August 15, 2022 **Via Electronic Filing**

Caroline Thomas Jacobs, Director
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Subject: Public Advocates Office Comments on PacifiCorp's Resubmitted 2022 WMP
Docket: 2022-WMPs

Dear Director Thomas Jacobs,

The Public Advocates Office (Cal Advocates) at the California Public Utilities Commission (CPUC) respectfully submits the following comments on the resubmitted 2022 Wildfire Mitigation Plan Update of PacifiCorp dba Pacific Power (PacifiCorp). Please contact Henry Burton (Henry.Burton@cpuc.ca.gov) or Charles Madison (Charles.Madison@cpuc.ca.gov) with any questions relating to these comments.

We respectfully urge the Office of Energy Infrastructure Safety to adopt the recommendations discussed herein.

Sincerely,

/s/ ***Carolyn Chen***

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I. INTRODUCTION

Pursuant to the Office of Energy Infrastructure Safety's (Energy Safety) *Final 2022 Wildfire Mitigation Plan (WMP) Update Guidelines* (2022 WMP Guidelines),[1] the Public Advocates Office at the California Public Utilities Commission[2] (Cal Advocates) submits these comments on the resubmitted 2022 Wildfire Mitigation Plan (WMP) Updates filed by PacifiCorp dba Pacific Power (PacifiCorp) on July 18, 2022 (PacifiCorp's 2022 WMP Update Resubmission).

The 2022 WMP Guidelines provide templates, direction, and a schedule for the utilities'[3] 2022 WMP submissions. According to the 2022 WMP Guidelines, Bear Valley Electric Service (BVES), Liberty Utilities, and PacifiCorp submitted their 2022 WMP Updates on May 6, 2022. On June 20, 2022, Cal Advocates filed comments on these utilities' 2022 WMP Updates.

On June 15, 2022, Energy Safety issued a notice of rejection for incompleteness to PacifiCorp. Energy Safety outlined revisions needed to address inadequate descriptions in PacifiCorp's risk assessment mapping and grid hardening sections.[4]

On July 15, 2022, PacifiCorp refiled its 2022 WMP Update, as required by the rejection notice. The PacifiCorp rejection notice permits interested persons to file opening comments by August 15, 2022 and reply comments by August 22, 2022. In these comments, Cal Advocates addresses PacifiCorp's resubmitted WMP, focusing on the new or revised elements.

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[1] Energy Safety, *Final 2022 Wildfire Mitigation Plan (WMP) Update Guidelines*, December 15, 2021. See Attachment 5: Guidelines for Submission and Review of 2022 Wildfire Mitigation Plan Updates, pp. 5-6 and 9.

[2] Hereafter, we refer to the California Public Utilities Commission as "the CPUC" in these comments.

[3] Many of the Public Utilities Code requirements relating to wildfires apply to "electrical corporations." *See, e.g.,* Public Utilities Code Section 8386. These comments use the more common terms "utilities" or "IOUs" and the phrase "electrical corporations" interchangeably to refer to the entities that must comply with the wildfire safety provisions of the Public Utilities Code.

[4] Energy Safety, *Office of Energy Infrastructure Safety Issuance of Rejection for Incompleteness and Order to Resubmit for PacifiCorp's 2022 Wildfire Mitigation Plan Update*, June 15, 2022, pp. 1-3.

II. TABLE OF RECOMMENDATIONS

Item	Utility	Recommendation	Section of these Comments
1	PacifiCorp	Energy Safety should require PacifiCorp to provide additional detail on how it employs risk assessment and mapping tools for its decision-making.	III.A.1
2	PacifiCorp	PacifiCorp's 2023 WMP should clarify plans for the long-term utilization of LRAM.	III.A.1
3	PacifiCorp	PacifiCorp's 2023 WMP should explain which purposes it intends to use LRAM and WFA-E for, and the reasoning.	III.A.1
4	PacifiCorp	PacifiCorp's 2023 WMP should articulate how the outputs of each model will be used together.	III.A.1
5	PacifiCorp	Energy Safety should require PacifiCorp to separate climate-driven risk modeling initiatives that have been aggregated into broader wildfire modeling programs.	III.A.2
6	PacifiCorp	For future quarterly reports, Energy Safety should require PacifiCorp to break out its cost reporting for each individual WMP initiative.	III.A.2
7	PacifiCorp	Energy Safety should require PacifiCorp to make clear and unequivocal commitments about its risk assessment practices in the 2023 WMP submission.	III.A.3
8	PacifiCorp	PacifiCorp's WMP should explain exactly what its pole replacement strategy is and show that its strategy is effective.	III.B.1
9	PacifiCorp	Energy Safety should require PacifiCorp to submit an analysis of alternative pole materials and explain when it selects each type of pole. PacifiCorp should include this analysis in its 2023 WMP.	III.B.1

Item	Utility	Recommendation	Section of these Comments
10	PacifiCorp	Energy Safety should require PacifiCorp to report quarterly on the number of poles of each type that it has installed and plans to install, along with spatial data showing their locations.	III.B.1
11	PacifiCorp	Energy Safety should require PacifiCorp to demonstrate that its pole replacement targets are realistic and explain why it missed 2021 targets.	III.B.2
12	PacifiCorp	In its reply to these comments, PacifiCorp should explain why it failed to achieve its 2021 pole replacement target, provide a timeline for the completion of the 41 remaining poles, and demonstrate that its target for 2022 is feasible.	III.B.2
13	PacifiCorp	PacifiCorp should submit a comprehensive program plan that outlines how it will achieve the large increase in pole replacements that it plans in 2022. PacifiCorp should submit this plan within 14 days of Energy Safety's issuance of a final action statement.	III.B.2
14	PacifiCorp	Energy Safety should require PacifiCorp to provide analysis that supports the selection of two undergrounding projects.	III.B.3
15	PacifiCorp	Within 14 days of a final action statement on its WMP, PacifiCorp should submit a supplemental filing that addresses four gaps in its discussion of undergrounding projects: method of undergrounding, unit costs, comparison of undergrounding to covered conductor, and RSE estimates.	III.B.3
16	PacifiCorp	PacifiCorp's 2023 WMP should provide the justification for selecting underground installation rather than alternatives.	III.B.3

Item	Utility	Recommendation	Section of these Comments
17	PacifiCorp	Energy Safety should require PacifiCorp to submit timely quarterly data showing whether it is on track to meet its grid hardening targets.	III.B.4

III. DISCUSSION

A. Risk Assessment and Mapping

1. Energy Safety should require PacifiCorp to provide additional detail on how it employs risk assessment and mapping tools for its decision-making.

PacifiCorp's 2022 WMP section on Risk Assessment and Mapping lacks key information and necessary detail to evaluate how PacifiCorp employs risk modeling tools to support utility decision-making. PacifiCorp's WMP initiatives are prioritized based on location in High Fire-Threat Districts (HFTDs): programs inside the HFTD are given the highest priority. PacifiCorp is moving towards a more quantitative risk-based methodology to prioritize its wildfire mitigation programs. In 2021, PacifiCorp took steps towards achieving a more quantitative methodology by developing a climate-driven risk model called Localized Risk Assessment Model (LRAM), which provides a "Fire Weather" layer for various relevant weather scenarios.

However, PacifiCorp's 2022 WMP Update revision lacks specificity as to how PacifiCorp utilizes LRAM to inform its decision-making related to ignition drivers and climate-driven risk. Instead of demonstrating how LRAM enhances its understanding of near-term and long-term wildfire risk trends, PacifiCorp mostly provides insight into LRAM's shortcomings. For example, PacifiCorp states that the Fire Weather layer "is relatively static,"[5] and the LRAM "is not seen as a fully operationalized simulation and modelling tool."[6] While it is important to

[5] PacifiCorp's 2022 WMP Update Resubmission, p. 151.

[6] PacifiCorp's 2022 WMP Update Resubmission, p. 152. PacifiCorp further explains (at p. 158):

> While helpful to inform project prioritization and overall risk model development, LRAM does not include full simulation capabilities, such as "match-drop" simulations. Specifically, the Environmental Risk Layer is helpful to understand the relative potential escalation for a spark using key factors and data, but does not allow for multiple, operational simulations using updated, or real time information.

acknowledge shortcomings, PacifiCorp's WMP Update leaves unanswered questions about PacifiCorp's use of LRAM for operational risk assessment and mapping.

PacifiCorp asserts that it will mitigate these limitations – and develop a more quantitative risk estimation methodology – by investing in a new Weather Research and Forecast (WRF) model, along with implementing Technosylva's Wildfire Analyst Enterprise (WFA-E) suite of analysis tools.[7] Notably absent is PacifiCorp's explanation of how these new tools will better inform its process of evaluating, selecting, and prioritizing WMP initiatives. For example, in describing future plans, PacifiCorp notes that: "The next phases of development include using the LRAM foundation alongside Technosylva's Wildfire Risk Reduction Model (WRRM) module to create a quantifiable resource allocation methodology, risk reduction and risk-spend efficiency (RSE)." However, it remains unclear how LRAM's results will be integrated with Technosylva's WFA-E results (once both are fully implemented).

To address the above shortcomings, for PacifiCorp's 2023 WMP, Energy Safety should require PacifiCorp to:

- Clarify plans for the long-term utilization of LRAM and whether that includes using LRAM for both operational and planning operations.
- Provide a detailed plan that clearly explains which purposes it intends to use LRAM and WFA-E for, and the reasoning behind that decision.
- Articulate how the outputs of each model will be used simultaneously to pinpoint initiatives to address areas of highest risk.

Adopting these requirements will provide much needed transparency. It is important to clarify PacifiCorp's strategy on how it plans to utilize each model during the build-out of its climate-driven risk assessment and mapping tools.

2. Energy Safety should require PacifiCorp to separate climate-driven risk modeling initiatives that have been aggregated into broader wildfire modeling programs.

PacifiCorp's practice of aggregating several initiatives into broader programs prevents stakeholders from evaluating the efficacy of individual initiatives. PacifiCorp routinely tracks targets and the progress of individual initiatives; yet spending is often rolled into larger

[7] PacifiCorp states that, "Through procurement and implementation of these tools and datasets, this initiative is planned to support a wildfire risk-based resource allocation methodology." PacifiCorp's 2022 WMP Update Resubmission, p. 151.

programs.[8] The bundled cost reporting obscures the results of smaller activities and makes it difficult to determine the efficacy of risk reduction initiatives. Aggregating costs and results creates unnecessary uncertainty about how PacifiCorp is tracking its WMP initiatives.

For future quarterly reports, Energy Safety should require PacifiCorp to break out its cost reporting for each individual WMP initiative. If PacifiCorp is unable to do so, it should submit a plan in its 2023 WMP to obtain and disseminate data on targets, results, and costs of each initiative individually, rather than aggregating this key information.

3. Energy Safety should require PacifiCorp to make clear and unequivocal commitments about its risk assessment practices.

PacifiCorp's use of vague and ambiguous language does not allow meaningful evaluation of progress towards initiative objectives. With respect to validating its ignition model and reviewing existing classifications of ignition drivers, PacifiCorp describes future plans with equivocating language and without sufficient detail to illustrate the measurable and quantifiable goals that PacifiCorp aims to achieve. The failure to document specific targets, metrics, and objectives makes it impossible to hold PacifiCorp accountable to its commitments and validate if its initiatives are effective at reducing wildfire risk.

PacifiCorp gives little detail on how it will validate its ignition model. Instead, PacifiCorp vaguely states, "[m]oving forward, PacifiCorp plans to validate the ignition likelihood model being provided from Technosylva and incorporate the use of it in the development of RSE, resource allocation methodology and risk reduction."[9] At a minimum, PacifiCorp should discuss its verification methodology and describe how it plans to reconcile any differences that emerge during the validation process. Furthermore, PacifiCorp fails to explain exactly how and when Technosylva's products will be used to evaluate the efficacy of wildfire mitigation initiatives.

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[8] For example, PacifiCorp states at PacifiCorp's 2022 WMP Update Resubmission, p. 157:

> PacifiCorp's first pass at assessing the potential wildfire consequence of ignitions was incorporated into the company's risk model, LRAM, financially accounted for in Section 7.3.1.1. Additionally, as further described below, this initiative has evolved to include more dynamic components of wildfire consequences of ignition through implementation of Technosylva's FireSim product, financially accounted for in Section 7.3.2.4 and technically described in Section 4.5.1.1.

[9] PacifiCorp's 2022 WMP Update Resubmission, p. 155.

In many cases, PacifiCorp also fails to provide measurable and quantifiable targets or timelines for each initiative. The statement below illustrates this tendency:

> PacifiCorp *intends to review* existing classifications of ignition risk drivers, which is generally a function of outage cause codes and categorization, and assess whether additional environmental or operational risk information can be ascertained by analyzing non-ignition risk driver data. While not directly tied to ignition risk, this data *may offer* insight into other types of utility risks.[10]

This statement not only lacks any timeline for starting or completing the work described, but it does not make a firm commitment to do the work at all. Moreover, PacifiCorp fails to clearly identify the goal of this effort and provides no way of evaluating whether it is successful.

Energy Safety should require PacifiCorp to eliminate or reduce the use of vague and ambiguous language in its 2023 WMP submission. This will have the effect of strengthening its commitments outlined in its WMP and providing specific targets and schedules that are measurable and quantifiable.

B. Grid Design and System Hardening

1. Energy Safety should require PacifiCorp to clearly explain its plan for replacing poles in high-risk locations.

PacifiCorp provides an overall direction for its wood pole replacement program but does not explain how it evaluates and installs non-wood poles. PacifiCorp states only, "As poles are replaced through the line rebuild program, they will be replaced with non-wood materials, which are more fire resistant, such as fiber glass or steel."[11] This statement has several shortcomings:

- PacifiCorp fails to clearly state when and where it is appropriate to install non-wood poles.
- PacifiCorp does not identify the specific pole materials it uses (e.g., fiberglass, composite, steel, or concrete).
- PacifiCorp does not explain what analysis it performed when selecting pole materials. PacifiCorp should provide an analysis of the merits of each alternative pole material when compared to wood and wood with a fire-resistant intumescent wrapping.

[10] PacifiCorp's 2022 WMP Update Resubmission, p. 230, emphasis added.

[11] PacifiCorp's 2022 WMP Update Resubmission, p. 172.

- PacifiCorp does not provide sufficient detail to demonstrate that non-wood pole materials are cost-effective in fire hazard areas.

PacifiCorp's WMP should explain exactly what its pole replacement strategy is. Various California utilities are installing a mix of steel poles, composite poles, new wooden poles, and intumescent wrap on existing wood poles.[12] Therefore, PacifiCorp should be required to show that its strategy is effective. Indeed, for PacifiCorp's 2023 WMP submission, Energy Safety should require PacifiCorp to provide additional analysis of the advantages and disadvantages of various types of poles. PacifiCorp should demonstrate that the materials it uses are the most reasonable and effective. Additionally, Energy Safety should require PacifiCorp to explain the conditions under which it selects each type of pole.

Finally, Energy Safety should require PacifiCorp to report the number of poles of each type that it has installed and plans to install, along with spatial data showing their locations. PacifiCorp should include this information in each future quarterly report.

2. Energy Safety should require PacifiCorp to demonstrate that its pole replacement targets are realistic and explain why it missed 2021 targets.

PacifiCorp's 2022 WMP states without explanation that "since the last WMP submission, 87 poles have been replaced."[13] PacifiCorp fails to acknowledge or explain why it only replaced 87 of its annual target of 128 distribution poles.[14] PacifiCorp's 2022 WMP Update also does not provide a timeline for the completion of the remaining 41 distribution pole replacements that were planned in 2021. PacifiCorp should provide greater detail on how it plans to close the gap and complete the replacement of the remaining 2021 distribution pole replacements.

In 2022, PacifiCorp, without justification, raised its annual pole replacement target from 128 to 2,020. It is alarming that PacifiCorp has significantly increased its annual pole replacement target in the face of a demonstrated and unexplained record of not achieving its

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[12] *See Comments of the Public Advocates Office on General Issues in the 2022 Wildfire Mitigation Plan Updates of the Large Investor-Owned Utilities*, Docket 2022-WMPs, April 11, 2022, pp. 5-6; *Comments of the Public Advocates Office on the 2021 Wildfire Mitigation Plan Update of Pacific Gas and Electric Company*, Docket 2021-WMPs, March 29, 2021, pp. 38-39; BVES's 2022 WMP Update, pp. 159-161. Notably, there is no consensus among California electric utilities regarding the best pole materials.

[13] PacifiCorp's 2022 WMP Update Resubmission, Table 5.2, p. 117.

[14] PacifiCorp's Q1 2022 Wildfire Mitigation Plan Quarterly Data Report - non-spatial data template, Table 12.

annual objectives. PacifiCorp needs to identify and address the risks inherent with such a rapid increase in program scope.

Energy Safety should require PacifiCorp to rectify the gaps in its WMP. Specifically, PacifiCorp should:

1. Explain why PacifiCorp failed to achieve its 2021 pole replacement target.
2. Provide a timeline for the completion of the 41 poles remaining from 2021.
3. Demonstrate that its target for 2022 is feasible.
4. Produce a comprehensive program plan that outlines how it aims to achieve such a large increase in annual pole replacements. This program plan should include a description of the staffing resources required, a timeline with intermediate milestones, and a contingency strategy to address any risk of pole failure on missed pole replacements.

Requiring PacifiCorp to address these issues will ensure that there is a plan to make up for uncompleted work and that future objectives are feasible and realistic. PacifiCorp should address issues 1-3 in its reply to these comments, and should address item 4 within 14 days of Energy Safety's issuance of a final action statement.

3. Energy Safety should require PacifiCorp to provide analysis that supports the selection of two undergrounding projects.

PacifiCorp's line rebuild program considers the installation of underground electric lines under certain instances. While an underground design is likely the most effective method for reducing utility-driven ignition risk, the cost of installation continues to hinder widespread installation. PacifiCorp estimates that distribution undergrounding projects cost $1 million to $6 million per line mile.[15] However, PacifiCorp "recognizes that the range could be much bigger" depending on the details of each project.[16]

Despite this wide range of installation costs, PacifiCorp was able to identity two potential projects where undergrounding provided multiple benefits.[17] However, PacifiCorp's WMP

[15] PacifiCorp's 2022 WMP Update Resubmission, p. 180.

[16] PacifiCorp's 2022 WMP Update Resubmission, p. 180.

[17] PacifiCorp states that the advantages of undergrounding in these instances include lower maintenance costs, improved access to facilities, lower cost compared to covered conductor, avoiding cultural areas, and eliminating permitting constraints.

Update omits key details and the analysis that led to the selection of undergrounding for risk reduction. PacifiCorp should provide an analysis of how undergrounding compares to alternatives such as covered conductor. In addition, PacifiCorp should:

- Identify which method it selected to install underground lines (i.e., open trenching or directional boring) and provide further detail about which factors ultimately led to its decision.
- Explain why it is estimating such a wide range of unit costs for undergrounding. PacifiCorp must provide additional detail to substantiate the immense range of underground installation costs.
- Provide cost estimates in circuit-miles rather than line-miles, to enable direct comparisons with other utilities.
- Provide a detailed comparison between the costs of installing covered conductor and underground conductor since PacifiCorp asserts that the underground option is more cost-effective for certain projects.[18]

Finally, PacifiCorp states that it currently lacks the capability to produce RSE values for its WMP initiatives.[19] As a result, PacifiCorp has not shown that undergrounding distribution lines is an effective use of resources compared to the reduction in risk. PacifiCorp should estimate the RSE of the two undergrounding projects identified in its 2022 WMP and provide the supporting analysis.

PacifiCorp should be directed to submit a supplemental filing that addresses the four issues above within 14 days of the final action statement on its 2022 WMP. Moreover, for PacifiCorp's 2023 WMP, Energy Safety should require PacifiCorp to provide the justification for selecting underground installation instead of alternatives that may be less costly and similarly effective.

[18] PacifiCorp asserts that undergrounding is cost-effective in some cases and mentions lower maintenance costs. However, without the analysis that led to this conclusion, Energy Safety and stakeholders cannot verify PacifiCorp's claims.

[19] PacifiCorp's WMP Update Resubmission, p. 157.

4. Energy Safety should require PacifiCorp to submit timely quarterly data showing whether it is on track to meet its grid hardening targets.

Cal Advocates has repeatedly raised concerns about the feasibility of PacifiCorp's goals for grid hardening initiatives.[20] Cal Advocates intended to use PacifiCorp's WMP quarterly report for the 2nd quarter of 2022 to assess whether PacifiCorp is on track to reach its 2022 targets. The 2nd quarter report, which shows the utility's progress at the midpoint of the year, should shed light on whether or not PacifiCorp's 2022 WMP sets realistic goals based on careful project planning. PacifiCorp has not yet submitted its quarterly data report or quarterly initiative update for the 2nd quarter. Therefore, Cal Advocates has been unable to perform this analysis.

IV. CONCLUSION

Cal Advocates respectfully requests that Energy Safety adopt the recommendations discussed herein.

Respectfully submitted,

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[20] *Comments of the Public Advocates Office on the 2020 Wildfire Mitigation Plans*, April 7, 2020, pp. 27-32; *Comments of the Public Advocates Office on the 2021 Wildfire Mitigation Plan Updates of the Small and Multijurisdictional Electric Utilities*, Docket 2021-WMPs, April 14, 2021, pp. 21-22; *Comments of the Public Advocate's Office on the 2022 Wildfire Mitigation Plan Updates of the Small Investor-Owned Utilities*, Docket 2022-WMPs, June 20, 2022, pp. 53-55.