025 WMP, Table 8-6, page 147.

<sup>99</sup> PacifiCorp's 2023-2025 WMP, pages 154-155.

<sup>100</sup> PacifiCorp's 2023-2025 WMP, page 154.

<sup>101</sup> PacifiCorp's 2023-2025 WMP, page 163.

<sup>102</sup> PacifiCorp's 2023-2025 WMP, page 392.

intrusion.<sup>103</sup> In the case of covered conductor, a visual inspection is unlikely to discover this failure, necessitating a different approach.

### **Distribution Detailed Inspection Frequency**

PacifiCorp currently performs overhead distribution detailed inspections on a five-year interval,<sup>104</sup> and does not adjust the frequency based on risk. This approach may not adequately cover wildfire risk, particularly in the riskiest areas, given high-priority issues could propagate within the five-year timeline. PacifiCorp must strive to adopt a risk-based approach by increasing the frequency of these inspections on circuits identified by its risk model to have the highest risk.

Energy Safety sets forth specific areas for improvement and associated required progress in Section 11.

## **8.1.4 Equipment Maintenance and Repair**

Section 8.1.4 of the Technical Guidelines requires PacifiCorp to provide a narrative of its maintenance programs, including its strategy for replacing/upgrading and for specific equipment types.<sup>105</sup>

### **8.1.4.1 Maturity Survey Results**

According to its responses to the 2023 Maturity Survey, PacifiCorp has a 2023 maturity level of 1.00 for equipment maintenance and repair. For 2024, PacifiCorp projects the same. For 2025, PacifiCorp projects that it will increase in maturity to a level of 2.00 (Figure 8.1-5).

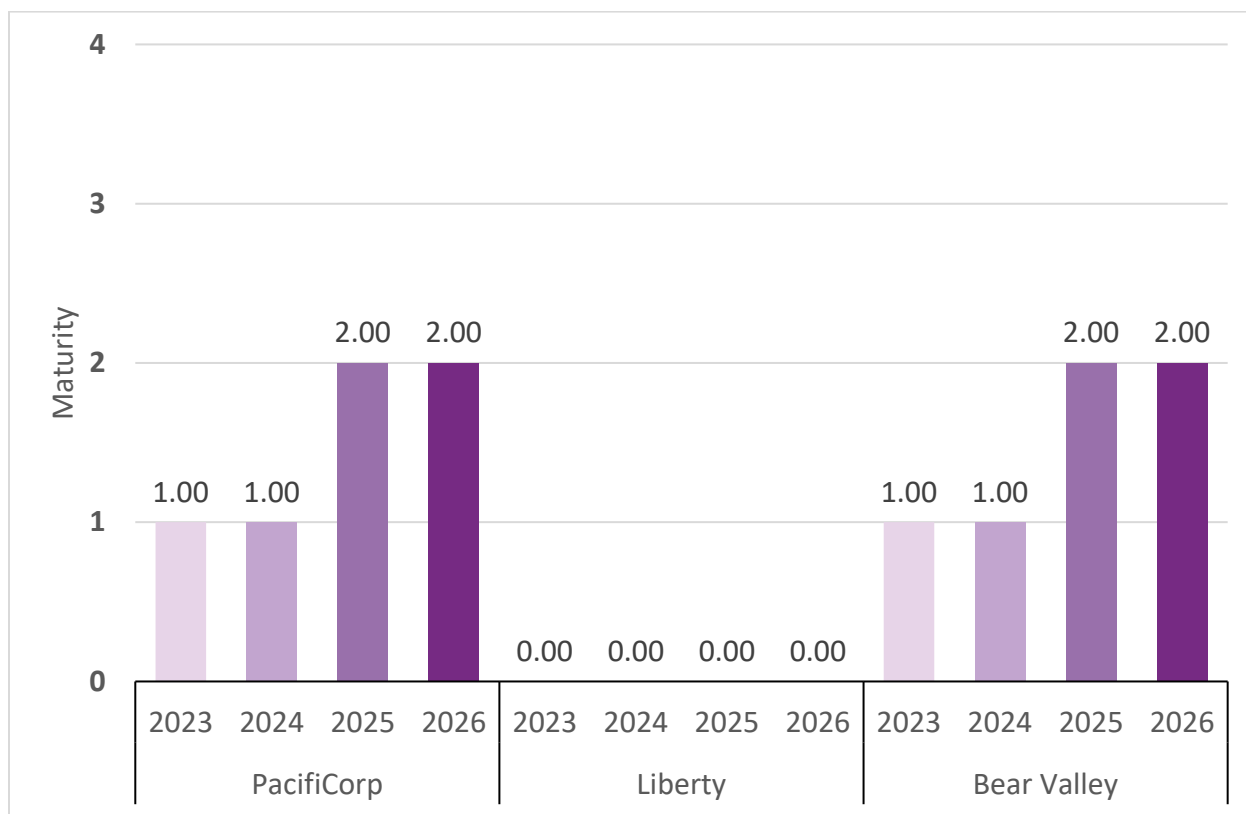
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<sup>103</sup> Exponent (2022). [Effectiveness and Implementation Considerations of Covered Conductors: Testing and Analysis](https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/effectiveness-and-implementations-considerations-of-covered-conductors-testing-and-analysis.pdf), pages 42-79 (https://www.pge.com/assets/pge/docs/outages-and-safety/outage-preparedness-and-support/effectiveness-and-implementations-considerations-of-covered-conductors-testing-and-analysis.pdf, accessed December 21, 2023).

<sup>104</sup> PacifiCorp's 2023-2025 WMP, page 147.

<sup>105</sup> [Technical Guidelines](https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53286&shareable=true), Section 8.1.4, pages 85-86 (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53286&shareable=true, accessed May 5, 2023).

Figure 8.1-5: Cross-Utility Maturity for Asset Maintenance and Repair<sup>106</sup> (Minimum Values)

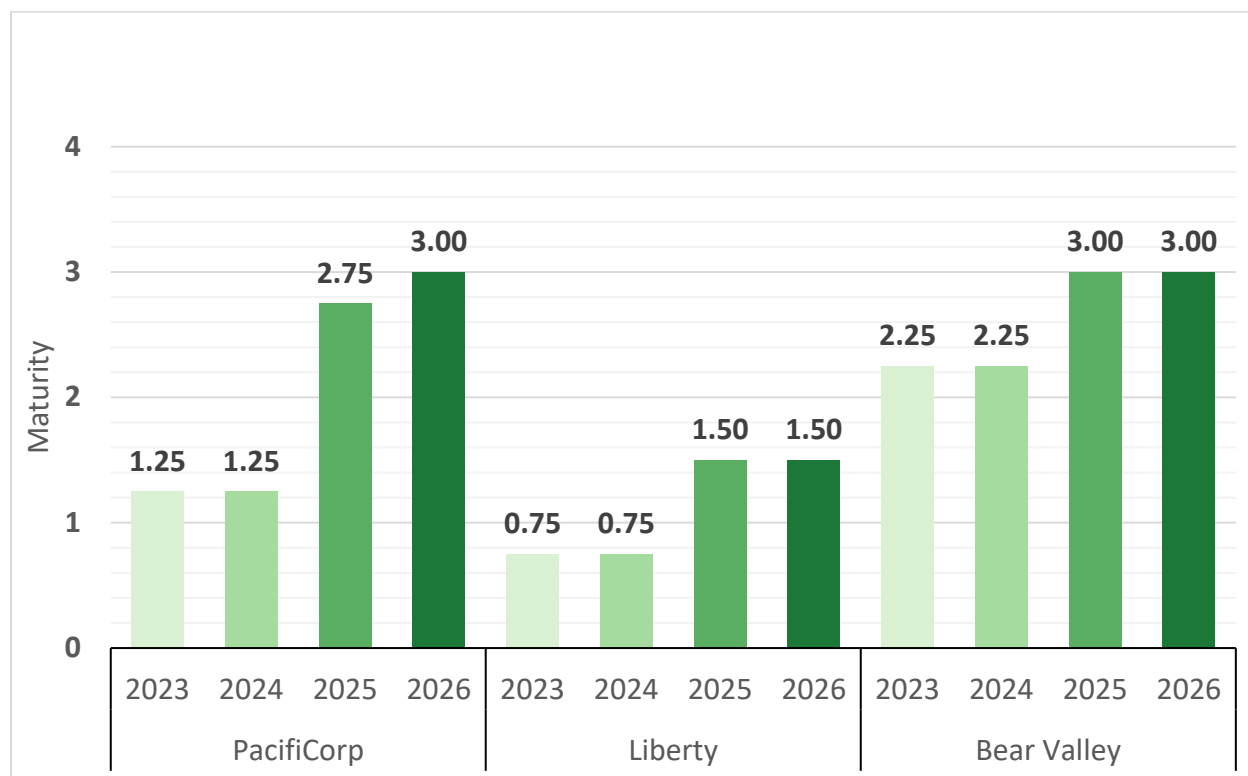


The utility’s maturity level for the equipment maintenance and repair capability described above is calculated using the minimum value of component sub-capabilities. The capability average is another way to look at PacifiCorp’s performance in equipment maintenance and repair. The capability average is determined from the average of all component sub-capabilities and is an additional tool to evaluate the utilities’ maturity.<sup>107</sup>

When the capability maturity is calculated using the average (rather than the minimum), PacifiCorp has a maturity level for equipment maintenance and repair of 1.25 in 2023 and projects no maturity level change in 2024. It projects a significant increase to 2.75 in 2025 (Figure 8.1-6).

<sup>106</sup> 2023 Maturity Survey Category C “Grid Design, Inspections, and Maintenance,” Capability 15 “Asset maintenance and repair.”

<sup>107</sup> For further information on maturity level determinations, see Section 4 of the 2023-2025 Electrical Corporation Wildfire Mitigation Maturity Model (second revision), published February 21, 2023.

Figure 8.1-6: Cross-Utility Maturity for Asset Maintenance and Repair<sup>108</sup> (Average Values)

The rest of this section reports on maturity levels considering the average values.

PacifiCorp’s current maturity level in this capability is between that of its peers, with Liberty and Bear Valley reporting at levels 0.75 and 2.25, respectively. See Figure 8.1-6.

#### 8.1.4.2 PacifiCorp’s WMP Strengths

PacifiCorp projects improvement in equipment maintenance and repair over the WMP cycle in the following areas: proactive replacement of CAL FIRE non-exempt equipment in the HFTD.

PacifiCorp has set targets to replace all CAL FIRE non-exempt equipment in the HFTD with exempt alternatives.<sup>109</sup> It is targeting the replacement of all non-exempt equipment at 5,000 locations in 2023 and the remaining 500 locations in 2024.<sup>110</sup> PacifiCorp states that as its risk

<sup>108</sup> 2023 Maturity Survey Category C “Grid Design, Inspections, and Maintenance,” Capability 15 “Asset maintenance and repair.”

<sup>109</sup> [Data Request OEIS-P-WMP\\_2023-PC-003](https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=54418&shareable=true), Question 2

(<https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=54418&shareable=true>, accessed December 5, 2023).

<sup>110</sup> PacifiCorp’s 2023-2025 WMP, page 135.

model matures and identifies high fire risk areas outside of the HFTD, this project may expand.<sup>111</sup>

## 2022 Areas for Continued Improvement

Energy Safety evaluated the progress PacifiCorp made toward addressing areas for continued improvement identified in Energy Safety's 2022 WMP Decision. PacifiCorp adequately addressed the 2022 areas for continued improvement for this topic. See Appendix B for the status of each 2022 area for continued improvement.

### 8.1.4.3 Revision Notice Critical Issues

As described in Section 3.4, Energy Safety issued PacifiCorp a Revision Notice on September 11, 2023, in response to its WMP. PacifiCorp submitted its Revision Notice Response on October 12, 2023. This section evaluates that response as it relates to equipment maintenance and repair.<sup>112</sup>

#### **RN-PC-23-04: PacifiCorp has not assigned imminent threat status to any Level 1 conditions found during inspections from 2020 to 2022 and has not maintained compliance with its existing Level 1 work orders**

Energy Safety required PacifiCorp to update its WMP Section 8.1.6<sup>113</sup> with an investigative framework to validate its inspections are correctly assigning imminent threat status to Level 1 conditions. The framework was required to include:

- A plan to identify failure modes that can result in imminent threats.
- A strategy to perform internal and external audits on inspections that resulted in the identified failure modes.
- An evaluation of all Level 1 work orders created from 2020 to 2023 to determine if any could have posed an imminent threat.
- A description of PacifiCorp's capability to track temporary and interim corrective actions taken to mitigate imminent threat conditions.
- A process to update associated procedures, inspection practices, and training materials to correctly identify imminent threats.

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<sup>111</sup> PacifiCorp's 2023-2025 WMP, page 159.

<sup>112</sup> [PacifiCorp's Revision Notice Response](https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=55771&shareable=true) (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=55771&shareable=true, accessed December 5, 2023).

<sup>113</sup> The Revision Notice mistakenly requested that PacifiCorp update Section 8.2.5. PacifiCorp correctly identified and updated Section 8.1.6.

PacifiCorp was also required to update Section 8.1.7 of its WMP to include a plan to address Level 1 priority work orders in a timely manner. The update was required to include:

- Resourcing allocation plans to obtain and/or maintain workforce and equipment needs.
- PacifiCorp's plan to address and prioritize Level 1 priority work orders based on wildfire risk in the future.
- An update on PacifiCorp's open Level 1 priority work orders as of the publication of the Revision Notice.
- A plan to perform root cause analysis on the delays PacifiCorp faced resolving Level 1 priority work orders from 2020-2023.

#### **RN-PC-23-04: PacifiCorp Response Summary**

In PacifiCorp's Revision Notice Response, it provided more information on how it currently processes Level 1 work orders.

PacifiCorp stated that its Procedure 069 lists condition codes with non-conformance criteria and priority levels based on severity of the condition.<sup>114</sup> PacifiCorp stated that most Level 1 conditions do not pose a significant threat to life or property, and subsequently most are not classified as imminent threats.<sup>115</sup> PacifiCorp also responded that it does not keep any records that identify conditions as imminent threats, and imminent threats can only be determined by evaluating the duration between identification and correction of a condition.<sup>116</sup>

In its Revision Notice Response, PacifiCorp stated that it performs internal audits on five percent of its asset inspections.<sup>117</sup>

PacifiCorp stated that it evaluated all Level 1 work orders from 2020 to 2023 and determined that none should have been classified as imminent threats.<sup>118</sup>

PacifiCorp responded that it tracks temporary corrective actions and interim measures with its Facility Point Inspection system. The temporary measures are noted as comments associated with the related condition, and the condition is subsequently removed from the system and re-added with the same condition code but a lower priority.<sup>119</sup>

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<sup>114</sup> PacifiCorp's Revision Notice Response, page 12.

<sup>115</sup> PacifiCorp's Revision Notice Response, page 12.

<sup>116</sup> PacifiCorp's Revision Notice Response, pages 12-13.

<sup>117</sup> PacifiCorp's Revision Notice Response, page 13.

<sup>118</sup> PacifiCorp's Revision Notice Response, page 13.

<sup>119</sup> PacifiCorp's Revision Notice Response, page 13.



PacifiCorp stated that its procedures, inspection practices, and training materials are reviewed on an annual basis. The policies and procedures may be updated if issues or improvements are identified.<sup>120</sup>

The Revision Notice Response also stated that PacifiCorp plans to continue responding to imminent threats immediately and all other Level 1 conditions within 30 days. At the time of Revision Notice Response publication, PacifiCorp stated there were five open Level 1 work orders.<sup>121</sup>

PacifiCorp stated that a root cause analysis was performed to identify factors that resulted in Level 1 conditions exceeding the 30-day correction window. The primary drivers of non-compliance were identified as access, material, permitting, and resource constraints.<sup>122</sup>

### **RN-PC-23-04: Energy Safety Evaluation**

As noted above in its Revision Notice Response, PacifiCorp stated that its Procedure 069 identifies failure modes that can result in imminent threats, including non-conformance criteria and the severity associated with each priority level.<sup>123</sup> The ability to identify failure modes that can result in imminent threat satisfies the first requirement of this revision notice issue.

PacifiCorp also stated that it performs internal audits on five percent of its asset inspections. From 2020 to 2022, approximately four percent of PacifiCorp's findings were classified as Level 1 conditions.<sup>124</sup> The relatively low find rate of Level 1 conditions coupled with the audit sample rate suggests that PacifiCorp performs internal audits on a small number of Level 1 conditions. Similarly, the external audits referenced in PacifiCorp's Revision Notice Response are not comprehensive enough to demonstrate that PacifiCorp's response to Level 1 conditions is effectively mitigating risk.

PacifiCorp stated that it evaluated all Level 1 works orders from 2020-2023 and found that none of the conditions should have been classified as imminent threats. PacifiCorp did not provide further details, such as the methodology of the evaluation or the qualifications of the evaluators.

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<sup>120</sup> PacifiCorp's Revision Notice Response, pages 13-14.

<sup>121</sup> PacifiCorp's Revision Notice Response, page 14.

<sup>122</sup> PacifiCorp's Revision Notice Response, page 14.

<sup>123</sup> PacifiCorp's Revision Notice Response, page 12.

<sup>124</sup> PacifiCorp's 2022 Q4 QDR, Table 2, metric #14 (<https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=54252&shareable=true>, accessed December 5, 2023).

PacifiCorp stated that it tracks temporary and interim corrective actions via comments in its Facility Point Inspection system,<sup>125</sup> which adequately addresses this topic in the revision notice.

PacifiCorp's Revision Notice Response stated that it reviews all procedures, training materials, and inspection practices annually, and the processes are updated if concerns or improvements are identified during review. PacifiCorp's response adequately addresses this topic of the revision notice.

PacifiCorp did not provide resourcing allocation plans to obtain and/or maintain workforce and equipment needs.

In its response, PacifiCorp stated that it intends to continue immediately correcting Level 1 conditions deemed imminent threats by its inspectors, and all other Level 1 conditions within 30 days. General Order (GO) 95 requires that all Level 1 conditions be remedied immediately, either through a full or temporary repair. PacifiCorp has not demonstrated that responding to non-imminent threat Level 1 conditions within 30 days adequately mitigates the risk associated with conditions of this severity.

As noted above, PacifiCorp stated that root cause analysis demonstrated that Level 1 conditions that were not corrected within the 30-day timeframe were delayed due to access, material, permitting, and resource constraints.<sup>126</sup> PacifiCorp stated it is developing tools and process changes to mitigate the identified delay drivers but does not provide any details or examples.

Energy Safety finds that PacifiCorp has de-escalated this critical issue to areas for continued improvement.

While PacifiCorp has adequately addressed certain issues, there remain other issues that must be addressed as areas for continued improvement. PacifiCorp has not demonstrated that it is correctly identifying Level 1 conditions as imminent threats and it does not have the ability to reliably track if conditions were identified as imminent threats, because it has no record category for imminent threats.<sup>127</sup> In its 2025 Update, PacifiCorp must provide a plan to have external audits performed on all Level 1 conditions identified from 2020 to 2023 to assess both the severity of the condition and appropriateness of the remediation timeframe. PacifiCorp must also develop a reliable method for tracking Level 1 conditions that are identified as imminent threats.

PacifiCorp stated that it has identified the root causes of Level 1 conditions that are not remediated within the allotted time frame and that it is developing new tools and process

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<sup>125</sup> PacifiCorp's Revision Notice Response, page 13.

<sup>126</sup> PacifiCorp's Revision Notice Response, page 14.

<sup>127</sup> PacifiCorp's Revision Notice Response, page 13.

changes to mitigate these causes. In its 2025 Update, PacifiCorp must provide details on the tools it is developing, and the process changes it is implementing to mitigate the delays.

Energy Safety sets forth specific areas for improvement and associated required progress in Section 11.

#### **8.1.4.4 Areas for Continued Improvement**

PacifiCorp must continue to improve in the following areas. Areas for continued improvement in this section are in addition to areas for continued improvement resulting from PacifiCorp's Revision Notice Response, discussed above.

PacifiCorp states that it does not have a consolidated Asset Management and Inspection Enterprise System. PacifiCorp uses a combination of databases and planning tools to identify asset inventory and oversee its inspection, correction, and maintenance programs.<sup>128</sup> PacifiCorp does not intend to move toward a single enterprise system. In its 2025 Update, PacifiCorp must provide an analysis demonstrating that its combination of legacy and current tools and databases sufficiently encompass its full asset inventory as well as its maintenance and inspection programs.

Energy Safety sets forth specific areas for improvement and associated required progress in Section 11.

#### **8.1.5 Grid Operations and Procedures**

Section 8.1.8 of the Technical Guidelines requires PacifiCorp to describe how it manages and operates its grid to reduce wildfire risk, including in relation to equipment settings, grid response procedures and notifications, and personnel work procedures and training.<sup>129</sup>

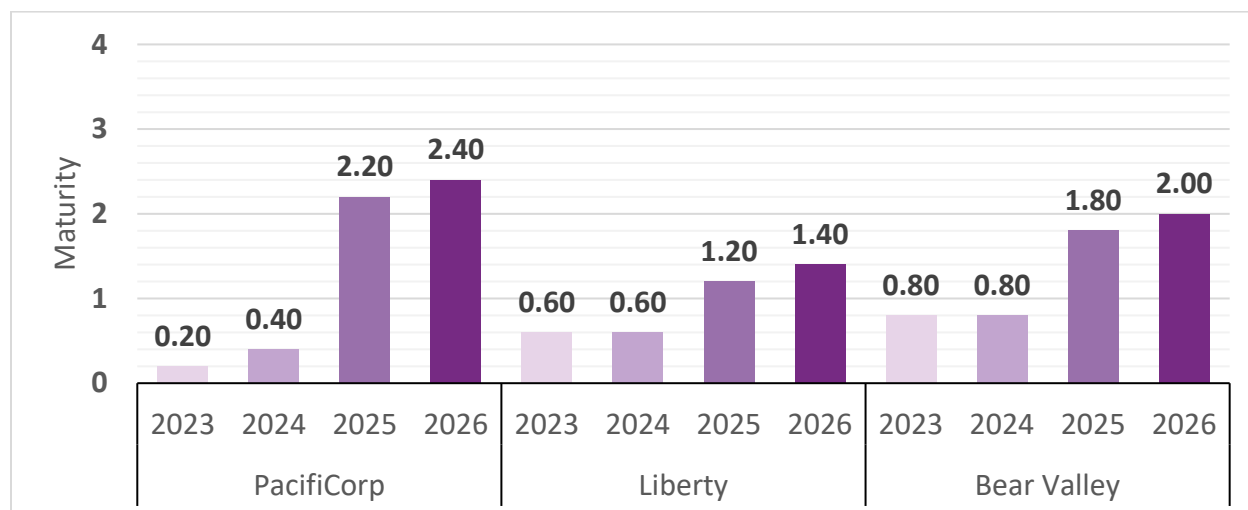
##### **8.1.5.1 Maturity Survey Results**

According to its responses to the 2023 Maturity Survey, PacifiCorp has a 2023 maturity level of 0.20 for grid operations and protocols. For 2024, PacifiCorp projects that it will increase in maturity to a level of 0.40. For 2025, PacifiCorp projects that it will significantly increase in maturity to a level of 2.20 (Figure 8.1-7).

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<sup>128</sup> PacifiCorp's 2023-2025 WMP, page 160.

<sup>129</sup> [Technical Guidelines](https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53286&shareable=true), Section 8.1.8, pages 88-89 (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53286&shareable=true, accessed May 5, 2023).

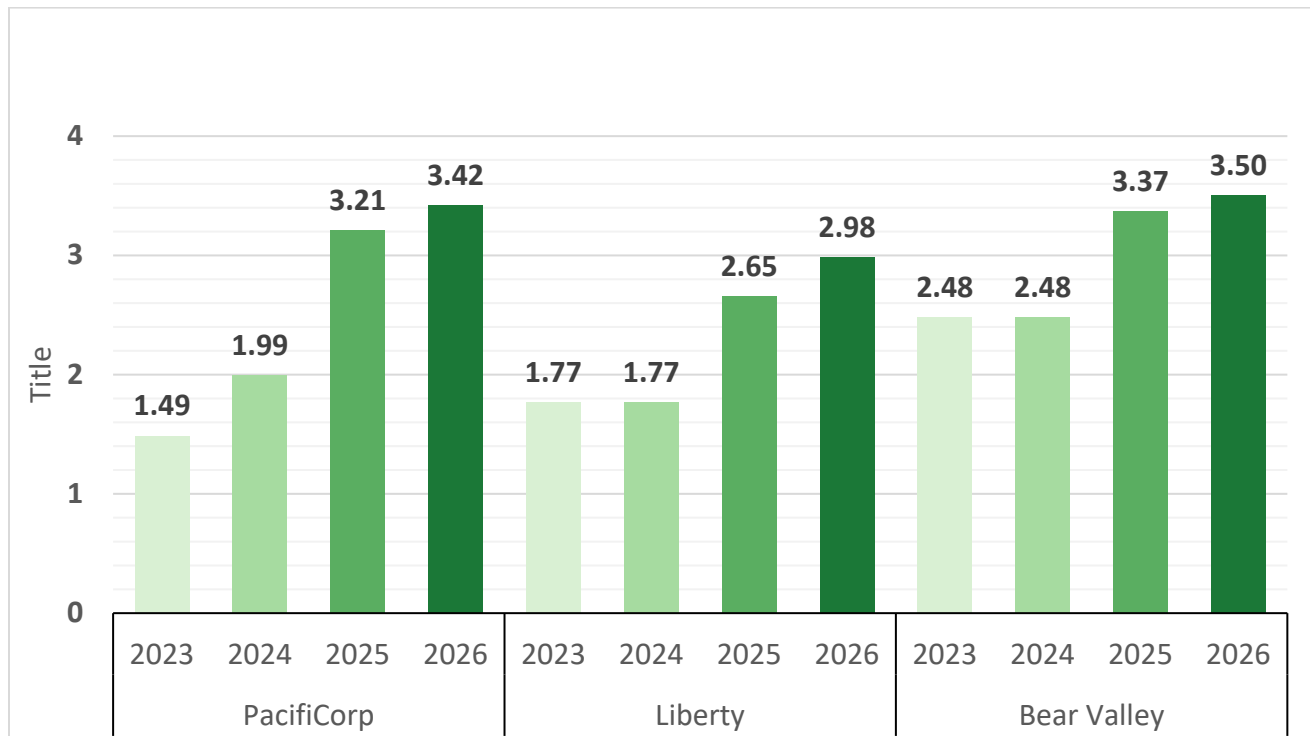
Figure 8.1-7: Cross-Utility Maturity for Grid Operations and Protocols<sup>130</sup> (Minimum Values)

The utility's maturity level for the grid operations and protocols category described above is calculated using the minimum value sub-capability of each capability. Using the capability average is another way to look at PacifiCorp's performance in grid operations and protocols. The capability average is determined from the average of all component sub-capabilities and is an additional tool to evaluate the utilities' maturity.<sup>131</sup>

When the category maturity is calculated using the capability average (rather than the minimum), PacifiCorp has a maturity level for grid operations and protocols of 1.49 in 2023. It projects increases to 1.99 in 2024 and 3.21 in 2025 (Figure 8.1-8).

<sup>130</sup> 2023 Maturity Survey Category E "Grid Operations and Protocols."

<sup>131</sup> For further information on maturity level determinations, see Section 4 of the 2023-2025 Electrical Corporation Wildfire Mitigation Maturity Model (second revision), published February 21, 2023.

Figure 8.1-8: Cross-Utility Maturity for Grid Operations and Protocols<sup>132</sup> (Average Values)

The rest of this section reports on maturity levels considering the minimum values.

PacifiCorp's maturity level in this category is limited by its response to the following questions:

- PacifiCorp reports that it does not have a standard process for testing the applicability of the best practices and lessons learned from other electrical corporations regarding protective equipment and device settings.<sup>133</sup> In order to advance in maturity, PacifiCorp would need to establish a process with other electrical corporations.
- PacifiCorp reports that grid elements and protective equipment sensitivities are determined manually.<sup>134</sup> In order to advance in maturity, PacifiCorp would need to determine these elements and sensitivities automatically.
- PacifiCorp reports that the predictive model for shortening the expected life of equipment undergoes subject matter expert review less than once per year.<sup>135</sup> In

<sup>132</sup> 2023 Maturity Survey Category E "Grid Operations and Protocols."

<sup>133</sup> PacifiCorp's 2023 Maturity Survey, response to 5.1.2.Q4.

<sup>134</sup> PacifiCorp's 2023 Maturity Survey, response to 5.1.6.Q2.

<sup>135</sup> PacifiCorp's 2023 Maturity Survey, response to 5.2.4.Q2.

order to advance in maturity, PacifiCorp would need to review its model at least once per year or at least once per six months.

PacifiCorp's current maturity level in this category is lower than its peers, with Liberty and Bear Valley reporting at levels 0.6 and 0.8, respectively. See Figure 8.1-7.

Based on its responses to the 2023 Maturity Survey, PacifiCorp reported its highest levels of projected maturity in the following capability for 2023 and 2024:

- PSPS operating model<sup>136</sup>

Based on its responses to the 2023 Maturity Survey, PacifiCorp reported its lowest levels of projected maturity in the following capabilities for 2023 and 2024:

- Ignition prevention and suppression<sup>137</sup>
- Incorporation of ignition risk factors in grid control<sup>138</sup>
- Protective equipment and device settings<sup>139</sup>

PacifiCorp projects advancing in all the above capabilities in 2025.

### 8.1.5.2 PacifiCorp's WMP Strengths

PacifiCorp projects improvement in grid operations and procedures over the WMP cycle in the following areas: fault indicators.

PacifiCorp is using fault indicators to help minimize response times and impacts during outages. PacifiCorp reports this is beneficial when implemented with Enhanced Fire Risk (EFR) settings, as it narrows potential fault locations, allowing quick and efficient response to outages and expedited restoration.<sup>140</sup>

### 2022 Areas for Continued Improvement

Energy Safety evaluated the progress PacifiCorp made toward addressing areas for continued improvement identified in Energy Safety's 2022 WMP Decision. See Appendix B for the status of each 2022 area for continued improvement.

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<sup>136</sup> PacifiCorp's responses to questions on the 2023 Maturity Survey under Category E "Grid Operations and Protocols," Capability 24 "PSPS operating model."

<sup>137</sup> PacifiCorp's responses to questions on the 2023 Maturity Survey under Category E "Grid Operations and Protocols," Capability 26 "Ignition prevention and suppression."

<sup>138</sup> PacifiCorp's responses to questions on the 2023 Maturity Survey under Category E "Grid Operations and Protocols," Capability 23 "Incorporation of ignition risk factors in grid control."

<sup>139</sup> PacifiCorp's responses to questions on the 2023 Maturity Survey under Category E "Grid Operations and Protocols," Capability 22 "Protective equipment and device settings."

<sup>140</sup> PacifiCorp's 2023-2025 WMP, page 174.

### 8.1.5.3 Areas for Continued Improvement

PacifiCorp must continue to improve in the following areas.

#### Continued Monitoring of Enhanced Fire Risk (EFR) Settings

In 2022, Energy Safety found that PacifiCorp had not performed a full analysis on reliability and related public safety impacts for changes to its EFR settings (PC-22-17).<sup>141</sup> Energy Safety required PacifiCorp to analyze any reliability and public safety impacts associated with changes in sensitivity of protective device settings, including a lookback related to 2022 performance, as well as describe mitigation measures implemented to reduce reliability impacts of EFR if noticeable impacts are observed.

PacifiCorp has not sufficiently addressed the required progress associated with this 2022 area for continued improvement. PacifiCorp states that it does not have a way to determine the effectiveness for its implementation of EFR settings.<sup>142</sup> This demonstrates a lack of full understanding of the tradeoffs between wildfire mitigation and reliability. To better understand implementation and use of EFR settings, PacifiCorp must evaluate what impacts EFR has had on effectiveness. This should include impacts on reliability based on outages that occurred while settings were implemented, ignition risk reduction based on observed potential ignitions avoided, and collaboration with other utilities to understand best practices.

Energy Safety sets forth specific areas for improvement and associated required progress in Section 11.

## 8.2 Vegetation Management and Inspections

In response to Section 8.2 of the Technical Guidelines, PacifiCorp provided information on its vegetation management programs, including vegetation inspections, vegetation and fuels management, vegetation management enterprise systems, environmental compliance and permitting, quality assurance and quality control, open work orders, and workforce planning as applicable.<sup>143</sup>

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<sup>141</sup> [Final Decision on PacifiCorp's 2022 WMP Update](https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53298&shareable=true), PC-22-17, page 94 (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53298&shareable=true, accessed November 21, 2023).

<sup>142</sup> PacifiCorp's 2023-2025 WMP, page 172.

<sup>143</sup> [Technical Guidelines](https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53286&shareable=true), Section 8.2, "Vegetation Management and Inspections," pages 94-113 (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53286&shareable=true, accessed May 5, 2023).

Below is Energy Safety’s evaluation regarding PacifiCorp’s objectives and targets, maturity levels, and strengths in these areas. In addition, Energy Safety has identified areas where PacifiCorp must improve, described at the end of this section.

### 8.2.1 Objectives and Targets

As part of its Base WMP, PacifiCorp provided 3-year and 10-year objectives for its vegetation management programs.<sup>144</sup>

PacifiCorp revised its vegetation management objectives in its Revision Notice Response.<sup>145</sup> The objectives were substantially revised. See Section 8.2.4.1 for more information about the original and revised objectives.

PacifiCorp also defined quantitative targets for initiative activities for its vegetation management programs. PacifiCorp’s Base WMP includes end-of-year targets for 2023, 2024, and 2025. Selected targets are included in Table 8.2-1.

*Table 8.2-1: PacifiCorp Vegetation Management – Selected Targets*

Initiative Activity	Target Unit	2023 Target	2024 Target	2025 Target
<b>Pole clearing in LRA HFTD<sup>146</sup></b>	Poles brushed	3,126	3,126	3,126
<b>Detailed Inspection – Distribution</b>	Circuit miles	829	874	826
<b>Detailed Inspection – Transmission</b>	Circuit miles	264	602	270

### 8.2.2 Maturity Survey Results

According to its responses to the 2023 Maturity Survey, PacifiCorp has a 2023 maturity level of 0.00 for vegetation management and inspections. For 2024, PacifiCorp projects that it will slightly increase in maturity to a level of 0.25. For 2025, PacifiCorp projects that it will significantly increase in maturity to a level of 1.50 (Figure 8.2-1).

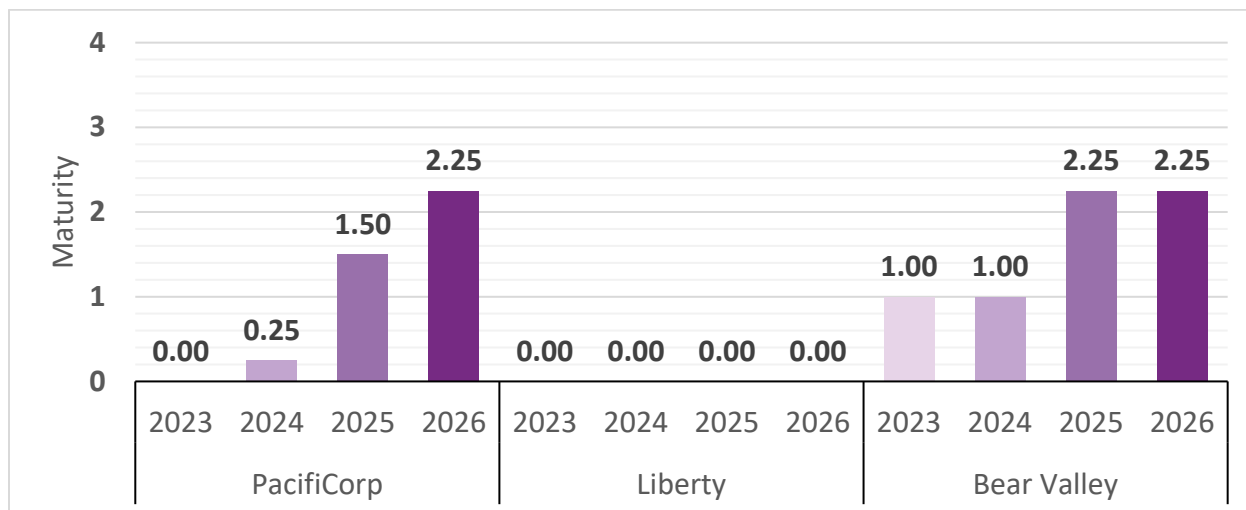
<sup>144</sup> PacifiCorp’s 2023-2025 WMP submitted on May 8, 2023, pages 180-181.

<sup>145</sup> PacifiCorp’s 2023-2025 WMP, page 182-183.

<sup>146</sup> “Pole clearing in LRA HFTD” refers to pole clearing in the Local Responsibility Area of the high fire threat district.



Figure 8.2-1: Cross-Utility Maturity for Vegetation Management and Inspections (Minimum Values)

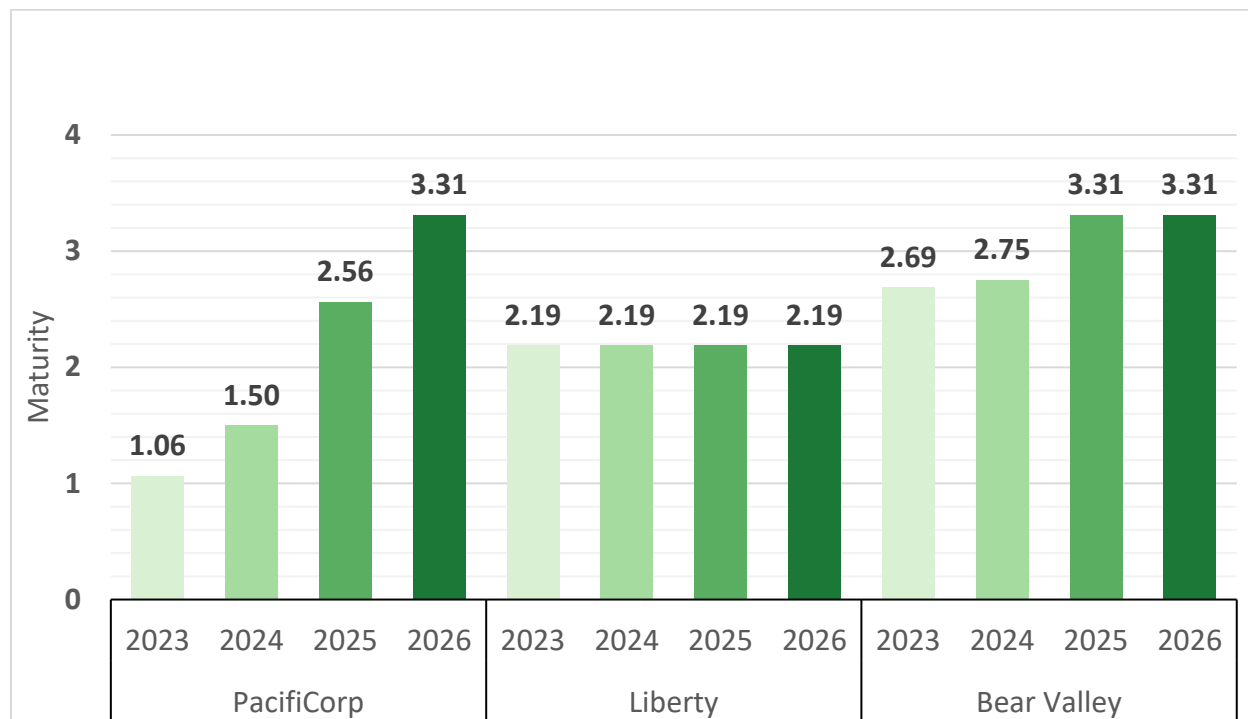


The utility’s maturity level for the vegetation management and inspections category described above is calculated using the minimum value sub-capability of each capability. Using the capability average is another way to look at PacifiCorp’s performance in vegetation management and inspections. The capability average is determined from the average of all component sub-capabilities and is an additional tool to evaluate the utilities’ maturity.<sup>147</sup>

When the category maturity is calculated using the capability average (rather than the minimum), PacifiCorp has a maturity level for vegetation management and inspections of 1.06 in 2023. It projects increases in maturity to 1.5 in 2024 and 2.56 in 2025 (Figure 8.2-2).

<sup>147</sup> For further information on maturity level determinations, see Section 4 of the 2023-2025 Electrical Corporation Wildfire Mitigation Maturity Model (second revision), published February 21, 2023.

Figure 8.2-2: Cross-Utility Maturity for Vegetation Management and Inspections  
(Average Values)



The rest of this section reports on maturity levels considering the average values.

PacifiCorp's maturity level in this category is limited by its response to the following question:

- PacifiCorp reports that its inspection frequency is not prioritized based on risk modeling considering species-specific vegetation growth and equipment type for each circuit of the service territory.<sup>148</sup> To mature this capability, PacifiCorp would have to prioritize its inspection frequency based on risk modeling considering species-specific vegetation growth and equipment type for each circuit of the service territory.

PacifiCorp's current maturity level in this category is lower than its peers, with Liberty and Bear Valley reporting at levels 2.19 and 2.69, respectively. See Figure 8.2-2.

Based on its responses to the 2023 Maturity Survey, PacifiCorp reported its highest levels of projected maturity in the following capability for 2023 and 2024:

- Vegetation personnel training and quality<sup>149</sup>

<sup>148</sup> PacifiCorp's 2023 Maturity Survey, response to 4.2.1 Q5.

<sup>149</sup> PacifiCorp's responses to questions on the 2023 Maturity Survey under Category D "Vegetation Management and Inspections," Capability 21 "Vegetation personnel training and quality."

Based on its responses to the 2023 Maturity Survey, PacifiCorp reported its lowest levels of projected maturity in the following capability for 2023 and 2024:

- Vegetation inspections<sup>150</sup>

### 8.2.3 PacifiCorp's WMP Strengths

PacifiCorp projects improvement in vegetation management over the WMP cycle in the following area: pole brushing and tree replacement.

PacifiCorp exceeds pole brushing requirements in certain areas. PacifiCorp performs pole and structure brushing that meet the requirements of Public Resource Code section 4292 on an additional 3,126 distribution poles that are outside the State Responsibility Areas but within the HFTD.<sup>151</sup>

Additionally, PacifiCorp offers its customers replacement tree vouchers to offset removal of trees along its rights-of-way.<sup>152</sup> These replacement trees are small with an aim to minimize their impact on overhead electrical infrastructure when they reach their mature height. This practice may reduce customer refusals related to vegetation management<sup>153</sup> and improve customer relations.

#### 8.2.3.1 2022 Areas for Continued Improvement

Energy Safety evaluated the progress PacifiCorp made toward addressing areas for continued improvement identified in Energy Safety's 2022 WMP Decision. PacifiCorp adequately addressed the 2022 area for continued improvement for this topic. See Appendix B for the status of each 2022 area for continued improvement.

### 8.2.4 Revision Notice Critical Issues

As described in Section 3.4, Energy Safety issued PacifiCorp a Revision Notice on September 11, 2023, in response to its WMP. PacifiCorp submitted its Revision Notice Response on October 12, 2023. This section evaluates that response as it relates to vegetation management.<sup>154</sup>

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<sup>150</sup> PacifiCorp's responses to questions on the 2023 Maturity Survey under Category D "Vegetation Management and Inspections," Capability 19 "Vegetation inspections."

<sup>151</sup> PacifiCorp's 2023-2025 WMP, pages 199-200.

<sup>152</sup> PacifiCorp's 2023-2025 WMP, page 203.

<sup>153</sup> Refusals of access to property by customers or landowners preventing utility vegetation management work prescribed by the electrical corporation.

<sup>154</sup> [PacifiCorp's Revision Notice Response](https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=55771&shareable=true) (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=55771&shareable=true, accessed December 5, 2023).

#### **8.2.4.1 RN-PC-23-05: PacifiCorp's 3-year and 10-year vegetation management objectives do not meet Energy Safety requirements as outlined in the Technical Guidelines**

Energy Safety required PacifiCorp to revise its 3-year and 10-year vegetation management objectives to address the issues with equivocating language and objectives that were neither specific nor measurable. PacifiCorp could add, modify, and/or remove objectives, as needed, in order to strengthen its 3-year and 10-year objectives to be specific, measurable, achievable, realistic, and timely.

##### **RN-PC-23-05: PacifiCorp Response Summary**

In PacifiCorp's Revision Notice Response, it provided six 3-year objectives and one 10-year objective. These objectives concern the creation or development of specific processes regarding vegetation management data collection and QA/QC.

##### **RN-PC-23-05: Energy Safety Evaluation**

PacifiCorp's revised objectives built upon its initial objectives, which were to review and revise procedures and improve its QA/QC program.<sup>155</sup> The revised objectives meet the requirements as outlined in the Technical Guidelines and are specific and measurable.

PacifiCorp has resolved the critical issue described in RN-PC-23-05.

#### **8.2.4.2 RN-PC-23-06: PacifiCorp does not provide target pass rates for vegetation management quality assurance and control program as required by the Technical Guidelines**

Energy Safety required PacifiCorp to revise Table 8-19 to define yearly target pass rates for 2023 through 2025 for its vegetation management and inspections QA/QC program.

##### **RN-PC-23-06: PacifiCorp Response Summary**

In PacifiCorp's Revision Notice Response, it revised Table 8-19 to include yearly target pass rates for 2023 through 2025 for each of its vegetation management and inspections QA/QC activities.

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<sup>155</sup> PacifiCorp's 2023-2025 WMP submitted on May 8, 2023, page 181.

## RN-PC-23-06: Energy Safety Evaluation

PacifiCorp has provided yearly target pass rates for the 2023-2025 WMP cycle for its QA/QC activities, as required by the Technical Guidelines.<sup>156</sup>

PacifiCorp has resolved the critical issue described in RN-PC-23-06.

### 8.2.5 Areas for Continued Improvement

PacifiCorp must continue to improve in the following area.

PacifiCorp repeatedly states that it sequences circuit inspections based on risk-related criteria (e.g., HFTD tier, last scheduled work, predominant species, etc.).<sup>157</sup> To prioritize work that results from these inspections, PacifiCorp's contractor can add a "Red Dot" icon within the mobile data management software, which indicates work locations to be prioritized over other work locations. This "Red Dot," however, does not assign a specific due date or window in which the work must be completed.<sup>158</sup> In contrast, Liberty has four levels of assignable priority, each with designation criteria and remediation timelines.<sup>159</sup>

PacifiCorp's Red Dot priority tagging system is too rudimentary to adequately communicate varying degrees of priority of work identified during inspections.

Energy Safety sets forth specific areas for improvement and associated required progress in Section 11.

## 8.3 Situational Awareness and Forecasting

In response to Section 8.3 of the Technical Guidelines, PacifiCorp provided information on its situational awareness and forecasting, including environmental monitoring systems, grid monitoring systems, ignition detection systems, weather forecasting, and fire potential index as applicable.<sup>160</sup>

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<sup>156</sup> [Technical Guidelines](#), Sections 8.1.6 "Quality Assurance and Quality Control," page 86 and Section 8.2.5 "Quality Assurance and Quality Control," page 110-111 (<https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53286&shareable=true>, accessed November 28, 2023).

<sup>157</sup> PacifiCorp's 2023-2025 WMP, pages 190, 193, 195, and 197.

<sup>158</sup> [Data Request OEIS-P-WMP 2023-PC-002](#), Question 1 (<https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=54393&shareable=true>, accessed November 28, 2023).

<sup>159</sup> Liberty's 2023-2025 WMP, pages 224-225.

<sup>160</sup> [Technical Guidelines](#), Section 8.3, "Situational Awareness and Forecasting," pages 114-135 (<https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53286&shareable=true>, accessed May 5, 2023).

Below is Energy Safety's evaluation regarding PacifiCorp's objectives and targets, maturity levels, and strengths in these areas. Energy Safety has identified areas where PacifiCorp must improve, described at the end of this section.

### 8.3.1 Objectives and Targets

As part of its Base WMP, PacifiCorp provided 3-year and 10-year objectives for its situational awareness and forecasting programs.<sup>161</sup>

PacifiCorp also defined quantitative targets for initiative activities for its situational awareness and forecasting programs. PacifiCorp's Base WMP includes end-of-year targets for 2023, 2024, and 2025. Selected targets are included in Table 8.3-1.

*Table 8.3-1: PacifiCorp Situational Awareness and Forecasting – Selected Targets*

Initiative Activity	Target Unit	2023 Target	2024 Target	2025 Target
<b>HD cameras</b>	Installed HD cameras	2	6	n/a
<b>Smoke and air quality sensors</b>	Installed sensors	20	n/a	n/a
<b>Distribution Fault Anticipation (DFA)</b>	Deployed circuits	2	n/a	n/a
<b>Weather stations</b>	Deployed	12	8	6

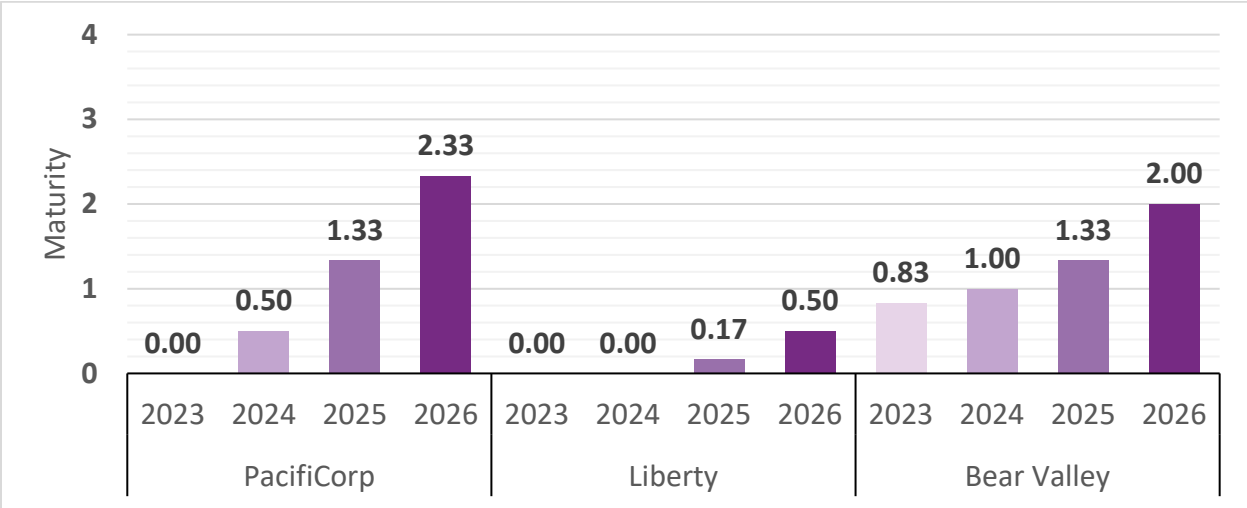
### 8.3.2 Maturity Survey Results

According to its responses to the 2023 Maturity Survey, PacifiCorp has a 2023 maturity level of 0.00 for situational awareness and forecasting. For 2024, PacifiCorp projects that it will slightly increase in maturity to a level of 0.50. For 2025, PacifiCorp projects that it will increase in maturity to a level of 1.33 (Figure 8.3-1).

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<sup>161</sup> PacifiCorp's 2023-2025 WMP, page 211.

Figure 8.3-1: Cross-Utility Maturity for Situational Awareness and Forecasting (Minimum Values)

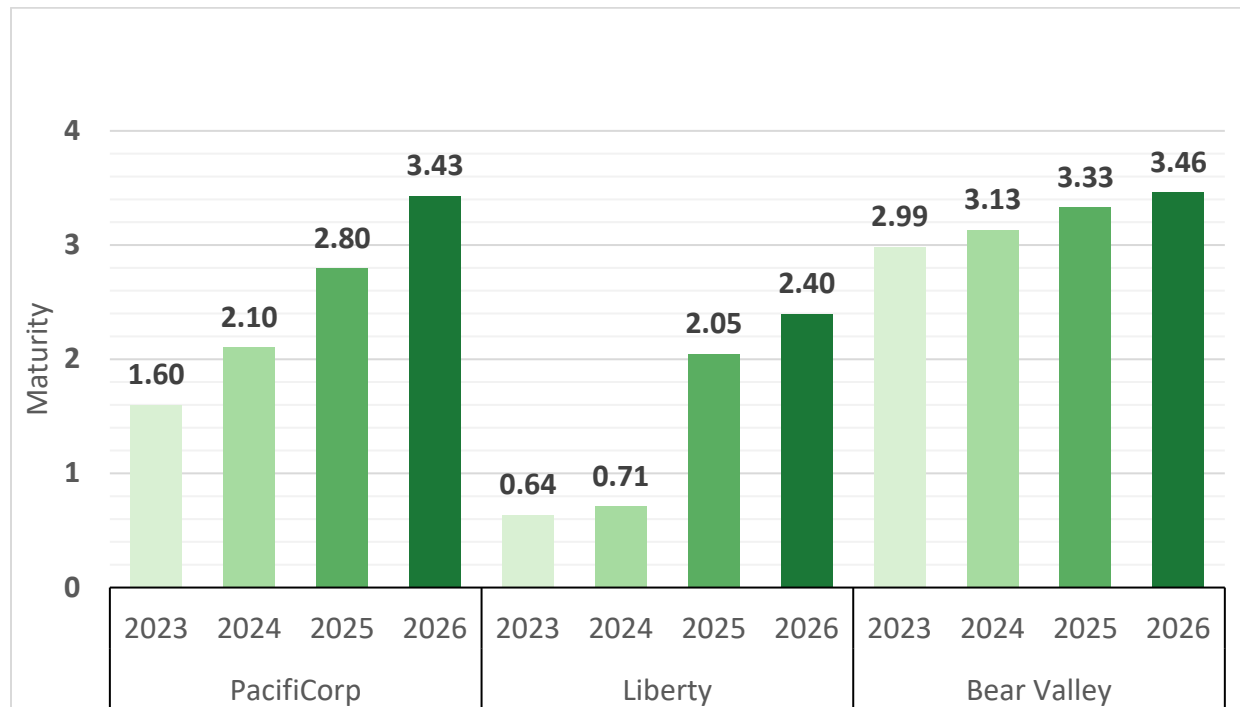


The utility’s maturity level for the situational awareness and forecasting category described above is calculated using the minimum value sub-capability of each capability. Using the capability average is another way to look at PacifiCorp’s performance in situational awareness and forecasting. The capability average is determined from the average of all components sub-capabilities and is an additional tool to evaluate the utilities’ maturity.<sup>162</sup>

When the category maturity is calculated using the capability average (rather than the minimum), PacifiCorp has a maturity level for situational awareness and forecasting of 1.6 in 2023. It projects increases to 2.1 in 2024 and 2.8 in 2025 (Figure 8.3-2).

<sup>162</sup> For further information on maturity level determinations, see Section 4 of the 2023-2025 Electrical Corporation Wildfire Mitigation Maturity Model (second revision), published February 21, 2023.

Figure 8.3-2: Cross-Utility Maturity for Situational Awareness and Forecasting (Average Values)



The rest of this section reports on maturity levels considering the average values.

PacifiCorp's current maturity level in this category is between that of its peers, with Liberty and Bear Valley reporting at levels 0.64 and 2.99, respectively. See Figure 8.3-2.

Based on its responses to the 2023 Maturity Survey, PacifiCorp reported its highest levels of projected maturity in the following capabilities for 2023 and 2024:

- Data collection for near-real-time conditions<sup>163</sup>
- Wildfire detection and alarms systems<sup>164</sup>

Based on its responses to the 2023 Maturity Survey, PacifiCorp reported its lowest levels of projected maturity in the following capabilities for 2023 and 2024:

- Ignition likelihood estimation<sup>165</sup>

<sup>163</sup> PacifiCorp's responses to questions on the 2023 Maturity Survey under Category B "Situational Awareness and Forecasting, "Capability 10 "Data collection for near-real-time conditions."

<sup>164</sup> PacifiCorp's responses to questions on the 2023 Maturity Survey under Category B "Situational Awareness and Forecasting, "Capability 11 "Wildfire detection and alarm systems."

<sup>165</sup> PacifiCorp's responses to questions on the 2023 Maturity Survey under Category B "Situational Awareness and Forecasting, "Capability 7 "Ignition likelihood estimation."



- Weather forecasting ability<sup>166</sup>

### 8.3.3 PacifiCorp's WMP Strengths

PacifiCorp projects improvement in situational awareness and forecasting over the WMP cycle in the following areas:

PacifiCorp plans to develop and implement a fire potential index (FPI) that assesses the potential for large or significant wildfires several days in advance through a third-party vendor, similar to its peer utilities. The FPI will replace the current model that aggregates data from various external sources and relies on judgement from its meteorologist with no post-fire validation. PacifiCorp plans to use the FPI to inform decision making for PSPS and operational strategies based on local conditions.

PacifiCorp reports deployment of eight high-definition cameras within its Northern California service territory and 20 smoke and air quality sensors in the highest fire risk areas with the aim of enhancing its wildfire detection capabilities and expediting response times to potential ignition events.

PacifiCorp plans to expand its weather station network with the addition of 26 weather stations by 2025. This expansion aims to address critical gaps and enhance the network's ability to capture localized, stronger wind conditions to improve reliability and accuracy of weather data to in turn support better forecasting and improve decision making during adverse fire weather conditions.

#### 8.3.3.1 2022 Areas for Continued Improvement

Energy Safety evaluated the progress PacifiCorp made toward addressing areas for continued improvement identified in Energy Safety's 2022 WMP Decision. See Appendix B for the status of each 2022 area for continued improvement. Notable progress was made in the following selected areas:

To address PC-22-07, Update on Wildfire Detection Program, PacifiCorp states that it plans to install eight wildfire detection cameras with artificial intelligence capabilities in its California service territory. PacifiCorp's meteorology and emergency management groups plan to use these camera systems, and the public feeds of other camera stations in its service territory, to visualize areas of PacifiCorp's service territory subject to extreme fire or other weather conditions and to monitor active fires.<sup>167</sup>

To address PC-22-08, Adequate Weather Station Density, PacifiCorp states that its weather station network has been built following a methodology that assesses risk, climatology data,

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<sup>166</sup> PacifiCorp's responses to questions on the 2023 Maturity Survey under Category B "Situational Awareness and Forecasting," Capability 8 "Weather forecasting ability."

<sup>167</sup> PacifiCorp's 2023-2025 WMP, Appendix D, page 390.

and the best location for weather station placement.<sup>168</sup> PacifiCorp also states that it intends to continue expanding its weather station network, adding 26 weather stations by 2025.<sup>169</sup>

### 8.3.4 Areas for Continued Improvement

PacifiCorp must continue to improve in the following area.

Weather stations play a critical role in collecting weather data that can directly influence wildfire risk assessment and impacts to utility infrastructure. PacifiCorp has approximately 100 weather stations in its network that collect weather data across its service territory;<sup>170</sup> however, PacifiCorp does not currently report on the annual maintenance and calibration of its weather stations.<sup>171</sup> Frequent calibration and maintenance of weather stations is critical for ensuring accurate, reliable, and high-quality data. In its 2025 Update, PacifiCorp must report on its annual maintenance and calibration of existing weather stations.

Energy Safety sets forth specific areas for improvement and associated required progress in Section 11.

## 8.4 Emergency Preparedness

In response to Section 8.4 of the Technical Guidelines, PacifiCorp provided information on its emergency preparedness, including its wildfire and PSPS emergency preparedness plan; collaboration and coordinating with public safety partners; public notification and communications strategy; preparedness and planning for service restoration; customer support in wildfire and PSPS emergencies; and learning after wildfire and PSPS events as applicable.<sup>172</sup>

Below is Energy Safety's evaluation regarding PacifiCorp's objectives and targets, maturity levels, and strengths in these areas. In addition, Energy Safety has identified areas where PacifiCorp must improve, described at the end of this section.

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<sup>168</sup> PacifiCorp's 2023-2025 WMP, page 215 and Appendix D, pages 390-391.

<sup>169</sup> PacifiCorp's 2023-2025 WMP, page 216.

<sup>170</sup> PacifiCorp's 2023-2025 WMP, page 158.

<sup>171</sup> [Data Request OEIS-P-WMP 2023-PC-001](https://efiling.energy.ca.gov/eFiling/Getfile.aspx?fileid=54384&shareable=true), Question 4 (https://efiling.energy.ca.gov/eFiling/Getfile.aspx?fileid=54384&shareable=true, accessed December 21, 2023).

<sup>172</sup> [Technical Guidelines](https://efiling.energy.ca.gov/eFiling/Getfile.aspx?fileid=53286&shareable=true), Section 8.4, "Emergency Preparedness," pages 135-179 (https://efiling.energy.ca.gov/eFiling/Getfile.aspx?fileid=53286&shareable=true, accessed May 5, 2023).

### 8.4.1 Objectives and Targets

As part of its Base WMP, PacifiCorp provided 3-year and 10-year objectives for its emergency preparedness programs.<sup>173</sup>

PacifiCorp also defined quantitative targets for initiative activities for its emergency preparedness programs. PacifiCorp's Base WMP includes end-of-year targets for 2023, 2024, and 2025. A selected target is included in Table 8.4-1.

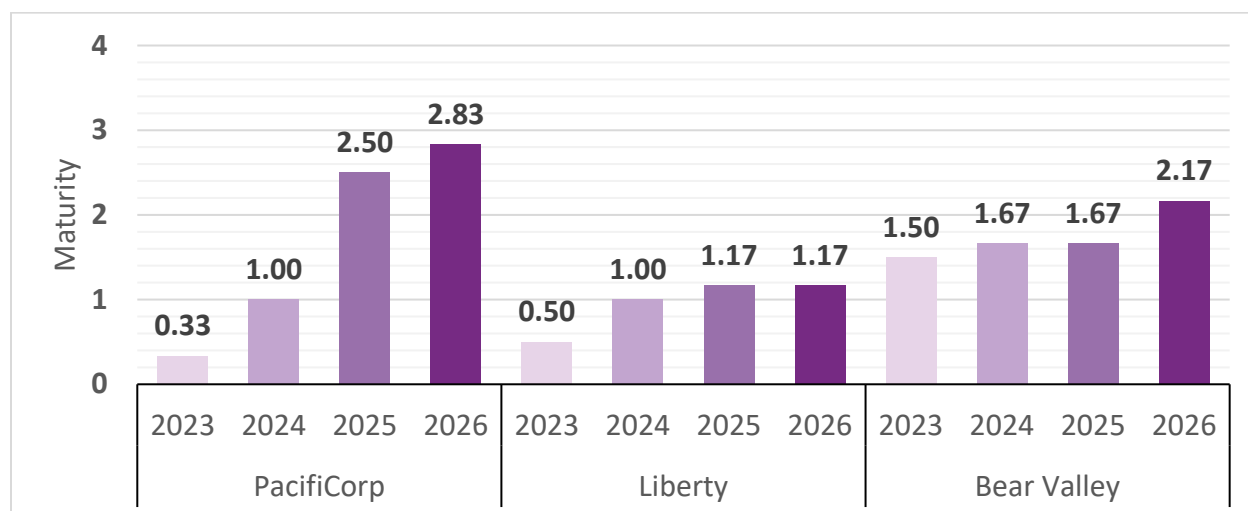
Table 8.4-1: PacifiCorp Emergency Preparedness – Selected Target

Initiative Activity	Target Unit	2023 Target	2024 Target	2025 Target
<b>External collaboration and coordination</b>	Conduct exercises and workshops with external partners	1 functional exercise; 1 table-top exercise; 1 workshop	1 functional exercise; 1 table-top exercise; 1 workshop	1 functional exercise; 1 table-top exercise; 1 workshop

### 8.4.2 Maturity Survey Results

According to its responses to the 2023 Maturity Survey, PacifiCorp has a 2023 maturity level of 0.33 for emergency preparedness. For 2024, PacifiCorp projects that it will slightly increase in maturity to a level of 1.00. For 2025, PacifiCorp projects that it will significantly increase in maturity to a level of 2.50 (Figure 8.4-1).

Figure 8.4-1: Cross-Utility Maturity for Emergency Preparedness (Minimum Values)

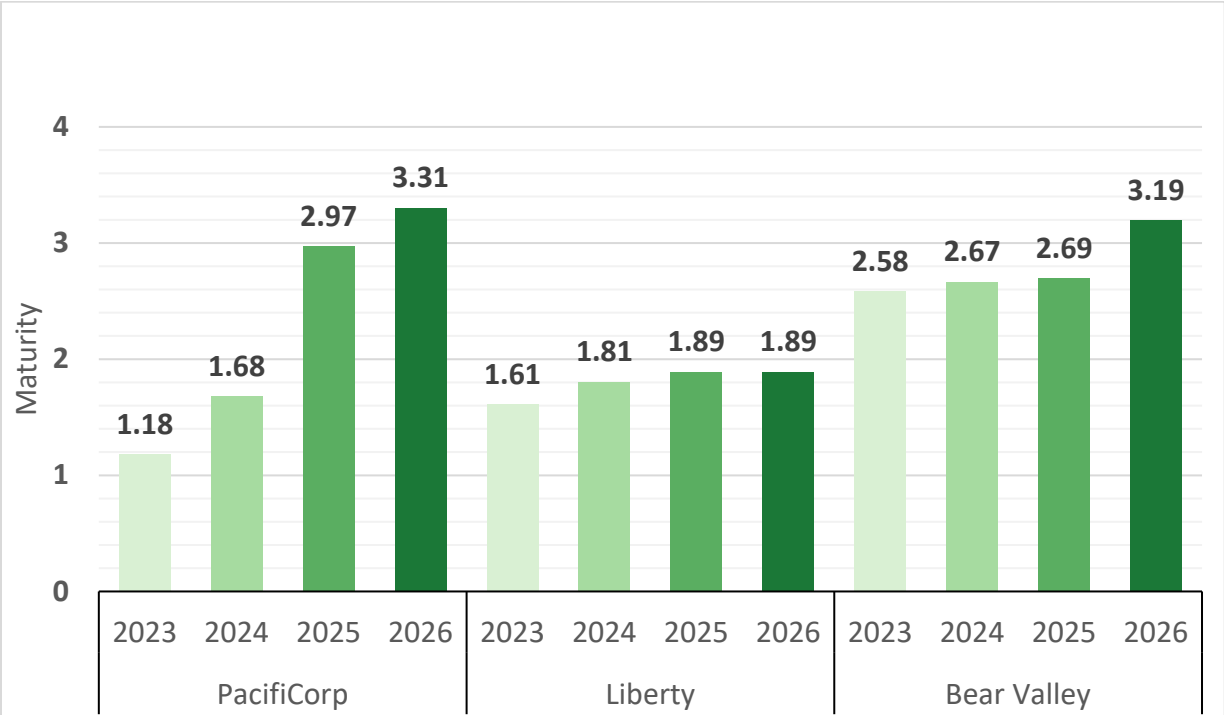


<sup>173</sup> PacifiCorp's 2023-2025 WMP, page 249.

The utility’s maturity level for the emergency preparedness category described above is calculated using the minimum value sub-capability of each capability. Using the capability average is another way to look at PacifiCorp’s performance in emergency preparedness. The capability average is determined from the average of all component sub-capabilities and is an additional tool to evaluate the utilities’ maturity.<sup>174</sup>

When the category maturity is calculated using the capability average (rather than the minimum), PacifiCorp has a maturity level for emergency preparedness of 1.18 in 2023. It projects increases to 1.68 in 2024 and 2.97 in 2025 (Figure 8.4-2).

Figure 8.4-2: Cross-Utility Maturity for Emergency Preparedness (Average Values)



The rest of this section reports on maturity levels considering the minimum values.

PacifiCorp’s current maturity level in this category is lower than its peers, with Liberty and Bear Valley reporting at levels 0.50 and 1.50, respectively. See Figure 8.4-1.

Based on its responses to the 2023 Maturity Survey, PacifiCorp reported its highest levels of projected maturity in the following capabilities for 2023 and 2024:

<sup>174</sup> For further information on maturity level determinations, see Section 4 of the 2023-2025 Electrical Corporation Wildfire Mitigation Maturity Model (second revision), published February 21, 2023.

- Collaboration and coordination with public safety partners<sup>175</sup>
- Customer support in wildfire and PSPS emergencies<sup>176</sup>

Based on its responses to the 2023 Maturity Survey, PacifiCorp reported its lowest levels of projected maturity in the following capabilities for 2023 and 2024:

- Public emergency communication strategy<sup>177</sup>

### 8.4.3 PacifiCorp's WMP Strengths

PacifiCorp projects improvement in emergency preparedness over the WMP cycle in the following area: external collaboration and coordination.

By the end of 2023, PacifiCorp plans to make additions to its Public Safety Partner Portal for added functionality. The added functionality will allow users to view interactive maps and see critical facility data. The interactive maps will enable users to use the zoom and area selection features to filter relevant data, which they will be able to export. Users will also be able to set up notification preferences for critical events.<sup>178</sup>

#### 8.4.3.1 2022 Areas for Continued Improvement

Energy Safety evaluated the progress PacifiCorp made toward addressing areas for continued improvement identified in Energy Safety's 2022 WMP Decision. See Appendix B for the status of each 2022 area for continued improvement. See below for additional information about PC-22-19, Emergency Resources Availability.

### 8.4.4 Areas for Continued Improvement

PacifiCorp must continue to improve in the following areas.

In its 2022 WMP Update, PacifiCorp reported that its ignition prevention and suppression resources are located exclusively in Oregon and Washington.<sup>179</sup> Given recent PacifiCorp-reported catastrophic wildfires (the Slater fire of 2020 and McKinney fire of 2022), in 2022 Energy Safety required via PC-22-19, Emergency Resources Availability, that PacifiCorp

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<sup>175</sup> PacifiCorp's responses to questions on the 2023 Maturity Survey under Category F "Emergency Preparedness," Capability 28 "Collaboration and coordination with public safety partners."

<sup>176</sup> PacifiCorp's responses to questions on the 2023 Maturity Survey under Category F "Emergency Preparedness," Capability 31 "Customer support in wildfire and PSPS emergencies."

<sup>177</sup> PacifiCorp's responses to questions on the 2023 Maturity Survey under Category F "Emergency Preparedness," Capability 29 "Public emergency communication strategy."

<sup>178</sup> PacifiCorp's 2023-2025 WMP, page 286.

<sup>179</sup> [PacifiCorp's 2022 WMP Update](#), Table 7.4, page 223

(<https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=52700&shareable=true>, accessed December 6, 2023).

analyze its response times regarding its emergency resources and evaluate deployment and storage of resources within California.<sup>180</sup>

Addressing PC-22-19 in its Base WMP, PacifiCorp states that it “does not report or respond to catastrophic fires in the same way as fire suppression agencies.”<sup>181</sup> PacifiCorp further states that during fire season, PacifiCorp equips field workers with basic, personal fire suppression equipment. While PacifiCorp maintains material resources like water trailers and cell on wheels that are stored in California, PacifiCorp does not currently employ or contract with trained fire personnel.<sup>182</sup>

While this information is helpful in understanding PacifiCorp's fire suppression services and resources, it does not provide the information required by PC-22-19. As such, PacifiCorp must revisit this 2022 area for continued improvement and address the required progress in its 2025 Update.

Energy Safety sets forth specific areas for improvement and associated required progress in Section 11.

## 8.5 Community Outreach and Engagement

In response to Section 8.5 of the Technical Guidelines, PacifiCorp provided information on its community outreach and engagement, including its public outreach and educational awareness for wildfires, PSPS, outages, and vegetation management; public engagement in the WMP decision-making process; engagement with populations with access and functional needs (AFN), local governments, and tribal communities; collaboration on local wildfire mitigation and planning; and best practice planning as applicable.<sup>183</sup>

Below is Energy Safety's evaluation regarding PacifiCorp's objectives and targets, maturity levels, and strengths in these areas.

### 8.5.1 Objectives and Targets

As part of its Base WMP, PacifiCorp provided 3-year and 10-year objectives for its community outreach and engagement programs.<sup>184</sup>

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<sup>180</sup> [Final Decision on PacifiCorp's 2022 WMP Update](https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53298&shareable=true), PC-22-19, page 95 (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53298&shareable=true, accessed December 5, 2023).

<sup>181</sup> PacifiCorp's 2023-2025 WMP, Appendix D “Areas for Continued Improvement,” page 398.

<sup>182</sup> PacifiCorp's 2023-2025 WMP, Appendix D “Areas for Continued Improvement,” pages 397-398.

<sup>183</sup> [Technical Guidelines](https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53286&shareable=true), Section 8.5, “Community Outreach and Engagement,” pages 179-194 (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53286&shareable=true, accessed May 5, 2023).

<sup>184</sup> PacifiCorp's 2023-2025 WMP, pages 295-298.

PacifiCorp also defined quantitative targets for initiative activities for its community outreach and engagement programs. PacifiCorp’s Base WMP includes end-of-year targets for 2023, 2024, and 2025. Selected targets are included in Table 8.5-1.

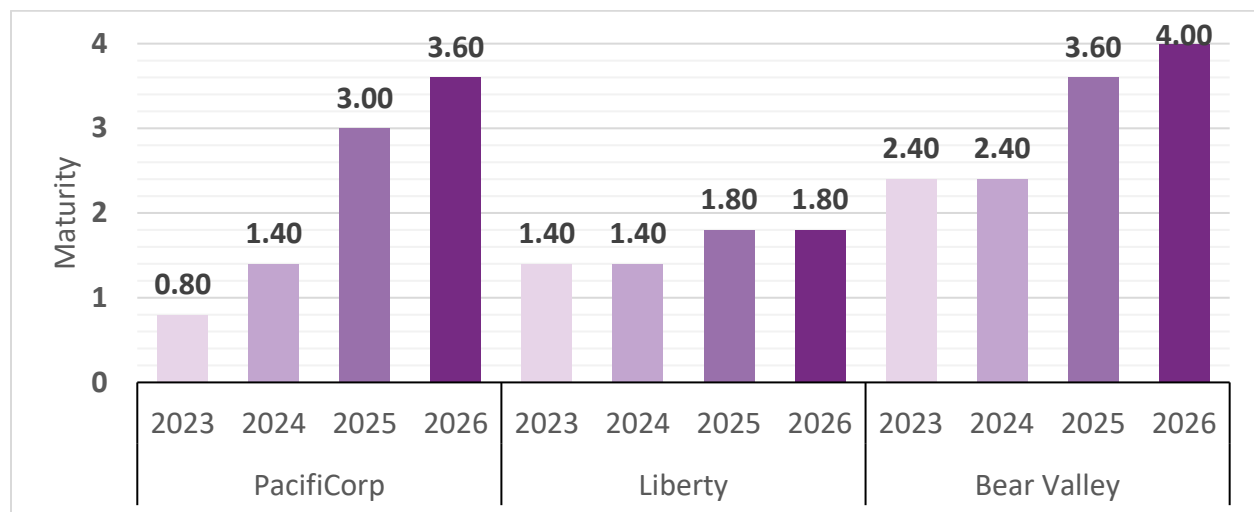
Table 8.5-1: PacifiCorp Community Outreach and Engagement – Selected Target

Initiative Activity	Target Unit	2023 Target	2024 Target	2025 Target
Pre-fire season survey	Wildfire safety communications awareness percentage (based on survey results)	≥ 50% of survey recipients are aware	≥ 55% of survey recipients are aware	≥ 60% of survey recipients are aware

### 8.5.2 Maturity Survey Results

According to its responses to the 2023 Maturity Survey, PacifiCorp has a 2023 maturity level of 0.8 for community outreach and engagement. For 2024, PacifiCorp projects that it will slightly increase in maturity to a level of 1.4. For 2025, PacifiCorp projects that it will significantly increase in maturity to a level of 3.0 (Figure 8.5-1).

Figure 8.5-1: Cross-Utility Maturity for Community Outreach and Engagement (Minimum Values)

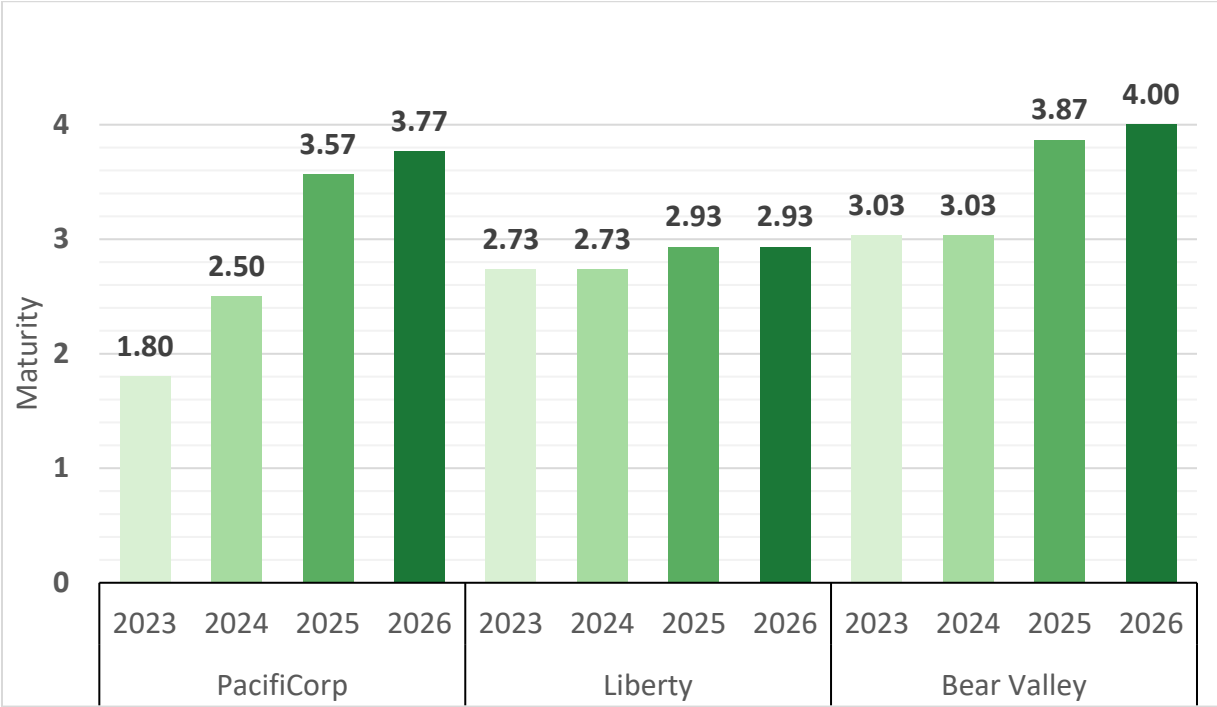


The utility’s maturity level for the community outreach and engagement category described above is calculated using the minimum value sub-capability of each capability. Using the capability average is another way to look at PacifiCorp’s performance in community outreach

and engagement. The capability average is determined from the average of all component sub-capabilities and is an additional tool to evaluate the utilities’ maturity.<sup>185</sup>

When the category maturity is calculated using the capability average (rather than the minimum), PacifiCorp has a maturity level for community outreach and engagement of 1.8 for 2023. It projects increases to 2.5 in 2024 and 3.57 in 2025 (Figure 8.5-2).

Figure 8.5-2: Cross-Utility Maturity for Community Outreach and Engagement (Average Values)



The rest of this section reports on maturity levels considering the minimum values.

PacifiCorp’s current maturity level in this category is lower than its peers, with Liberty and Bear Valley reporting at levels 1.4 and 2.4, respectively. See Figure 8.5-1.

Based on its responses to the 2023 Maturity Survey, PacifiCorp reported its highest levels of projected maturity in the following capability for 2023 and 2024:

- Public outreach and education awareness<sup>186</sup>

<sup>185</sup> For further information on maturity level determinations, see Section 4 of the 2023-2025 Electrical Corporation Wildfire Mitigation Maturity Model (second revision), published February 21, 2023.

<sup>186</sup> PacifiCorp's responses to questions on the 2023 Maturity Survey under Category G “Community Outreach and Engagement,” Capability 33 “Public outreach and education awareness.”



Based on its responses to the 2023 Maturity Survey, PacifiCorp reported its lowest levels of projected maturity in the following capability for 2023 and 2024:

- Engagement with AFN and socially vulnerable populations<sup>187</sup>

### 8.5.3 PacifiCorp's WMP Strengths

PacifiCorp projects improvement in community outreach and engagement over the WMP cycle in the following area: engagement with AFN populations.

Although engagement with AFN populations is one of PacifiCorp's least mature capabilities (based on its responses to the 2023 Maturity Survey, as discussed above), PacifiCorp is taking steps to increase its identification of and outreach to AFN customers. In 2021, PacifiCorp updated its California Alternate Rates for Energy (CARE) applications that it sends to its residential customers to include a check box for customers to self-identify as AFN. PacifiCorp states that approximately 60 percent of the AFN customers within its service territory were identified using this method.<sup>188</sup> PacifiCorp plans to retain this feature on its CARE applications.

In 2023, PacifiCorp plans to increase its outreach to all customers within its service territory with the goal of reaching and identifying additional AFN customers and those that rely on medical equipment. To that effect, PacifiCorp states that all customers will receive communications on its Medical Baseline rate and it plans to add a Spanish version of the Medical Baseline application to its website.<sup>189</sup>

#### 8.5.3.1 2022 Areas for Continued Improvement

Energy Safety evaluated the progress PacifiCorp made toward addressing areas for continued improvement identified in Energy Safety's 2022 WMP Decision. PacifiCorp adequately addressed the 2022 area for continued improvement for this topic. See Appendix B for the status of each 2022 area for continued improvement.

### 8.5.4 Areas for Continued Improvement

Energy Safety has no areas for continued improvement for PacifiCorp under the community outreach and engagement section of its Base WMP.

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<sup>187</sup> PacifiCorp's responses to questions on the 2023 Maturity Survey under Category G "Community Outreach and Engagement," Capability 35 "Engagement with AFN and socially vulnerable populations."

<sup>188</sup> PacifiCorp's 2023-2025 WMP, page 306-307.

<sup>189</sup> PacifiCorp's 2023-2025 WMP, page 306.

## 9. Public Safety Power Shutoffs

In response to Section 9 of the Technical Guidelines,<sup>190</sup> PacifiCorp provided its key statistics regarding PSPS; circuits that have been frequently de-energized and measures for how to reduce PSPS implementation on those circuits; how its PSPS program will evolve over the next three and ten years; lessons learned for past PSPS events; and its protocols for PSPS implementation.

Below is Energy Safety's evaluation regarding PacifiCorp's objectives and targets, maturity levels, and strengths in these areas.

### 9.1 Objectives and Targets

As part of its Base WMP, PacifiCorp provided 3-year and 10-year objectives for its PSPS programs.<sup>191</sup>

PacifiCorp also defined quantitative targets for initiative activities for its PSPS programs. PacifiCorp's Base WMP includes end-of-year targets for 2023, 2024, and 2025. Selected targets are included in Table 9.1-1.

*Table 9.1-1: PacifiCorp Public Safety Power Shutoffs – Selected Targets*

Initiative Activity	Target Unit	2023 Target	2024 Target	2025 Target
Installation of System Automation Devices	Devices Installed	40	20	10
Installation of Weather Stations	Weather Stations Installed	12	8	6

### 9.2 Maturity Survey Results

The Maturity Survey does not measure the maturity of a utility's PSPS operations separately from other mitigation efforts. While it does measure the maturity of PSPS likelihood, exposure potential, and vulnerability, these risk component maturity levels are primarily evaluated in Section 6, Risk Methodology and Assessment, and Section 7, Wildfire Mitigation Strategy Development. Individual maturity capabilities or survey questions related to PSPS are evaluated in the relevant subsection of Section 6.

<sup>190</sup> [Technical Guidelines](#), Section 9, pages 195-206 (<https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53286&shareable=true>, accessed May 5, 2023).

<sup>191</sup> PacifiCorp's 2023-2025 WMP, page 315.

## 9.3 PacifiCorp's WMP Strengths

PacifiCorp projects improvement in PSPS-related initiatives and activities over the WMP cycle.

PacifiCorp is planning to complete the development of its PSPS situational awareness dashboard as well as implement improvements to its Public Safety Partner Portal in 2024.<sup>192</sup> PacifiCorp is also planning to automate collection and dissemination of PSPS data by 2026.<sup>193</sup> The improvements to PacifiCorp's data interfaces and the automation of PSPS data collection will bring PacifiCorp closer in line with the practices of California's larger electrical corporations, PG&E, SCE, and SDG&E, which generally have more advanced capabilities in this area than the SMJUs. Automated PSPS data processes may improve PacifiCorp's PSPS decision making and PSPS response as well as efficiently provide critical information to public safety partners and customers.

### 9.3.1 2022 Areas for Continued Improvement

Energy Safety evaluated the progress PacifiCorp made toward addressing areas for continued improvement identified in Energy Safety's 2022 WMP Decision. See Appendix B for the status of each 2022 area for continued improvement. Notable progress was made in the following selected areas:

PacifiCorp notes progress in the area for continued improvement PC-22-21 related to setting PSPS targets and short-term commitments for PSPS reduction. PacifiCorp has made progress in implementing third-party risk modeling capabilities.<sup>194</sup> As PacifiCorp's risk modeling capabilities mature, Energy Safety expects PacifiCorp to improve its ability to quantify PSPS risk and therefore, improve its ability to set specific and appropriate PSPS reduction goals.

Section 6.5.3 "PSPS and Wildfire Risk Trade-Off Transparency" describes the requirements for ongoing improvements to PacifiCorp's risk methodology.

## 9.4 Areas for Continued Improvement

Energy Safety has no areas for continued improvement for PacifiCorp under the PSPS section of its Base WMP.

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<sup>192</sup> PacifiCorp's 2023-2025 Base WMP, pages 249 and 315.

<sup>193</sup> PacifiCorp's 2023-2025 Base WMP, page 315.

<sup>194</sup> PacifiCorp's 2023-2025 Base WMP, Appendix D, page 399.

## 10. PacifiCorp's Process for Continuous Improvement

In response to Sections 10, 11, and 12 of the Technical Guidelines,<sup>195</sup> PacifiCorp provided information on its lessons learned, a description of its corrective action program, and information on any Notices of Violation or Notices of Defects it has received.

Below is Energy Safety's evaluation regarding these steps to drive continuous improvement, including any areas where PacifiCorp must improve, which are described at the end of this section.

### 10.1 Lessons Learned

Section 10 of the Technical Guidelines requires a utility to use lessons learned to drive continuous improvement in its WMP. Lessons learned can be divided into the three main categories: (1) internal monitoring and evaluation, (2) external collaboration with other electrical corporations, and (3) feedback from Energy Safety or other authoritative bodies. This section includes an assessment of PacifiCorp's implementation of lessons learned.

In Table 10-1 of its WMP, PacifiCorp provides 10 proposed WMP improvements based on lessons learned from 2018-2022.<sup>196</sup> The lessons learned encompass various mitigation areas and describe continued or proposed WMP improvements, many of which are currently being implemented.

PacifiCorp notes a lesson learned that covered conductor projects take significantly more time to complete compared to standard distribution line conductor projects. PacifiCorp states that it will continue planning for the necessary resources needed and will estimate existing and new line-rebuild project timelines incorporating this new information.<sup>197</sup>

PacifiCorp is, as required, a regular participant in the Energy Safety-led risk modeling working group and reports that the collaborative workstream with other electrical corporations is helpful in PacifiCorp's development and implementation of risk-spend efficiency (RSE) as part of its risk assessment methodology.<sup>198</sup>

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<sup>195</sup> [Technical Guidelines](#), Section 10, pages 207-209; Section 11, pages 210-211; Section 12, pages 212-213 (<https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53286&shareable=true>, accessed May 5, 2023).

<sup>196</sup> PacifiCorp's 2023-2025 WMP, pages 324-326.

<sup>197</sup> PacifiCorp's 2023-2025 WMP, page 324.

<sup>198</sup> PacifiCorp's 2023-2025 WMP, page 324.

PacifiCorp has also identified the need to invest in more granular data for enhancing its risk modeling capabilities, as well as investing in datasets and tools to improve PacifiCorp's weather and risk forecasting and overall ability to better assess and prepare for risk events.<sup>199</sup>

### 10.1.1 2022 Areas for Continued Improvement

Energy Safety evaluated the progress PacifiCorp made toward addressing areas for continued improvement identified in Energy Safety's 2022 WMP Decision. See Appendix B for the status of each 2022 area for continued improvement. See Section 10.3 below for additional information about PC-22-06, Lessons Learned from Past Wildfires.

## 10.2 Corrective Action Program

Section 11 of the Technical Guidelines requires a utility to describe its corrective action program (CAP) and a summary of the relevant portions of its existing procedures. This section includes an assessment of PacifiCorp's implementation of its CAP relative to wildfire safety, including how it prevents recurrence of risk events; addresses findings from wildfire investigations; addresses findings from Energy Safety Compliance Assurance Division; and addresses areas for continued improvement identified by Energy Safety as applicable.

PacifiCorp describes its CAP by presenting processes by which each improvement area is reviewed. PacifiCorp describes its key programs to prevent recurrence of risk events, including its wildfire mitigation programs in its WMP.

For example, PacifiCorp reports that it is incorporating incident investigation data into its WMP program planning. PacifiCorp states that it currently tracks ignitions through its incident tracking system, PROSPER, which serves a historic outage data repository.<sup>200</sup> PacifiCorp further explains that it plans to use this data to perform long-term trend analysis to identify locations where mitigation efforts are needed to reduce the risk of a wildfire or PSPS event.<sup>201</sup>

## 10.3 Areas for Continued Improvement

PacifiCorp must continue to improve in the following areas.

While PacifiCorp provides its lessons learned in tabular form, PacifiCorp did not provide the narrative summaries as required by Section 10 of the Technical Guidelines.<sup>202</sup>

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<sup>199</sup> PacifiCorp's 2023-2025 WMP, pages 324-325.

<sup>200</sup> PacifiCorp's 2023-2025 WMP, pages 328 and 93.

<sup>201</sup> PacifiCorp's 2023-2025 WMP, page 328.

<sup>202</sup> [Technical Guidelines](#), pages 207-208

(<https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53286&shareable=true>, accessed December 14, 2023).

In addition, in 2022 Energy Safety found that PacifiCorp did not provide lessons learned as a result of PacifiCorp-reported catastrophic wildfires and identified an associated area for continued improvement (PC-22-06).<sup>203</sup> Energy Safety required PacifiCorp to investigate the root causes of its ignitions; list the cause(s) of each catastrophic wildfire and any associated lessons learned; and detail specific measures to mitigate these causes and to integrate lessons learned into its wildfire mitigation strategy.

In Appendix D of its 2023-2025 WMP, PacifiCorp responds to this 2022 area for continued improvement stating that it is planning to implement fire incident tracking in Q2 of 2024 and expects to perform trend and root cause analysis for ignitions by the end of 2024.<sup>204</sup> While PacifiCorp has provided a path forward to be able to investigate the root causes of ignitions and wildfires, it does not provide all information required by PC-22-06. Energy Safety will continue to monitor progress in this area and expects PacifiCorp to address the required progress upon implementation of its fire incident tracking database by its 2026-2028 Base WMP.

Energy Safety sets forth specific areas for improvement and associated required progress in Section 11.

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<sup>203</sup> [Final Decision on PacifiCorp's 2022 WMP Update](https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53298&shareable=true), PC-22-06, pages 88-89 (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53298&shareable=true, accessed November 21, 2023).

<sup>204</sup> PacifiCorp's 2023-2025 WMP, Appendix D, pages 389-390.

# 11. Required Areas for Continued Improvement

Energy Safety's evaluation of the 2023-2025 WMPs focused on each utility's strategies for reducing the risk of utility-related ignitions. The evaluation included assessing the utility's progress implementing wildfire mitigation initiatives, evaluating the feasibility of its strategies, and measuring year-to-year trends. As a result of this evaluation, Energy Safety identified areas where the utility should continue to improve its wildfire mitigation capabilities in future plans. The complete list of all PacifiCorp's areas for continued improvement follows below.

## 11.1 Risk Methodology and Assessment

- **PC-23-01. Cross-Utility Collaboration on Risk Model Development**
  - Description: PacifiCorp and the other IOUs have participated in past Energy Safety-led risk modeling working group meetings. The risk modeling working group meetings facilitate collaboration among the IOUs on complex technical issues related to risk modeling. The risk modeling working group meetings are ongoing.
  - Required Progress: PacifiCorp and the other IOUs must continue to participate in all Energy Safety-led risk modeling working group meetings.
  - Discussed in Section 6, "Risk Methodology and Assessment."
  
- **PC-23-02. Calculating Risk Scores Using 95th Percentile Values**
  - Description: PacifiCorp's use of 95<sup>th</sup> percentile values, as opposed to probability distributions, to aggregate risk scores is not aligned with fundamental mathematical standards and could lead to suboptimal mitigation prioritization decisions.
  - Required Progress: In its 2025 Update, PacifiCorp must:
    - Provide a plan with milestones for transitioning from using 95<sup>th</sup> percentile values to probability distributions in its 2026-2028 Base WMP when aggregating risk scores for the following:
      - Mitigation evaluation.
      - Cost/benefit calculations.
      - Risk Ranking.
    - If PacifiCorp is unable to transition to using probability distributions, it must:

- Propose an alternative strategy or demonstrate that its current methodologies are providing accurate outputs for calculating known risk. PacifiCorp must provide concrete validations, including estimations for usage of percentiles and probability distributions where possible. Explain why or how it is unable to move toward the use of probability distributions when calculating and aggregating risk scores. This must include discussion of any existing limitations or potential weaknesses.
  - Provide an explanation for each calculation of risk scores where PacifiCorp is calculating or aggregating risk scores in which percentiles were used.
  - Describe any steps PacifiCorp is taking to explore the use of probability distributions in the future.
- Discussed in Section 6, “Risk Methodology and Assessment”
- **PC-23-03. PSPS and Wildfire Risk Trade-Off Transparency**
  - Description: PacifiCorp does not provide adequate transparency regarding PSPS and wildfire risk trade-offs, or how it uses risk ranking and risk buy-down to determine risk mitigation selection.
  - Required Progress: In its 2025 Update, PacifiCorp must describe:
    - How it prioritizes PSPS risk in its risk-based decisions, including trade-offs between wildfire risk and PSPS risk.
    - How the rank order of its planned mitigation initiatives compares to the rank order of mitigation initiatives ranked by risk buy-down estimate, along with an explanation for any instances where the order differs.
  - Discussed in Section 6, “Risk Methodology and Assessment”; Section 7, “Wildfire Mitigation Strategy Development.”
- **PC-23-04. Collaboration Between Vendor and Utility Risk Teams**
  - Description: PacifiCorp has not shown how its internal team and risk model vendor will share risk modeling duties.
  - Required Progress: In its 2025 Update, PacifiCorp must:
    - Demonstrate how PacifiCorp differentiates between activities completed by the internal staff and vendor staff throughout risk modeling narratives. This includes processes, procedures, methodologies, flow charts, schematics, and any explanations that describe collaboration with a risk modeling vendor.



- Demonstrate how PacifiCorp identifies activities that require vendor discretion and state whether final approval from the PacifiCorp risk team is required. This includes any decisions that need to be made, such as mitigation selection.
  - Indicate the source of the data where a description of data is required, specifically indicating whether the data are internally generated or vendor generated. If PacifiCorp cannot indicate the source of the data, it must explain why.
  - Discussed in Section 6, “Risk Methodology and Assessment.”
- **PC-23-05. Independent Review Plan Transparency**
    - Description: PacifiCorp does not currently solicit external independent review of the data used by its risk models.
    - Required Progress: In its 2025 Update, PacifiCorp must present actionable tasks it will complete by its 2026-2028 Base WMP to ensure it is fully compliant with the independent review requirements outlined in Section 6.6.1 of the Technical Guidelines.<sup>205</sup> This must include:
      - A chronological list of tasks and estimated completion dates per task.
      - An explanation of any foreseeable complicating factors and how it will address each factor.
      - Procedures PacifiCorp expects to apply for the following review activities once its model implementation is complete:
        - Independent review (data collected, generated through risk models).
        - Additional review triggers.
        - Routine review schedule.
    - Discussed in Section 6, “Risk Methodology and Assessment.”

## 11.2 Wildfire Mitigation Strategy Development

- **PC-23-06. Vendor Fire Risk Model Implementation Milestones and Dates**
  - Description: PacifiCorp's operational and planning models may experience many changes once the vendor model implementation is complete. Energy

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<sup>205</sup> [Technical Guidelines](https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53286&shareable=true), Section 6.6.1, “Independent Review,” pages 54-55 (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53286&shareable=true, accessed May 5, 2023).

Safety needs more information regarding improvements PacifiCorp expects in its operational and planning models along with expected milestones and dates to ensure PacifiCorp is being transparent about the state of its model maturity.

- Required Progress: In its 2025 Update, PacifiCorp must describe how it will use the new vendor risk modeling software to improve operational and/or planning risk analysis and provide a plan with milestones and dates for achieving those improvements.
  - Discussed in Section 7, “Wildfire Mitigation Strategy Development.”
- **PC-23-07. Cross-Utility Collaboration on Best Practices for Inclusion of Climate Change Forecasts in Consequence Modeling, Inclusion of Community Vulnerability in Consequence Modeling, and Utility Vegetation Management for Wildfire Safety**
    - Description: PacifiCorp and the other IOUs have participated in past Energy Safety-sponsored scoping meetings on these topics but have not reported other collaboration efforts.
    - Required Progress: PacifiCorp and the other IOUs must participate in all Energy Safety-organized activities related to best practices for:
      - Inclusion of climate change forecasts in consequence modeling.
      - Inclusion of community vulnerability in consequence modeling.
      - Utility vegetation management for wildfire safety.

PacifiCorp must collaborate with the other IOUs on developing the above-mentioned best practices. In their 2025 Updates, the IOUs (not including independent transmission operators) must provide a status update on any collaboration with each other that has taken place, including a list of any resulting changes made to their WMPs since the 2023-2025 WMP submission.

    - Discussed in Section 7, “Wildfire Mitigation Strategy Development”; 8.2, “Vegetation Management and Inspections.”

## 11.3 Grid Design, Operations, and Maintenance

- **PC-23-08. Covered Conductor Installation Progress**
  - Description: PacifiCorp has historically failed to meet its covered conductor targets and has made only limited progress towards its 2023 target. PacifiCorp’s Base WMP does not demonstrate that its targets are feasible,

nor that PacifiCorp has appropriately accounted for its past implementation barriers.

- Required Progress: In its 2025 Update, PacifiCorp must provide:
  - An update on the progress PacifiCorp has made thus far in meeting its covered conductor targets, both past and future, including any changes made in resources and availability of labor. This must include an assessment of third-party contractors hired for covered conductor installation.
  - An updated spreadsheet with the locations and mileage for covered conductor broken out by year for 2023 to 2025. This should also include project status (engineering, design, etc.) and planned completion date.
  - A list of constraints that have prevented PacifiCorp from timely reaching its covered conductor targets and PacifiCorp's plan to address each constraint.
- Discussed in Section 8.1, "Grid Design, Operations, and Maintenance" (8.1.2 "Grid Design and System Hardening").

- **PC-23-09. QA/QC Pass Rate Targets for Rural Areas**

- Description: PacifiCorp achieved a QA/QC pass rate of 97 percent in 2022 for both detailed and intrusive inspections. PacifiCorp has set its QA/QC pass rate targets for these inspections significantly lower for 2023-2025, with rural and urban targets of 80 and 90 percent, respectively.
- Required Progress: In its 2025 Update, PacifiCorp must set asset inspection QA/QC pass rate targets that align with its current maturity and the California industry standard of between 95<sup>206</sup> and 100<sup>207</sup> percent.
- Discussed in Section 8.1, "Grid Design, Operations, and Maintenance" (8.1.3 "Asset Inspections").

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<sup>206</sup> PG&E and SCE both set target asset inspection QA/QC pass rates of 95 percent for distribution detailed inspections in their 2023-2025 WMPs.

SCE's 2023-2025 WMP, page 327.

PG&E's 2023-2025 WMP, page 528.

<sup>207</sup> SDG&E sets a target pass rate of 100 percent for distribution detailed inspections in its 2023-2025 WMP.

SDG&E's 2023-2025 WMP, page 226.

- **PC-23-10. Covered Conductor Inspections and Maintenance**
  - Description: PacifiCorp does not incorporate checks in its inspection programs that address failures specific to covered conductor. PacifiCorp must tailor its inspection practices to address failure modes specifically related to covered conductor.
  - Required Progress: In its 2025 Update, PacifiCorp must discuss how failure modes unique to covered conductor will be accounted for in its inspections, including water intrusion, splice covers, and surface damage. If PacifiCorp determines any or all the preceding changes are unnecessary, then it must discuss how its current inspection and maintenance processes adequately address covered conductor failure modes.
  - Discussed in Section 8.1, “Grid Design, Operations, and Maintenance” (8.1.3 “Asset Inspections”).
  
- **PC-23-11. Distribution Detailed Inspection Frequency**
  - Description: PacifiCorp performs the minimum frequency of detailed inspections required by GO 95 and 165. PacifiCorp must strive to adopt a risk-based approach by increasing the frequency of detailed inspections on assets that have the highest risk according to its risk model.
  - Required Progress: In its 2025 Update, PacifiCorp must either:
    - Outline a plan to update its detailed inspections in higher risk areas, including:
      - An analysis for determining the updated frequency for performing detailed inspections.
      - Prioritization of higher risk areas based on risk analysis and risk model output, including HFTD Tier 3 lands.
      - Updates to inspection checklists to account for equipment or configurations that may pose greater wildfire risk.
      - A plan to obtain any needed workforce for performing more frequent inspections; OR
    - Demonstrate that its existing inspection program adequately addresses risk. This must include analysis of the following:
      - Number of Level 1 or critical issues found during detailed inspections.
  - Discussed in Section 8.1, “Grid Design, Operations, and Maintenance” (8.1.3 “Asset Inspections”).

- **PC-23-12. Priority A/Level 1<sup>208</sup> Remediation and Imminent Threat Designation**
  - Description: PacifiCorp's Revised 2023-2025 Base WMP has not demonstrated that PacifiCorp has a plan or approach that consistently and properly identifies Level 1 conditions as imminent threats, or that its remediation timeframe for Level 1 conditions not deemed imminent threats effectively mitigates the associated risk. PacifiCorp is not able to reliably track Level 1 conditions that have been identified as imminent threats.
  - Required Progress: In its 2025 Update, PacifiCorp must:
    - Provide a plan to have third-party external audits performed on all Level 1 conditions identified in the HFTD from 2020 to 2023. For each condition, the audit must evaluate:
      - If the condition should have been classified as an imminent threat.
      - If the initially assigned remediation timeframe was appropriate given the condition.
      - If the actual remediation timeframe was appropriate given the condition.
    - Create and implement a record keeping category to track Level 1 conditions identified as imminent threats, and update asset management procedures to reflect the new record keeping category.
  - Discussed in Section 8.1, "Grid Design, Operations, and Maintenance" (8.1.4 "Equipment Maintenance and Repair").
  
- **PC-23-13. Priority A/Level 1 Condition Remediation Delays**
  - Description: PacifiCorp states that it has identified access, material, permitting, and resource constraints as the root causes of Level 1 conditions that are not remediated within the required timeframe. PacifiCorp states that it is developing tools and implementing changes to mitigate delays associated with the constraints but does not provide sufficient detail.

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<sup>208</sup> PacifiCorp refers to Level 1 conditions internally as Priority A conditions. Level 1 Conditions and Priority A conditions are synonymous. See PacifiCorp's Revision Notice Response, page 12.

- Required Progress: In its 2025 Update, PacifiCorp must describe the specific tools and/or process changes that will address each constraint (access, material, permitting, and resource).
- Discussed in Section 8.1, “Grid Design, Operations, and Maintenance” (8.1.4 “Equipment Maintenance and Repair”).
- **PC-23-14. Asset Management and Enterprise Systems**
  - Description: PacifiCorp does not have a consolidated asset management and enterprise system and does not intend to develop one.
  - Required Progress: In its 2025 Update, PacifiCorp must provide an analysis demonstrating that its current combination of contemporary and legacy systems comprehensively and efficiently covers its asset inventory, inspections, and maintenance. The analysis must discuss:
    - The system/systems that contain asset inventory information for substations, distribution lines, and transmission lines.
    - How asset inventory information is used to generate inspections, and which system/systems generate and track inspections for substations, distribution lines, and transmission lines
    - How inspection findings are tracked, and if the work order system/systems are capable of associating pictures and inspector comments with specific findings.
    - How the asset inventory system/systems are updated to reflect assets that have changed because of hardening and repair work.
  - Discussed in Section 8.1, “Grid Design, Operations, and Maintenance” (8.1.4 “Equipment Maintenance and Repair”).
- **PC-23-15. Continued Monitoring of Enhanced Fire Risk (EFR) Settings**
  - Description: PacifiCorp does not currently have quantitative data to assess the effectiveness or impact of its implementation of EFR settings.
  - Required Progress: In its 2025 Update, PacifiCorp must provide:
    - The following data relating to when EFR settings are enabled:
      - Number of outages.
      - Duration of outages.
      - Frequency of outages per circuit.
      - Number of customers impacted.
      - Response time for outages.

- An updated plan of actions being taken based on the data provided above to reduce reliability impacts and safety impacts of EFR settings.
  - An update on how PacifiCorp has evaluated the effectiveness of EFR settings implementation.
  - A description of how PacifiCorp has consulted with other electrical corporations to learn about best practices, including which settings to use, thresholds for setting implementations, and impact reductions for related outages.
- Discussed in Section 8.1, “Grid Design, Operations, and Maintenance” (8.1.5 “Grid Operations and Procedures”).

## 11.4 Vegetation Management and Inspections

- **PC-23-16. Vegetation Management Priority Tagging**

- Description: While PacifiCorp sequences inspections based on risk-related criteria (HFTD tier, last scheduled work, predominant species, etc.), its Red Dot priority tagging system does not adequately communicate varying degrees of priority of work identified during inspections.
- Required Progress: In its 2026-2028 Base WMP, PacifiCorp must provide:
  - Risk-based criteria for determining and assigning priority to work locations, including remediation timelines for each priority level. GO 95, Rule 18(A)(2) and Liberty’s “Work Priority Levels”<sup>209</sup> should serve as examples.
  - A plan to operationalize the risk-based criteria that includes milestones that are specific, measurable, relevant, and timebound.
- Discussed in Section 8.2, “Vegetation Management and Inspections.”

## 11.5 Situational Awareness and Forecasting

- **PC-23-17. Weather Station Maintenance and Calibration**

- Description: PacifiCorp reports having approximately 100 weather stations in its network but does not report on the annual maintenance and calibration of those weather stations. Frequent calibration and

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<sup>209</sup> Liberty’s 2023-2025 WMP, pages 224-225.

maintenance of weather stations is critical for ensuring accurate, reliable, and high-quality data. As PacifiCorp performs its annual weather station maintenance and calibration, Energy Safety will need PacifiCorp to report on the following to verify the integrity of the data collected from its weather station network.

- Required Progress: In its 2025 Update, PacifiCorp must provide documentation indicating the number of weather stations that received their annual calibration and the number of weather stations that were unable to undergo annual maintenance and/or calibration due to factors such as remote location, weather conditions, customer refusals, environmental concerns, and safety issues. This documentation must include:
  - The station name and location.
  - The reason for the inability to conduct maintenance and/or calibration.
  - The length of time since the last maintenance and calibration.
  - The number of attempted but incomplete maintenance or calibration events for these stations in each calendar year.
- Discussed in Section 8.3, “Situational Awareness and Forecasting.”

## 11.6 Emergency Preparedness

- **PC-23-18. Emergency Resources Availability**
  - Description: PacifiCorp did not provide an analysis of its response times regarding its emergency resources associated with recent PacifiCorp-reported catastrophic wildfires as required by a 2022 area for continued improvement (PC-22-19). It also did not provide an evaluation of its deployment and storage of resources within California, required by this area for continued improvement depending on the results of the analysis.
  - Required Progress: In its 2025 Update, PacifiCorp must fully respond to all required progress listed in Energy Safety’s 2022 area for continued improvement PC-22-19<sup>210</sup> by providing the following:

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<sup>210</sup> [Final Decision on PacifiCorp's 2022 WMP Update](https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53298&shareable=true), PC-22-19, page 95 (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53298&shareable=true, accessed December 5, 2023).



- An analysis of PacifiCorp's response times regarding its emergency resources associated with recent PacifiCorp-reported catastrophic wildfires (as reported in Table 5-4).
- Depending on the results of this analysis, an evaluation of PacifiCorp's deployment and storage of resources within California.
- Discussed in Section 8.4, "Emergency Preparedness."

## 11.7 Lessons Learned

### • PC-23-19. Lessons Learned Narratives

- Description: While PacifiCorp provides information on lessons learned in tabular form, it does not provide the narrative summaries required for Section 10 "Lessons Learned."
- Required Progress: In its 2025 Update, PacifiCorp must provide all required information on lessons learned in both tabular and narrative form, as required by Section 10 of the Technical Guidelines.<sup>211</sup>
- Discussed in Section 10, "PacifiCorp's Process for Continuous Improvement" (10.3 "Areas for Continued Improvement").

### • PC-23-20. Lessons Learned from Past Wildfires

- Description: In response to a 2022 area for continued improvement (PC-22-06), PacifiCorp states that it is planning to implement fire incident tracking and expects to perform trend and root cause analysis for ignitions by the end of 2024. Given this timeline, PacifiCorp has not yet investigated the causes of its ignitions or PacifiCorp-reported wildfires and does not provide any associated lessons learned within its WMP.
- Required Progress: In its 2026-2028 Base WMP, PacifiCorp must provide an update on its fire incident tracking database as it relates to PacifiCorp's analysis of the root causes of its ignitions and PacifiCorp-reported catastrophic wildfires as well as associated lessons learned. This update

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<sup>211</sup> [Technical Guidelines](#), Section 10, pages 207-209

(<https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53286&shareable=true>, accessed December 14, 2023).

must provide information on and a response to all required progress listed in Energy Safety's 2022 area for continued improvement PC-22-06.<sup>212</sup>

- Discussed in Section 10, "PacifiCorp's Process for Continuous Improvement" (10.3 "Areas for Continued Improvement").

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<sup>212</sup> [Final Decision on PacifiCorp's 2022 WMP Update](https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53298&shareable=true), pages 88-89 (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53298&shareable=true, accessed November 21, 2023).

## 12. Conclusion

PacifiCorp's 2023-2025 Wildfire Mitigation Plan is approved.

Catastrophic wildfires remain a serious threat to the health and safety of Californians. Electrical corporations, including PacifiCorp, must continue to make progress toward reducing utility-related ignition risk. Energy Safety expects PacifiCorp to effectively implement its wildfire mitigation activities to reduce the risk of utility-related ignitions and the potential catastrophic consequences if an ignition occurs, as well as to reduce the scale, scope, and frequency of PSPS events. PacifiCorp must meet the commitments in its WMP and fully address areas for continued improvement identified within this Decision to ensure it meaningfully reduces utility-related ignition and PSPS risk within its service territory over the plan cycle.



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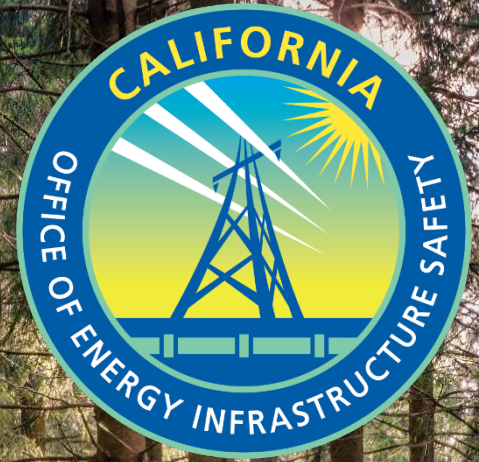
Shannon O'Rourke  
Deputy Director | Electrical Infrastructure Directorate  
Office of Energy Infrastructure Safety

# DATA DRIVEN FORWARD-THINKING INNOVATIVE SAFETY FOCUSED

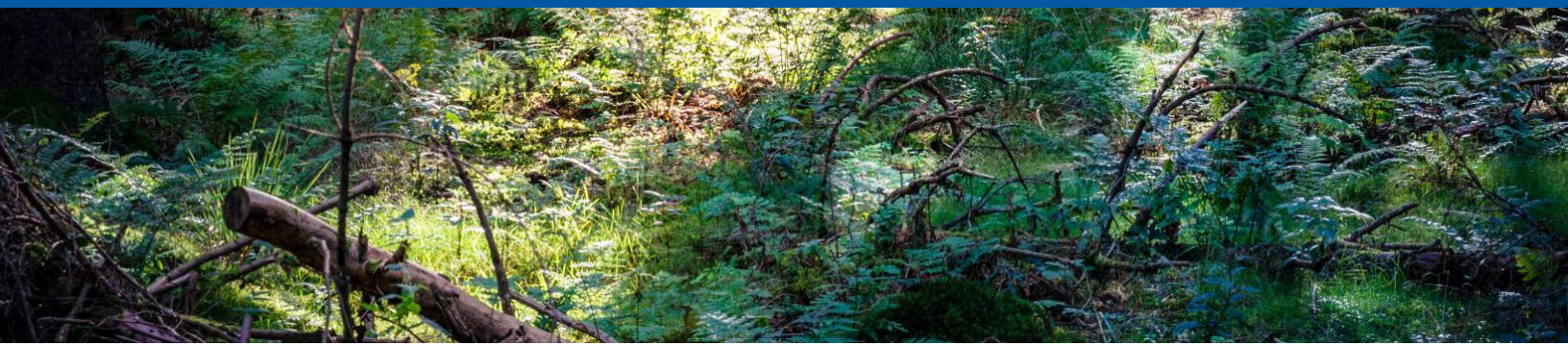


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# APPENDICES



## APPENDICES

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# Appendix A.

## Glossary of Terms

Term	Definition
<b>AFN</b>	Access and functional needs
<b>BVES</b>	Bear Valley Electric Service
<b>CAISO</b>	California Independent System Operator
<b>Cal Advocates</b>	The Public Advocates Office at the California Public Utilities Commission
<b>CAL FIRE</b>	California Department of Forestry and Fire Protection
<b>Cal OES</b>	California Office of Emergency Services
<b>CAP</b>	Corrective Action Program
<b>CBO</b>	Community-based organization
<b>CDFW</b>	California Department of Fish and Wildlife
<b>CEC</b>	California Energy Commission
<b>CEJA</b>	California Environmental Justice Alliance
<b>CNRA</b>	California Natural Resources Agency
<b>CPUC</b>	California Public Utilities Commission
<b>D.</b>	CPUC decision
<b>DR</b>	Data request
<b>DWR</b>	Department of Water Resources
<b>EBMUD</b>	East Bay Municipal Utility District
<b>EFD</b>	Early fault detection

<b>Term</b>	<b>Definition</b>
<b>EPUC</b>	Energy Producers and Users Coalition
<b>EVM</b>	Enhanced vegetation management
<b>FERC</b>	Federal Energy Regulatory Commission
<b>FPI</b>	Fire potential index
<b>FWI</b>	Fire weather index
<b>GFN</b>	Ground-fault neutralizers
<b>GIS</b>	Geographic information systems
<b>GO</b>	General order
<b>GPI</b>	The Green Power Institute
<b>GRC</b>	General rate case
<b>HD</b>	High definition
<b>HFRA</b>	High Fire Risk Area
<b>HFTD</b>	High fire threat district
<b>HWT or Horizon West</b>	Horizon West Transmission
<b>I.</b>	CPUC Investigation
<b>ICS</b>	Incident command system or structure
<b>IOU</b>	Investor-owned utility
<b>IR</b>	Infrared
<b>ISA</b>	International Society of Arboriculture
<b>ITO</b>	Independent transmission operator
<b>kV</b>	Kilovolt
<b>Liberty</b>	Liberty Utilities



<b>Term</b>	<b>Definition</b>
<b>LiDAR</b>	Light detection and ranging
<b>Maturity Model</b>	Electrical Corporation Wildfire Mitigation Maturity Model
<b>Maturity Survey</b>	Electrical Corporation Wildfire Mitigation Maturity Survey
<b>MAVF</b>	Multi-attribute value function
<b>MBL</b>	Medical Baseline
<b>MGRA</b>	Mussey Grade Road Alliance
<b>ML</b>	Machine learning
<b>NDVI</b>	Normalized difference vegetation index
<b>NERC</b>	North American Electric Reliability Corporation
<b>NFDRS</b>	National Fire Danger Rating System
<b>NOD</b>	Notice of defect
<b>NOV</b>	Notice of violation
<b>OCM</b>	Overhead circuit miles
<b>OEIS or Energy Safety</b>	Office of Energy Infrastructure Safety
<b>PG&amp;E</b>	Pacific Gas and Electric Company
<b>PoF</b>	Probability of failure
<b>PoI</b>	Probability of ignition
<b>PRC</b>	Public Resources Code
<b>PSPS</b>	Public Safety Power Shutoff
<b>Pub. Util. Code or PU Code</b>	Public Utilities Code

<b>Term</b>	<b>Definition</b>
<b>QA</b>	Quality assurance
<b>QC</b>	Quality control
<b>QDR</b>	Quarterly Data Report
<b>R.</b>	CPUC rulemaking
<b>RAMP</b>	Risk Assessment and Management Phase
<b>RCRC</b>	Rural County Representatives of California
<b>REFCL</b>	Rapid earth fault current limiter
<b>RFW</b>	Red Flag Warning
<b>RSE</b>	Risk-spend efficiency
<b>SAWTI</b>	Santa Ana Wildfire Threat Index
<b>SCADA</b>	Supervisory control and data acquisition
<b>SCE</b>	Southern California Edison Company
<b>SDG&amp;E</b>	San Diego Gas & Electric Company
<b>S-MAP</b>	Safety Model Assessment Proceeding, now the Risk-Based Decision-Making Framework Proceeding
<b>SMJU</b>	Small and multijurisdictional utility
<b>TAT</b>	Tree Assessment Tool
<b>TBC</b>	Trans Bay Cable
<b>TURN</b>	The Utility Reform Network
<b>USFS</b>	United States Forest Service
<b>VM</b>	Vegetation management
<b>VRI</b>	Vegetation risk index
<b>WMP</b>	Wildfire Mitigation Plan

Term	Definition
<b>WRRM</b>	Wildfire Risk Reduction Model
<b>WSAB</b>	Wildfire Safety Advisory Board
<b>WSD</b>	Wildfire Safety Division
<b>WUI</b>	Wildland-urban interface

## Appendix B.

# Status of 2022 Areas for Continued Improvement

Energy Safety's 2022 Decision<sup>1</sup> for each utility identified areas for continued improvement and associated required progress. Areas for continued improvement are where the utility must continue to improve its wildfire mitigation capabilities. As part of the 2023 WMP evaluation process, Energy Safety has reviewed the progress reported by PacifiCorp and is satisfied that PacifiCorp has made sufficient progress in all the identified areas for continued improvement.

Areas for continued improvement identified in 2022 either have been addressed or any outstanding matters are incorporated in the 2023 areas for continued improvement. PacifiCorp's 2022 areas for continued improvement are listed in Table A-1. The status column indicates whether each has been fully addressed. If not, the column notes where to find more information in this Decision.

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<sup>1</sup> [Final Decision on PacifiCorp's 2022 WMP Update](https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53298&shareable=true)

(<https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53298&shareable=true>, accessed December 27, 2023).

Table A-1. PacifiCorp 2022 Areas for Continued Improvement

ID	Title	Status
<b>PC-22-01</b>	Specific Lessons Learned With Associated Actions	PacifiCorp has sufficiently addressed the required progress thus far; Energy Safety will continue to monitor progress.
<b>PC-22-02</b>	Collaboration and Research in Best Practices in Relation to Climate Change Impacts and Wildfire Risk and Consequence Modeling	PacifiCorp has not sufficiently addressed the required progress. For related areas for continued improvement, see Sections 7 and 11 of this Decision.
<b>PC-22-03</b>	Inclusion of Community Vulnerability in Consequence Modeling	PacifiCorp has not sufficiently addressed the required progress. For related areas for continued improvement, see Sections 7 and 11 of this Decision.
<b>PC-22-04</b>	Wildfire Consequence Modeling Improvements	PacifiCorp has sufficiently addressed the required progress.
<b>PC-22-05</b>	Prioritization Based on Risk Analysis	PacifiCorp has not sufficiently addressed the required progress. For related areas for continued improvement, see Sections 6, 7, and 11 of this Decision.
<b>PC-22-06</b>	Lessons Learned from Past Wildfires	PacifiCorp has not sufficiently addressed the required progress. For related areas for continued improvement, see Sections 10 and 11 of this Decision.
<b>PC-22-07</b>	Update on Wildfire Detection Program	PacifiCorp has sufficiently addressed the required progress.

ID	Title	Status
<b>PC-22-08</b>	Adequate Weather Station Density	PacifiCorp has sufficiently addressed the required progress.
<b>PC-22-09</b>	Applying Joint Lessons Learned Concerning Covered Conductor	PacifiCorp has not sufficiently addressed the required progress. For related areas for continued improvement, see Sections 8 and 11 of this Decision.
<b>PC-22-10</b>	Covered Conductor Inspection and Maintenance	PacifiCorp has not sufficiently addressed the required progress. For related areas for continued improvement, see Sections 8.1 and 11 of this Decision.
<b>PC-22-11</b>	Failure to Meet Grid Hardening Targets	PacifiCorp has not sufficiently addressed the required progress. For related areas for continued improvement, see Sections 8.1.2 and 11 of this Decision.
<b>PC-22-12</b>	Disaggregation of Pole Replacements and Covered Conductor Installation	PacifiCorp has sufficiently addressed the required progress.
<b>PC-22-13</b>	Selection of Undergrounding Projects	PacifiCorp has sufficiently addressed the required progress thus far; Energy Safety will continue to monitor progress.
<b>PC-22-14</b>	Further Development of Integrating Risk-Informed Decision Making for Inspection Scheduling and Planning	PacifiCorp has not sufficiently addressed the required progress. For related areas for continued improvement, see Sections 8.1 and 11 of this Decision.
<b>PC-22-15</b>	Improvement of QA/QC Process	PacifiCorp has not sufficiently addressed the required progress. For related areas for continued

ID	Title	Status
		improvement, see Sections 8.1 and 11 of this Decision.
<b>PC-22-16</b>	Participate in Vegetation Management Best Management Practices Scoping Meeting	PacifiCorp has sufficiently addressed the required progress.
<b>PC-22-17</b>	Progress on Use of Enhanced Fire Risk (EFR) Settings	PacifiCorp has not sufficiently addressed the required progress. For related areas for continued improvement, see Sections 8 and 11 of this Decision.
<b>PC-22-18</b>	Inadequate Justification of Initiative-Selection Process	PacifiCorp has sufficiently addressed the required progress thus far; Energy Safety will continue to monitor progress.
<b>PC-22-19</b>	Emergency Resources Availability	PacifiCorp has not sufficiently addressed the required progress. For related areas for continued improvement, see Sections 8.4 and 11 of this Decision.
<b>PC-22-20</b>	Unclear Progress Associated with Stakeholder Cooperation Initiatives	PacifiCorp has sufficiently addressed the required progress.
<b>PC-22-21</b>	Lack of Quantitative Targets for PSPS Initiatives and Short-Term Reduction Commitments	PacifiCorp has sufficiently addressed the required progress.

# Appendix C.

## PacifiCorp 2023 Revision Notice

### Critical Issues

As discussed in Section 3.4 of this Decision, Energy Safety issued PacifiCorp a Revision Notice on September 11, 2023. The Revision Notice required PacifiCorp to remedy six critical issues identified by Energy Safety during evaluation of PacifiCorp's 2023-2025 Wildfire Mitigation Plan. Each critical issue is discussed in detail under the respective Decision section; Table A-2 below lists all six critical issues and provides a status of each issue.



Table A-2. PacifiCorp 2023 Revision Notice Critical Issues

Critical Issue ID & Title	Critical Issue Description	Required Remedy	Critical Issue Status
<b>RN-PC-23-01: PacifiCorp does not provide the status of its 2022 areas for continued improvement</b>	The Technical Guidelines require electrical corporations to provide responses to their areas for continued improvement as identified in Energy Safety's Decisions on the 2022 WMP Updates. <sup>2</sup> In Appendix D of its WMP, PacifiCorp does not provide the status of its 2022 areas for continued improvement. Instead, PacifiCorp states that as it identifies areas for continued improvement, an update will be provided. <sup>3</sup> The Technical Guidelines do not require electrical corporations to identify their own areas for continued improvement. Appendix D is intended for responses to Energy Safety's areas for continued improvement, as stated above and in the Technical Guidelines. Furthermore, this is not a new	PacifiCorp must provide a complete Appendix D as directed by the Technical Guidelines. The appendix must list all 2022 areas for continued improvement identified by Energy Safety's Decision on PacifiCorp's 2022 WMP Update. <sup>6</sup> PacifiCorp must provide a response to each of the 2022 areas for continued improvement in the format required by the Technical Guidelines.	PacifiCorp has resolved the critical issue and has satisfied the required remedy for RN-PC-23-01.

<sup>2</sup> [Technical Guidelines](https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53286&shareable=true), page D-1 (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53286&shareable=true, accessed August 17, 2023).

<sup>3</sup> PacifiCorp's 2023-2025 WMP, page 385.

<sup>6</sup> [Final Decision on PacifiCorp's 2022 WMP Update](https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53298&shareable=true), pages 86-96 (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53298&shareable=true, accessed August 17, 2023).

Critical Issue ID & Title	Critical Issue Description	Required Remedy	Critical Issue Status
	requirement; in its 2022 WMP Update, <sup>4</sup> PacifiCorp was required to address “key areas for improvement” as identified in Energy Safety’s Action Statement on PacifiCorp’s 2021 WMP Update. <sup>5</sup>		
<b>RN-PC-23-02: PacifiCorp’s mitigation initiative prioritization schematic is missing required details</b>	<p>In its WMP Section 7.1.4.2, Mitigation Initiative Prioritization, PacifiCorp provides a schematic (Figure 7-8 “Current Mitigation Selection Considerations”)<sup>7</sup> that does not meet the minimum requirements outlined in the Technical Guidelines.<sup>8</sup> At a minimum, the schematic must demonstrate the roles of the following procedures and evaluation criteria used to evaluate and prioritize potential mitigation initiatives:</p> <ul style="list-style-type: none"> <li>• Quantitative risk assessment.</li> <li>• Resource allocation.</li> </ul>	<p>PacifiCorp must revise its schematic (Figure 7-8) to include the necessary details to meet the minimum requirements as outlined in the Technical Guidelines.</p>	<p>PacifiCorp has resolved the critical issue and has satisfied the required remedy for RN-PC-23-02.</p>

<sup>4</sup> [PacifiCorp’s 2022 WMP Update](https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=52700&shareable=true) (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=52700&shareable=true, accessed September 6, 2023).

<sup>5</sup> [Energy Safety’s Revised Final Action Statement on PacifiCorp’s 2021 WMP Update](https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=51672&shareable=true) (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=51672&shareable=true, accessed September 6, 2023).

<sup>7</sup> PacifiCorp’s 2023-2025 WMP, page 119.

<sup>8</sup> [Technical Guidelines](https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53286&shareable=true), pages 64-65 (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53286&shareable=true, accessed August 10, 2023).

Critical Issue ID & Title	Critical Issue Description	Required Remedy	Critical Issue Status
	<ul style="list-style-type: none"> <li>• Evaluation of other performance objectives (e.g., cost, timing).</li> <li>• Subject matter expert judgement.</li> <li>• Any local factors considered in the decision-making process, if applicable, including details as to why these local conditions are part of the decision process.</li> </ul> <p>PacifiCorp's graphic provides factors PacifiCorp considers when prioritizing mitigation initiatives. However, the graphic is too high level and does not include the minimum details required. The current graphic does not demonstrate what roles the procedures and evaluation criteria listed above play, if any, in this mitigation prioritization process. The graphic simply lists considerations (e.g., "In HFTD," "Mitigate PSPS Impacts") under "Lower Priority" and "Higher Priority" headings without demonstrating any process used to determine these criteria.</p>		
<b>RN-PC-23-03: PacifiCorp does not clearly describe its current or future mitigation</b>	In its WMP Section 7.1.4.1, Identifying and Evaluating Mitigation Initiatives, PacifiCorp does not provide the detail	PacifiCorp must fully respond to the requirements in Section 7.1.4.1 of the Technical Guidelines. Specifically, PacifiCorp must:	PacifiCorp has resolved the critical issue and has satisfied the required remedy for RN-PC-23-03.

Critical Issue ID & Title	Critical Issue Description	Required Remedy	Critical Issue Status
<b>identification and evaluation procedures</b>	<p>required by the Technical Guidelines<sup>9</sup> regarding its procedures for identifying and evaluating mitigation initiatives. PacifiCorp is currently developing its risk-spend efficiency (RSE) process and does not yet have RSE calculations.<sup>10</sup> PacifiCorp indicates that it evaluates cost effectiveness when selecting mitigations in the meantime.<sup>11</sup> However, PacifiCorp does not describe its process for performing this interim evaluation. Though PacifiCorp provides examples of how RSE values may be calculated for certain mitigations, it is not clear which of those examples PacifiCorp currently uses, which it intends to adopt in the future, or if these examples are part of how PacifiCorp is currently evaluating cost effectiveness.</p>	<ol style="list-style-type: none"> <li>1. Clearly describe the procedures PacifiCorp is currently using for identifying and evaluating mitigation initiatives that will be in place until its RSE process is established. This description must include how PacifiCorp considers the criteria listed in its WMP,<sup>13</sup> how those criteria are prioritized and/or combined to inform PacifiCorp's decision-making process, and any procedures currently employed to determine cost effectiveness relative to risk reduction.</li> <li>2. Clearly describe the procedures PacifiCorp is considering for future implementation for identifying</li> </ol>	

<sup>9</sup> [Technical Guidelines](https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53286&shareable=true), pages 63-64 (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53286&shareable=true, accessed August 10, 2023).

<sup>10</sup> PacifiCorp's 2023-2025 WMP, page 115.

<sup>11</sup> PacifiCorp's 2023-2025 WMP, page 115.

<sup>13</sup> PacifiCorp's 2023-2025 WMP, page 115.

Critical Issue ID & Title	Critical Issue Description	Required Remedy	Critical Issue Status
	<p>Furthermore, PacifiCorp lists criteria that it evaluates when selecting mitigations (e.g., regulatory requirements, customer and other stakeholder input, etc.),<sup>12</sup> but does not provide information on how those criteria are factored into its decision-making process. PacifiCorp also does not describe its approach for characterizing uncertainties and how its decision-making process incorporates these uncertainties.</p>	<p>and evaluating mitigation initiatives once its RSE process is established, including any procedures to determine cost effectiveness relative to risk reduction. PacifiCorp must adapt the illustrative examples it provides in its WMP<sup>14</sup> to make clear the approaches it is exploring implementing or has decided against and why.</p> <p>3. Clearly list the uncertainties PacifiCorp faces in its risk model or mitigation evaluation, and how it accounts for these uncertainties in its decision-making process.</p>	
<p><b>RN-PC-23-04: PacifiCorp has not assigned imminent threat status to any</b></p>	<p>PacifiCorp has not provided sufficient information for the evaluation of its asset management policy for Level 1 priority</p>	<p>PacifiCorp must update its WMP Section 8.2.5,<sup>22</sup> Quality Assurance and Quality Control, to include an outline of an</p>	<p>PacifiCorp has de-escalated the critical issue; however, PacifiCorp must demonstrate continued progress as described</p>

<sup>12</sup> PacifiCorp's 2023-2025 WMP, page 115.

<sup>14</sup> PacifiCorp's 2023-2025 WMP, pages 115-118.

<sup>22</sup> The Revision Notice mistakenly requested that PacifiCorp update Section 8.2.5. PacifiCorp correctly identified and updated Section 8.1.6.

Critical Issue ID & Title	Critical Issue Description	Required Remedy	Critical Issue Status
<b>Level 1 conditions found during inspections from 2020 to 2022 and has not maintained compliance with its existing Level 1 work orders</b>	work orders. <sup>15</sup> PacifiCorp’s asset management policy states that Level 1 <sup>16</sup> conditions must be remedied within 30 days unless they are classified as imminent threats, in which case the conditions must be addressed immediately. <sup>17</sup> From the start of 2020 to the end of 2022, PacifiCorp created 1,075 Level 1 work orders. None of these work orders were categorized as an imminent threat by the inspector. <sup>18</sup> Some of these work order findings included damaged or frayed conductor, General Order (GO) 95 clearance conditions, transformer issues,	investigative framework to validate that inspections are correctly assigning imminent threat status to Level 1 condition findings. At minimum, this framework and the corresponding outline must include: <ul style="list-style-type: none"> <li>• A plan to determine which failure modes can result in imminent threats, particularly relating to wildfire risk, including an evaluation of PacifiCorp’s current list of possible</li> </ul>	in Section 11 (PC-23-12 and PC-23-13).

<sup>15</sup> [Process Guidelines](https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53287&shareable=true), Section 4.4.1, page 6 (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53287&shareable=true, accessed May 30, 2023).

<sup>16</sup> PacifiCorp refers to Level 1 conditions as “A conditions.” General Order 95 Rule 18 defines Level 1 conditions as an “[immediate] safety and/or reliability risk with high probability for significant impact” that must be corrected immediately.

<sup>17</sup> [PacifiCorp Asset Management Policy No. 192](https://www.pacificorp.com/content/dam/pcorp/documents/en/pacificorp/wildfire-mitigation/responses-issued/PacifiCorp_Response_CalAdvocates-PacifiCorp-2023WMP-16.pdf), included in response to Cal Advocates’ Data Request 16, Question 3, page 4 (https://www.pacificorp.com/content/dam/pcorp/documents/en/pacificorp/wildfire-mitigation/responses-issued/PacifiCorp\_Response\_CalAdvocates-PacifiCorp-2023WMP-16.pdf, accessed August 16, 2023).

<sup>18</sup> [PacifiCorp Response to Cal Advocates’ Data Request 14](https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fwww.pacificorp.com%2Fcontent%2Fdam%2Fpcorp%2Fdocuments%2Fen%2Fpacifi%2Fwildfire-mitigation%2Fresponses-issued%2FPacifiCorp_Response_CalAdvocates-PacifiCorp-2023WMP-14.1.xlsx&wdOrigin=BROWSELINK) (https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fwww.pacificorp.com%2Fcontent%2Fdam%2Fpcorp%2Fdocuments%2Fen%2Fpacifi%2Fwildfire-mitigation%2Fresponses-issued%2FPacifiCorp\_Response\_CalAdvocates-PacifiCorp-2023WMP-14.1.xlsx&wdOrigin=BROWSELINK, accessed August 16, 2023).

Critical Issue ID & Title	Critical Issue Description	Required Remedy	Critical Issue Status
	<p>and missing hardware.<sup>19</sup> Such conditions as well as others identified by PacifiCorp as Level 1 priority, could pose wildfire risk and require further evaluation to ensure proper classification. The statistical improbability of encountering no imminent threats over a three-year span suggests a procedural failure to appropriately classify Level 1 conditions.</p> <p>Additionally, PacifiCorp has not been able to maintain compliance with its existing Level 1 timeline. As of June 12, 2023, PacifiCorp had 16 overdue Level 1 work orders.<sup>20</sup> From 2020 to 2022, PacifiCorp had a total of 274 Level 1 priority work orders that were completed after 30 days, with 47 being in the CPUC’s high fire threat district (HFTD) Tier 2 or Tier 3</p>	<p>nonconformance criteria<sup>23</sup> and associated priority level determination.</p> <ul style="list-style-type: none"> <li>• A strategy to perform internal and external audits on statistically relevant sample sizes of inspections that resulted in the selected failure modes. This should include evaluation of the inspectors’ accuracy for determining imminent threat status.</li> <li>• An evaluation of all Level 1 work orders from 2020 to 2023 to consider whether any could have posed imminent threats and should have been prioritized. This should also</li> </ul>	

<sup>19</sup> [PacifiCorp Response to Cal Advocates’ Data Request 14](https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fwww.pacificorp.com%2Fcontent%2Fdam%2Fpcorp%2Fdocuments%2Fen%2Fpacifi%2Fwildfire-mitigation%2Fresponses-issued%2FPacifiCorp_Response_CalAdvocates-PacifiCorp-2023WMP-14.1.xlsx&wdOrigin=BROWSELINK) within Colum B “Work Order Description” (https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fwww.pacificorp.com%2Fcontent%2Fdam%2Fpcorp%2Fdocuments%2Fen%2Fpacifi%2Fwildfire-mitigation%2Fresponses-issued%2FPacifiCorp\_Response\_CalAdvocates-PacifiCorp-2023WMP-14.1.xlsx&wdOrigin=BROWSELINK, accessed August 16, 2023).

<sup>20</sup> [CalAdvocates Data Request 13.1](https://www.pacificorp.com/content/dam/pcorp/documents/en/pacificorp/wildfire-mitigation/responses-issued/PacifiCorp_Response_CalAdvocates-PacifiCorp-2023WMP-13.pdf) (Question 5) (https://www.pacificorp.com/content/dam/pcorp/documents/en/pacificorp/wildfire-mitigation/responses-issued/PacifiCorp\_Response\_CalAdvocates-PacifiCorp-2023WMP-13.pdf, accessed August 17, 2023).

<sup>23</sup> See [General Order \(GO\) 95 Rule 18](https://ia.cpuc.ca.gov/gos/GO95/go_95_rule_18.htm) for more information (https://ia.cpuc.ca.gov/gos/GO95/go\_95\_rule\_18.htm, accessed August 22, 2023).

Critical Issue ID & Title	Critical Issue Description	Required Remedy	Critical Issue Status
	<p>lands.<sup>21</sup> Overall, PacifiCorp needs to evaluate its current procedures and protocols for Level 1 priority work orders to ensure it is maximizing wildfire risk reduction in a timely manner.</p>	<p>include a process to evaluate root cause issues and perform needed solutions to address such issues.</p> <ul style="list-style-type: none"> <li>• A description of PacifiCorp’s procedures and capability to perform and track when temporary corrective actions or interim measures have taken place to decrease imminent threats.</li> <li>• A process to update associated procedures, inspection practices, and training materials to correctly identify imminent threats.</li> </ul> <p>PacifiCorp must also update its WMP Section 8.1.7, Open Work Orders, to include a plan on how it intends to address Level 1 priority work orders in a timely</p>	

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<sup>21</sup> [PacifiCorp Response to Cal Advocates’ Data Request 14](https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fwww.pacificorp.com%2Fcontent%2Fdam%2Fpcorp%2Fdocuments%2Fen%2Fpacifi corp%2Fwildfire-mitigation%2Fresponses-issued%2FPacifiCorp_Response_CalAdvocates-PacifiCorp-2023WMP-14.1.xlsx&wdOrigin=BROWSELINK) comparing Column H “Date the work order was originally opened” to Column P “Date the work order was completed” (https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fwww.pacificorp.com%2Fcontent%2Fdam%2Fpcorp%2Fdocuments%2Fen%2Fpacifi corp%2Fwildfire-mitigation%2Fresponses-issued%2FPacifiCorp\_Response\_CalAdvocates-PacifiCorp-2023WMP-14.1.xlsx&wdOrigin=BROWSELINK, accessed August 16, 2023).



Critical Issue ID & Title	Critical Issue Description	Required Remedy	Critical Issue Status
		<p>manner. At minimum, this must include:</p> <ul style="list-style-type: none"> <li>• Resourcing allocation plans to obtain and/or maintain workforce and equipment needs, including considerations of any supply chain issues.</li> <li>• How PacifiCorp intends to address and prioritize Level 1 priority work orders based on wildfire risk in the future.</li> <li>• An update on PacifiCorp’s open Level 1 priority work orders as of the publication of this Revision Notice.</li> <li>• A plan to perform root cause analysis on the delays PacifiCorp faced resolving Level 1 priority work orders in a timely fashion from 2020 to 2023.</li> </ul>	
<p><b>RN-PC-23-05: PacifiCorp’s 3-year and 10-year vegetation management objectives do not meet Energy Safety requirements as</b></p>	<p>PacifiCorp’s 3-year and 10-year initiative objectives (objectives) for vegetation management do not adequately demonstrate “a clear action plan to continue reducing utility-related ignitions and the scale, scope, and frequency of Public Safety Power Shutoff (PSPS)</p>	<p>PacifiCorp must revise its 3-year and 10-year vegetation management objectives to address the issues that Energy Safety identifies above. PacifiCorp may add, modify, and/or remove objectives, as needed, in order to strengthen</p>	<p>PacifiCorp has resolved the critical issue and has satisfied the required remedy for RN-PC-23-05.</p>

Critical Issue ID & Title	Critical Issue Description	Required Remedy	Critical Issue Status
<p><b>outlined in the Technical Guidelines</b></p>	<p>events” nor do the objectives “[focus] sufficiently on long-term strategies.”<sup>24</sup></p> <p>In its WMP Section 8.2, Vegetation Management and Inspections, PacifiCorp describes how it will implement and improve its vegetation management program(s) but does not commit to these improvements through its summarization of objectives. Per the Technical Guidelines, objectives must be: “Specific, measurable, achievable, realistic, and timely....”<sup>25</sup> Although PacifiCorp provides 3-year and 10-year objectives for vegetation management, the objectives do not meet the stated requirements. Instead, PacifiCorp uses equivocating language such as “continue progressing programs” and “continue to improve.”<sup>26</sup> These objectives are neither specific nor measurable.</p>	<p>its 3-year and 10-year objectives to be specific, measurable, achievable, realistic, and timely.</p>	

<sup>24</sup> [Process Guidelines](https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53287&shareable=true), Section 5.1, page 9 (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53287&shareable=true, accessed May 30, 2023).

<sup>25</sup> [Technical Guidelines](https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53286&shareable=true), Appendix A, page A-12 (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53286&shareable=true, accessed May 30, 2023).

<sup>26</sup> PacifiCorp's 2023-2025 WMP, page 181.

Critical Issue ID & Title	Critical Issue Description	Required Remedy	Critical Issue Status
<p><b>RN-PC-23-06: PacifiCorp does not provide target pass rates for vegetation management quality assurance and control program as required by the Technical Guidelines</b></p>	<p>PacifiCorp has not provided yearly target pass rates for the current WMP cycle for its vegetation management and inspections quality assurance (QA) and quality control (QC) activities, as required by the Technical Guidelines.<sup>27</sup></p> <p>In Section 8.2.5 of its WMP, Table 8-19 "Vegetation Management QA/QC Program," PacifiCorp does not provide target pass rates. Instead, PacifiCorp only noted, "N/A," without any explanation.<sup>28</sup></p>	<p>PacifiCorp must define yearly target pass rates for 2023 through 2025 for its vegetation management and inspections QA/QC program in Table 8-19.</p>	<p>PacifiCorp has resolved the critical issue and has satisfied the required remedy for RN-PC-23-06.</p>

<sup>27</sup> [Technical Guidelines](https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53286&shareable=true), Sections 8.1.6 "Quality Assurance and Quality Control," page 86 and Section 8.2.5 "Quality Assurance and Quality Control," page 110-111 (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53286&shareable=true, accessed May 30, 2023).

<sup>28</sup> PacifiCorp's 2023-2025 WMP, pages 205-206.

# Appendix D.

## Stakeholder Comments on the 2023-2025 Wildfire Mitigation Plans

Energy Safety invited stakeholders, including members of the public, to provide comments on the utilities' 2023-2025 WMPs. Opening comments on the SMJU WMPs were due on June 29, 2023, and reply comments were due on July 10, 2023. The following individuals and organizations submitted comments:

- California Department of Fish and Wildlife (CDFW)
- The Green Power Institute (GPI)
- The Public Advocates Office at the California Public Utilities Commission (Cal Advocates)
- Rural County Representatives of California (RCRC)

Comments received on the 2023-2025 WMPs can be viewed in the 2023-2025 Wildfire Mitigation Plan (2023-2025-WMPs) docket log.

Energy Safety evaluated these comments and concurred with and in some instances incorporated stakeholder input on PacifiCorp's 2023-2025 WMP.

Energy Safety found the following stakeholder comments to concur with topics already included in Energy Safety's findings:

- GPI
  - Target pass rates for vegetation management QA/QC program
  - PSPS and wildfire risk trade-off transparency
  - Risk model implementation milestones and dates
  - Risk-based approach to asset inspections
- Cal Advocates
  - Work order backlog
  - Covered conductor targets

The following stakeholder comments introduced new information that influenced Energy Safety's findings:

- Cal Advocates
  - Asset management and inspection enterprise systems

# Appendix E.

## Stakeholder Comments on the Revision Notice Response

Energy Safety invited stakeholders, including members of the public, to provide comments on PacifiCorp's Revision Notice Response. Opening comments on PacifiCorp's Revision Notice Response were due on October 26, 2023, and reply comments were due on November 6, 2023. The following individuals and organizations submitted comments:

- The Green Power Institute (GPI)
- The Public Advocates Office at the California Public Utilities Commission (Cal Advocates)

Comments received on PacifiCorp's Revision Notice Response can be viewed in the 2023-2025 Wildfire Mitigation Plan (2023-2025-WMPs) docket log.

Energy Safety evaluated these comments and concurred with and in some instances incorporated stakeholder input on PacifiCorp's Revision Notice Response.

Energy Safety found the following stakeholder comments to concur with topics already included in Energy Safety's findings:

- GPI
  - Continued tracking of 2022 areas for continued improvement (e.g., PC-22-06 and PC-22-09)
  - Level 1 conditions/work orders
- Cal Advocates
  - Applying lessons learned from joint covered conductor workshops
  - Level 1 conditions/work orders

The following stakeholder comments introduced new information that influenced Energy Safety's findings:

- GPI
  - Level 1 condition remediation delays
- Cal Advocates
  - Covered conductor installation progress and third-party contractors
  - "Imminent threat" designation for Level 1 conditions

- Third-party audits of Level 1 conditions/remediations

# Appendix F.

## Stakeholder Comments on the Draft Decision

The following stakeholder submitted comments regarding Energy Safety's draft Decision on PacifiCorp's 2023-2025 WMP (published for comment on December 28, 2023):

- The Green Power Institute (GPI)

Below is a summary of comments resulting in changes to this Decision and a summary of those changes:

1. GPI stated that the Decision should clarify its discussion of Section 7.1.1 "PacifiCorp's WMP Strengths."
  - a. Energy Safety has modified Section 7.1.1.
2. GPI recommended expanding area for continued improvement PC-23-08 to require barrier and solution statements regarding how PacifiCorp will adjust its methods to achieve covered conductor targets.
  - a. Energy safety has modified PC-23-08.
3. GPI recommended expanding area for continued improvement PC-23-16 to require measurable milestones.
  - a. Energy Safety has modified PC-23-16.
4. GPI stated that the Decision should afford credit to GPI for their contributions to WMP review and ACI development.
  - a. Energy Safety has modified Appendix D to afford credit to GPI where applicable.



# Appendix G.

## Maturity Survey Results

Energy Safety's 2023-2025 Electrical Corporation Wildfire Mitigation Maturity Model<sup>29</sup> (Maturity Model) and 2023 Electrical Corporation Wildfire Mitigation Maturity Survey<sup>30</sup> (Maturity Survey) together provided a quantitative method to assess the maturity of each utility's wildfire risk mitigation program.

The Maturity Model consists of 37 individual capabilities describing the ability of electrical corporations to mitigate wildfire risk within their service territory. The 37 capabilities are aggregated into seven categories. The seven mitigation categories are:

- A. Risk Assessment and Mitigation Selection
- B. Situational Awareness and Forecasting
- C. Grid Design, Inspections, and Maintenance
- D. Vegetation Management and Inspections
- E. Grid Operations and Protocols
- F. Emergency Preparedness
- G. Community Outreach and Engagement

Maturity levels range from 0 (below minimum requirements) to 4 (beyond best practice). Electrical corporations' responses to the Maturity Survey, listed by mitigation category, are depicted in the figures and tables below.

Tables A-3 and A-4 compare the SMJUs' maturity levels across mitigation categories showing minimum values and average values. Figure A-1 show PacifiCorp's projected maturity growth throughout the WMP cycle. Figure A-2 provides a one-page look at all PacifiCorp's maturity levels for the WMP cycle, including at the capability and sub-capability levels, showing both minimum and average calculations.

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<sup>29</sup> [2023-2025 Electrical Corporation Wildfire Mitigation Maturity Model \(Second Revised Final, Feb. 2023\)](https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53394&shareable=true) (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53394&shareable=true, accessed May 5, 2023).

<sup>30</sup> [2023 Electrical Corporation Wildfire Mitigation Maturity Survey \(Revised Final, April 2023\)](https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53708&shareable=true) (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53708&shareable=true, accessed May 5, 2023). This is the version used by Energy Safety when scoring the survey.

Table A-3. Cross-Utility Maturity Level by Category<sup>31</sup> (Minimum Values)

Maturity Category	PacifiCorp		Liberty		Bear Valley	
	2023	2026	2023	2026	2023	2026
A. Risk Assessment and Mitigation Selection	0.00	1.83	0.00	0.00	0.83	1.33
B. Situational Awareness and Forecasting	0.00	2.33	0.00	0.50	0.83	2.00
C. Grid Design, Inspections, and Maintenance	0.40	2.40	0.20	0.60	1.00	2.80
D. Vegetation Management and Inspections	0.00	2.25	0.00	0.00	1.00	2.25
E. Grid Operations and Protocols	0.20	2.40	0.60	1.40	0.80	2.00
F. Emergency Preparedness	0.33	2.83	0.50	1.17	1.50	2.17
G. Community Outreach and Engagement	0.80	3.60	1.40	1.80	2.40	4.00

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<sup>31</sup> Table A-3 displays the utilities' maturity level at the start of the current WMP cycle (2023) and their level at the end of the cycle (2026).

Table A-4. Cross-Utility Maturity Level by Category<sup>32</sup> (Average Values)

Maturity Category	PacifiCorp		Liberty		Bear Valley	
	2023	2026	2023	2026	2023	2026
A. Risk Assessment and Mitigation Selection	0.86	3.35	0.43	0.51	3.01	3.37
B. Situational Awareness and Forecasting	1.60	3.43	0.64	2.40	2.99	3.46
C. Grid Design, Inspections, and Maintenance	1.23	3.47	1.28	2.27	2.77	3.58
D. Vegetation Management and Inspections	1.06	3.31	2.19	2.19	2.69	3.31
E. Grid Operations and Protocols	1.49	3.42	1.77	2.98	2.48	3.50
F. Emergency Preparedness	1.18	3.31	1.61	1.89	2.58	3.19
G. Community Outreach and Engagement	1.80	3.77	2.73	2.93	3.03	4.00

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<sup>32</sup> Table A-4 displays the utilities maturity level at the start of the current WMP cycle (2023) and their level at the end of the cycle (2026).

Figure A-1. PacifiCorp Projected Growth in Maturity throughout Current WMP Cycle by Category

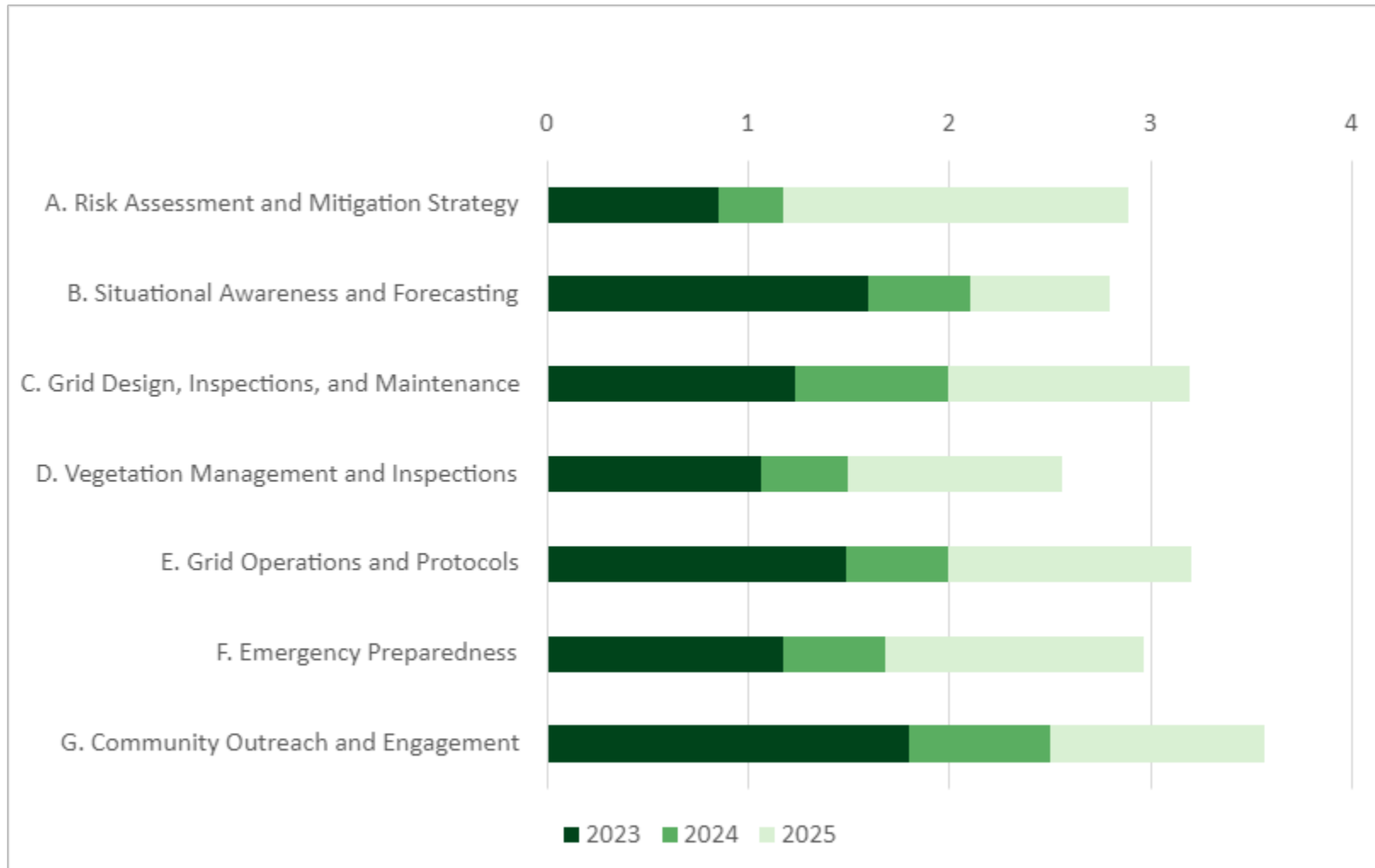


Figure A-2. PacifiCorp Comprehensive Maturity Survey Results

		1. Capability				2. Capability				3. Capability				4. Capability				5. Capability				6. Capability			
		2023	2024	2025	2026	2023	2024	2025	2026	2023	2024	2025	2026	2023	2024	2025	2026	2023	2024	2025	2026	2023	2024	2025	2026
A. Risk Assessment and Mitigation Strategy		1. Statistical weather, climate, and wildfire modeling				2. Calculation of wildfire and PSPS risk exposure for societal values				3. Calculation of community vulnerability to wildfire and Public Safety Power Shutoffs (PSPS)				4. Calculation of risk and risk components				5. Risk event tracking and integration of lessons learned				6. Risk-informed wildfire mitigation strategy			
	Minimum of Sub-Cap.	0.0	0.0	1.0	1.0	0.0	0.0	2.0	2.0	0.0	0.0	1.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	1.0	2.0	0.0	0.0	2.0	2.0
	Average of Sub-Cap.	0.8	1.5	2.1	2.7	1.0	1.4	3.0	3.6	1.6	1.6	2.9	3.4	0.9	1.3	3.3	3.4	0.7	0.7	3.4	3.6	0.1	0.5	2.6	3.4
B. Situational Awareness and Forecasting		7. Ignition likelihood estimation				8. Weather forecasting ability				9. Wildfire spread forecasting				10. Data collection for near-real-time conditions				11. Wildfire detection and alarm systems				12. Centralized monitoring of real-time conditions			
	Minimum of Sub-Cap.	0.0	0.0	1.0	2.0	0.0	0.0	1.0	2.0	0.0	0.0	1.0	1.0	0.0	1.0	2.0	3.0	0.0	1.0	1.0	2.0	0.0	1.0	2.0	4.0
	Average of Sub-Cap.	1.2	1.2	2.2	3.1	0.8	1.5	2.5	3.2	1.7	1.9	2.7	3.2	1.6	2.7	3.3	3.6	2.3	2.7	3.2	3.5	2.0	2.6	3.0	4.0
C. Grid Design, Inspections, and Maintenance		13. Asset inventory and condition database				14. Asset inspections				15. Asset maintenance and repair				16. Grid design and resiliency				17. Asset and grid personnel training and quality							
	Minimum of Sub-Cap.	0.0	0.0	2.0	3.0	1.0	1.0	2.0	2.0	1.0	1.0	2.0	2.0	0.0	1.0	2.0	2.0	0.0	1.0	3.0	3.0				
	Average of Sub-Cap.	1.3	2.0	3.0	3.8	2.3	2.3	3.3	3.3	1.3	1.3	2.8	3.0	0.8	2.2	3.2	3.5	0.5	2.3	3.8	3.8				
D. Vegetation Management and Inspections		18. Vegetation inventory and condition database				19. Vegetation inspections				20. Vegetation treatment				21. Vegetation personnel training and quality											
	Minimum of Sub-Cap.	0.0	0.0	2.0	3.0	0.0	1.0	1.0	2.0	0.0	0.0	1.0	2.0	0.0	0.0	2.0	2.0								
	Average of Sub-Cap.	1.3	1.5	3.0	3.5	1.0	1.3	2.3	3.3	1.0	1.5	2.3	3.3	1.0	1.8	2.8	3.3								
E. Grid Operations and Protocols		22. Protective equipment and device settings				23. Incorporation of ignition risk factors in grid control				24. PSPS operating model				25. Protocols for PSPS re-energization				26. Ignition prevention and suppression							
	Minimum of Sub-Cap.	0.0	0.0	3.0	3.0	0.0	0.0	2.0	2.0	1.0	1.0	3.0	3.0	0.0	1.0	1.0	2.0	0.0	0.0	2.0	2.0				
	Average of Sub-Cap.	1.3	2.7	3.5	3.5	0.6	0.8	3.2	3.6	2.8	3.0	3.8	3.8	2.0	2.2	2.8	3.5	0.7	1.3	2.7	2.7				
F. Emergency Preparedness		27. Wildfire and PSPS emergency and disaster preparedness plan				28. Collaboration and coordination with public safety partners				29. Public emergency communication strategy				30. Preparedness and planning for service restoration				31. Customer support in wildfire and PSPS emergencies				32. Learning after wildfires and PSPS incidents			
	Minimum of Sub-Cap.	1.0	1.0	4.0	4.0	0.0	2.0	2.0	3.0	0.0	0.0	2.0	2.0	0.0	1.0	1.0	2.0	1.0	1.0	4.0	4.0	0.0	1.0	2.0	2.0
	Average of Sub-Cap.	1.8	1.8	4.0	4.0	1.0	2.5	2.5	3.5	1.3	1.8	3.0	3.2	1.5	2.0	2.3	3.2	1.0	1.0	4.0	4.0	0.5	1.0	2.0	2.0
G. Community Outreach and Engagement		33. Public outreach and education awareness				34. Public engagement in electrical corporation wildfire mitigation planning				35. Engagement with AFN and socially vulnerable populations				36. Collaboration on local wildfire mitigation planning				37. Cooperation and best practice sharing with other electrical corporations							
	Minimum of Sub-Cap.	2.0	2.0	3.0	3.0	1.0	1.0	4.0	4.0	0.0	1.0	2.0	3.0	1.0	1.0	4.0	4.0	0.0	2.0	2.0	4.0				
	Average of Sub-Cap.	3.0	3.0	3.5	3.5	2.0	2.3	4.0	4.0	1.0	2.0	3.0	3.3	2.0	2.5	4.0	4.0	1.0	2.7	3.3	4.0				