BEFORE THE OFFICE OF ENERGY INFRASTRUCTURE SAFETY
OF THE STATE OF CALIFORNIA

Office of Energy Infrastructure Safety
Natural Resources Agency

COMMENTS OF THE GREEN POWER INSTITUTE ON THE GROUP 2 2025 WILDFIRE MITIGATION PLAN UPDATES

August 12, 2024

Gregory Morris, Director
Zoe Harrold, Scientist
The Green Power Institute
a program of the Pacific Institute
2039 Shattuck Ave., Suite 402
Berkeley, CA 94704
ph: (510) 644-2700
fax: (510) 644-1117
gmorris@emf.net

COMMENTS OF THE GREEN POWER INSTITUTE ON THE GROUP 2 2025 WILDFIRE MITIGATION PLAN UPDATES

The Green Power Institute (GPI), the renewable energy program of the Pacific Institute for Studies in Development, Environment, and Security, provides these *Comments of the Green Power Institute on the Group 2 2025 Wildfire Mitigation Plan Updates*.

Introduction

GPI reviewed the 2025 WMP Updates of the small and multi-jurisdictional IOUs (SMJUs), specifically PacifiCorp and Liberty, with a focus on compliance with the 2023-2025 WMPs, compliance with the 2025 WMP Update guidelines, initiative timeline and target updates, and ACI responses. GPI looks forward to reviewing Liberty and PacifiCorp's wildfire and PSPS risk models prior to the 2026-2028 WMP filing as they mature and are put into production.

1. Comments on PacifiCorp's 2025 WMP Update

1.1. Technical 2023-2025 WMP Revision and 2025 WMP Update Corrections

In the 2025 WMP Update Guideline workshop and comments GPI advocated for redlined Base WMP updates to accompany the 2025 WMP Update filings to comprehensively capture smaller plan updates that are triggered by "substantial" updates. For example, updating maps to include PacifiCorp's new HFRA, which is already being used to determine and justify mitigation deployment and costs. As suggested in the 2025 WMP Update Guideline workshop, the Base Plans should provide a single source of truth and therefore should be both internally consistent and consistent with the 2025 WMP Update filings. PacifiCorp's 2023-2025 WMP does not currently meet this reporting standard, and therefore needs to be revised. PacifiCorp should be issued a Revision Notice that requires it to submit a corrected 2023-2025 WMP Revision that is internally consistent and that corrects the following errors and omissions.

1.1.1. Require PacifiCorp to provide revision version numbers for its WMP Base and Update filings

PacifiCorp only provides an updated date for its redlined and clean WMP revisions and does not provide revision version numbers. GPI recommends requiring revision numbers and ordering PacifiCorp to apply a revision number to each updated redline/clean WMP filing.

1.1.2. Order PacifiCorp to correct and/or update Table and Figures in its 2023-2025 Redlined WMP

PacifiCorp's 2023-2025 WMP Revision Redline is missing labels for some figures and tables as well as in text references to the appropriate figures and tables. For example, the "2020-2025 Planned and Actual Combined WMP Expenditure" figure lacks a figure number and is also missing year (x-axis) and series labels.[1]

Figure 5-20 displays PacifiCorp's Tier 2 and 3 HFTD as well as SVI.[2] The figure is not updated to display the newly identified HFRA as indicated in the text. PacifiCorp should be ordered to update the figure accordingly in a 2023-2025 WMP revision.

PacifiCorp's new wildfire risk model identified locations that it classifies as High Fire Risk Area (HFRA) outside and in addition to the HFTD. In section 5.4.4 Critical Facilities and Infrastructure at Risk from Wildfire, it fails to update both the narration and table to include at-risk assets in the HFRA per the WMP guidelines.[3] GPI recommends ordering PacifiCorp, in a 2023-2025 WMP revision, to update its Critical Facilities and Infrastructure at Risk from Wildfire to include a table of at-risk assets in the newly identified HFRA.

1.1.3. Order PacifiCorp to update its Transmission Intrusive Pole Inspections target in 2023-2025 Redlined WMP Table 8-4 Asset Inspection Targets by year

Given the benefit of the doubt, PacifiCorp failed to update its 2025 target for Transmission Intrusive Pole Inspections (AI-05) from 960 units to its new target of 1,257 units in Table 8-4 of

[1] PacifiCorp 2023-2025 Wildfire Mitigation Plan Revision Redline, July 08, 2024, p. 31.
[2] Ibid p. 61.
[3] Ibid p. 63.

the Redlined 2023-2025 WMP as proposed in its 2025 WMP Update.[4,5] In the worst case the discrepancy could be used to justify 906 units as a concrete target and 1,257 units as an aspirational target. PacifiCorp should be ordered to correct this in a 2023-2025 WMP revision.

1.1.4. PacifiCorp should be held accountable for providing comprehensive redlined changes of its revised WMP filings

PacifiCorp's 2023-2025 WMP Update Redline dated July 8, 2024, is not comprehensively redlined. In Section 5.4.3.2 Social Vulnerability and Exposure to Electrical Corporation Wildfire Risk, the redlined updates only indicate deleted and not new copy relative to the 2023-2025 WMP filed October 11, 2023.[6] New text added to the 2023-2025 WMP is provided in standard font type with no color change or formatting indicating the copy is new. This is especially concerning for PacifiCorp's 2025 WMP Update filing as their 2025 WMP Update summary is particularly cursory and largely refences specific changes in the revised 2023-2025 WMP Revision. PacifiCorp's failure to comply with thorough redlining requirements negatively affect external review by California agencies, intervenors, and the public. Due to this failure to redline new content GPI was required to manually compare the October 11, 2023, 2023-2025 WMP revision and the July 8, 2024, 2023-2025 WMP redline revision for the 2025 WMP Update review process. This defeats the purpose of the redline filings, wastes reviewer time, and increases costs.

PacifiCorp appears to have provided a slapdash 2025 WMP Update filing with lack of attention to detail. GPI recommends issuing a Revision Notice that requires PacifiCorp to submit a revised 2025 WMP Update (redlined and clean) as well as a revised 2023-2025 WMP filing with all necessary technical corrections and comprehensive redlining.

Consequences should be exacted for WMP compliance filing technical errors. While OEIS may elect to eliminate the WMP filing completeness check, it is reasonable to expect that utilities file a polished final draft with limited technical errors. In the future, WMP "grades" could include deductions for sloppiness and technical errors to incentivize higher quality submissions.

---

[4] Ibid, p. 153.
[5] PacifiCorp 2025 WMP Update, p. 14.
[6] PacifiCorp 2023-2025 Wildfire Mitigation Plan Revision Redline, July 08, 2024, p. 60.

1.2. Comments on PacifiCorp Changes to Approved Targets, Objectives, and Expenditures

1.2.1. Require PacifiCorp to provide a comprehensive plan for replacing expulsion fuses in the HFTD and newly identified HFRA that includes total units, annual targets, and a completion timeline

PacifiCorp updated its expulsion fuse replacement (GH-05) target for 2025 from 0 to 500 units. This update is due to "continued updates to the risk model" resulting in newly identified expulsion fuses identified for replacement, associated with a cost increase from $0 to $1M.

PacifiCorp's 2023-2025 WMP sets and retains an objective to replace "all expulsion fuses within the HFTD" by December 2025.[7] Section 8.1.2.12 "Expulsion Fuse Replacements" also identifies an additional target update for GH-05 to increase the 2024 expulsion fuse target by 50 percent.[8] However, this target increase is not reflected in the updated Table 8-3 Grid Design, Operations, and Maintenance Target by Year.[9]

Total updated expulsion fuse replacement targets as described in the 2025 WMP Update and 2023-2025 Redlined WMP (July 8, 2024) include 750 units in 2024 and 500 units in 2025.[10] We infer that these updated targets are to complete work in the newly identified HFRA, however this is not clearly specified in the 2025 WMP Update and 2023-2025 WMP Revision. Furthermore, PacifiCorp's WMP does not specify the *total* number of expulsion fuses located in the new HFRA locations, an annual replacement plan, and completion date for all HFTD and HFRA expulsion fuse replacements.

Replacing expulsion fuses with CAL FIRE approved devices across a utility territory and especially within the HFTD and HFRA is a no-regrets and "low-hanging fruit" wildfire mitigation approach that should be swiftly executed by PacifiCorp. PacifiCorp's 2025 WMP Update filing does not support the ability to track when these replacements are completed in the HFRA, since neither a total unit number nor completion plan is provided.

---

[7] PacifiCorp 2023-2025 Redline Wildfire Mitigation Plan, July 08, 2024, p. 149.
[8] Ibid p. 163.
[9] Ibid p. 152.
[10] PacifiCorp 2023-2025 Redline Wildfire Mitigation Plan, July 08, 2024, p. 163.

GPI recommends issuing a Revision Notice that orders PacifiCorp to provide a comprehensive, updated expulsion fuse replacement plan for its HFTD and HFRA. The updated plan should include the total number of expulsion fuses known to remain in the HFTD and newly identified HFRA, annual expulsion fuse replacements targets, proposed completion of all expulsion fuse replacements in the HFTD and HFRA, and a summary of methods it will use to identify any yet un-recorded/unknown expulsion fuse assets in the HFTD and HFRA that will require replacement. Alternatively, these requirements could be ordered via an ACI for inclusion in PacifiCorp's 2026-2028 WMP.

PacifiCorp also fails to comprehensively update its 2023-2025 WMP Revision, leaving references to deploy its expulsion fuse replacement program in the HFTD only, pending the establishment of an HFRA in 2025.[11] PacifiCorp should be ordered to provide a comprehensive 2023-2025 WMP Revision per the 2025 WMP Update requirements.

1.2.2. PacifiCorp must address gaps in its Vegetation Management QA/QC program (VM-11) including extending VM-11 to the HFRA and addressing any program gaps due to "deferred" activities

PacifiCorp updates two VM QA/QC initiative (VM-11) activities to eliminate trackable completion dates of December 2024, and reclassifies them as "Deferred". The two activities are: "Create SME process & procedure for VM database review four times a year," and "Develop audits to provide understanding of the data collection process."[12] Both initiative activities are classified as process and procedure updates and the later also addresses WMP reporting. SME review of the VM database has implications for VM initiative management and quarterly confirmation that VM work and reporting quality is maintained throughout the year. Developing audits to understand the data collection process would appear to be critical to ensuring high quality and accurate data collection. The "Deferred" completion date for both activities is vague and is unacceptable since it does not allow progress tracking (i.e. is not Time-bound per SMART goal standards). It also effectively eliminates these two activities from PacifiCorp's VM-11 initiative since it establishes no enforceable deadline and therefore no requirement that the work

[11] PacifiCorp 2023-2025 Redline Wildfire Mitigation Plan, July 08, 2024, p. 177.
[12] PacifiCorp 2023-2025 Redline Wildfire Mitigation Plan, July 08, 2024, p. 205.

be completed at any time. GPI recommends issuing PacifiCorp a Revision Notice that (1) orders PacifiCorp to provide additional information on the function of these two activities and justify whether these two activities are critical to its ability to successfully implement VM-11; and (2) to eliminate the "deferred" completion date and instead provide a trackable updated completion date using a Quarter-year or month-year (e.g. Q4 2025 or December 2025) format.

1.2.3. Require that PacifiCorp revise its 2023-2025 WMP to extend all initiatives in its wildfire mitigation plan to the new HFRA

PacifiCorp updated an "image" of its initiative breakdown by geographic area (non-HFTD/HFRA, HFTD, HFRA) to include its newly identified HFRA.[13] We first note that the "image" is a table and should be assigned a table number for reference purposes. Notably, all WMP initiatives listed in the table are updated to extend their application to the HFRA except for initiative VM-11 (VM QA/QC) and WP-02 (Identifying and Evaluation Mitigation Initiatives).

WP-02 (Identifying and Evaluation Mitigation Initiatives) is PacifiCorp's wildfire mitigation evaluation and selection process. There is no logical reason to extend nearly every other mitigation initiative to their HFRA but not the mitigation selection initiative. GPI is also unaware of any logical reason to conduct PacifiCorp's VM QA/QC initiative in the non-HFTD/HFRA but not the HFRA. VM QA/QC assessments should be conducted on all VM work, especially in HFTD and HFRA areas where compliance shortfalls could elevate likelihood for a risk event. GPI recommends issuing PacifiCorp a Revision Notice that orders it to update the table to extend WP-02 and VM-11 to the HFRA, or to provide a justification for why these initiatives will not extend to its new HFRA.[14] Three of PacifiCorp's top 5 percent of highest risk circuits are located in the HFRA, and it should therefore be considered on par with PacifiCorp's HFTD risk until additional evaluation of its new risk modeling approach can be conducted.

1.2.4. PacifiCorp should provide an updated cost-benefit analysis or RSE for its Line Rebuild, Covered Conductor initiative (GH-01) and justify its 2025 work plan

PacifiCorp increases its line rebuild or Covered Conductor (CC) initiative (GH-01) target by 50 percent, from 80 to 120 miles. Parallel target increases are applied to the associated pole

[13] PacifiCorp 2023-2025 Redline Wildfire Mitigation Plan, July 08, 2024, p. 137-141.
[14] PacifiCorp 2023-2025 Redline Wildfire Mitigation Plan, July 08, 2024, p. 137-141.

replacement mitigations as well. However, the target increase is accompanied by a 94 percent cost increase from $62M to $120M for associated 2025 projected expenditures.

PacifiCorp misreports the Original and Updated projected expenditure percent difference as 48 percent in Section 2.1.2 Expenditure Changes in the 2025 WMP filing. The appropriate percent difference equation is:

(new value – original value)/original value *100

This equation is used for all percent difference reporting except for initiative GH-01.[15] The reported GH-01 percent difference appears to use the following equation:

(new value – original value)/new value *100

At best this is a typo. It is also misleading and at first glance obscures that the GH-01 percent cost increase is nearly double the percent target increase – not approximately equal as the calculation error suggests. PacifiCorp should be ordered to correct this error in a 2025 WMP Update revision.

The GH-01 50 percent line mile (plus associated pole replacements) target increase, and 94 percent cost increase equates to a unit cost increase from $775,000 per line mile to $1M per line mile (29 percent unit cost increase). PacifiCorp's justification for the cost increase is cursory and only attributes the higher cost to the hiring of a contractor to manage resources and installation, which it confirms in the Group 2 2025 WMP Update workshop.[16]

PacifiCorp failed to achieve its 2022 covered conductor target (n=112), only completing 56 percent of the target. Notably, PacifiCorp also failed to achieve its 2023 line rebuild target of 130 miles by Q4 2023,0 and instead only completed 101 miles of line rebuild in 2023. Its response to PC-23-08 reports this as 67 percent completion but would appear to equate to 78 percent completion.[17] We do note that PacifiCorp's total miles completed each year has increased. PacifiCorp's lower 80-mile line rebuild target for 2025 was likely feasible given the

[15] Unless division by zero, in which case PacifiCorp reports 100% difference.
[16] Group 2 2025 WMP Update Workshop, July 31, 2024.
[17] PacifiCorp 2025 WMP Update, p. 27.

work completed in 2022 and 2023. However, it has elected to increase its 2025 line rebuild target from 80 to 120-line miles, which PacifiCorp has deemed to require and external contractor and which comes at a higher cost per line mile. PacifiCorp provides a spreadsheet with the locations and mileage for its line rebuild initiative as part of its response to PC-23-08. However, it does not provide the HFTD/HFRA designation and risk score for each circuit segment. Many of the listed districts appear to span non-HFTD/HFRA, HFTD, and/or HFRA regions. Of the line rebuild work proposed for 2024 and 2025 only 5 percent of the work planned is in the top 5 percent of highest risk circuits. From the information provided it is not possible to identify if PacifiCorp is planning to focus its premium cost, expanded line rebuild work in the highest risk locations, or if it is prioritizing work in more accessible, lower risk locations to close its growing covered conductor target gap.

GPI recommends issuing PacifiCorp a Revision Notice that requires it to: (1) Provide location specific non-HFTD/HFTD/HFRA designations and wildfire risk scores based on the new risk modeling approach where the covered conductor will be deployed (i.e. in the spreadsheet titled PC_2025_WMPUpdate_CA_Line_Rebuild_Data20232025); (2) Provide a summary of how it chooses it's line rebuild work plan for 2024-2025 and whether the selection process considered ease of access; (3) Provide a location specific cost-benefit or risk-spend efficiency assessment that utilizes its increased line rebuild cost per mile and new risk model output. The cost-benefit analysis should evaluate alternative deployment solutions such as a combination of in-house managed and contracted covered conductor deployment to balance ratepayer costs with timely risk mitigation in its highest risk locations; and (4) Provide a justification for increasing its line rebuild target and transferring its Covered Conductor scope of work to a third party contractor at a premium to its ratepayers and that addresses how it takes into account cost-benefit.

This recommended revisions and additional information is necessary to inform whether the cost premium of PacifiCorp's more rapid CC deployment rate is justified and necessary to provide more timely risk reduction in the highest risk locations. GPI urges the OEIS to consider the cost-benefit of grid hardening activities. In this case, it must be assessed whether more rapid covered conductoring is occurring in relatively low risk locations at a cost premium to improve WMP approval and if the proposed investment is worth the financial burden to PacifiCorp's ratepayers.

Since the work is proposed for 2025 the Revision Notice deadline and final Decision should make every effort to review and approve or deny the updated target and costs for PacifiCorp's updated line rebuild initiative by no later than December 2024.

1.3. Comments on PacifiCorp's New or Discontinued Programs

1.3.1. PacifiCorp has provided insufficient information on its new microgrid program (GH-12) and should be issued a Revision Notice and an ACI to fill in the gaps

PacifiCorp launches a new Microgrid program (GH-12) in its 2025 WMP Update. GPI supports PacifiCorp's advancement in this area. However, the only information provided in both the 2025 WMP Update and the accompanying 2023-2025 WMP revision is that the new program will constitute "feasibility studies" in "certain areas."[18,19] The 1-2 cursory sentences provide insufficient information for work planned in both 2024 and 2025. It does not provide information necessary to understand the scope of the feasibility studies planned, whether any alternative mitigation assessments are planned, or a timeline for the studies with milestones that allow progress tracking.

Microgrids have multiple applications for wildfire and wildfire risk mitigation impact reduction. This can include the ability to remove or reduce reliance on long distribution overhead lines that span HFTD or HFRA but serve relatively few customers (e.g. Rural and Highly Rural areas), or to provide islanded power to customers and critical facilities during PSPS and/or wildfire events. Only 2 percent of PacifiCorp's overhead circuit miles are classified as Urban, with the remainder falling under Rural (46 percent) and Highly Rural (52 percent) categories – suggesting PacifiCorp may have wildfire mitigation opportunities like those being addressed by PG&E's remote grid program. PacifiCorp has only initiated 2 PSPS events, one each in 2020 and 2021, and first recorded fast trip events in 2023. As PacifiCorp makes headway on its PSPS risk assessment initiatives, including per ACI PC-23-03 requirements, the value of microgrids for reducing the long-term impacts of PSPS and fast trip outages in PacifiCorp's territory may become more apparent.

[18] Ibid, p. 20.
[19] PacifiCorp 2023-2025 Redline Wildfire Mitigation Plan, July 08, 2024, p. 161.

The fact that PacifiCorp is initiating microgrid feasibility studies in 2024 indicates that there is additional information available regarding study scope, including timeline, study locations, putative microgrid applications, and cost-benefit analyses. GPI recommends issuing PacifiCorp a Revision Notice that requires it to provide additional detail on its in-progress and planned microgrid feasibility studies, include applications currently being explored, scope and location of the feasibility studies, a summary of scoped cost-benefit analyses, and a timeline for feasibility study completion. This level of transparency is a baseline requirement for providing trackable WMP initiatives, should be established as a standard best practice, is squarely in scope for any new program/project proposed in a WMP Update, and is necessary to afford the public and stakeholders transparency into developing WMP projects and programs.

GPI also recommends issuing an ACI that requires PacifiCorp to report on the outcome of its 2024 and 2025 Microgrid feasibility studies in its 2026-2028 WMP. PacifiCorp's bare bones summary of the feasibility study in their 2025 WMP Update suggests their concomitant reporting in the 2026-2028 WMP is also likely to be ineffectual. The public and stakeholders should not have to issue countless data requests just to access baseline information on the study plan, its outcomes, and the potential role of microgrids in PacifiCorp's mitigation portfolio.

1.4. Comments on Select PacifiCorp ACI

1.4.1. PC-23-02 Calculating Risk Scores Using 95th Percentile Values

PC-23-02 orders PacifiCorp to adjust their wildfire risk model approach away from the aggregation of percentile-based risk scores. Part of the ACI requires PacifiCorp to provide "a plan with milestones." While PacifiCorp reports meeting with OEIS and working with the FireRisk model vendor, it does not achieve the 2025 WMP progress and reporting required by the ACI. The ACI response should provide milestones or a trackable work plan per the required progress. GPI recognizes that PC-23-02 was formally issued on February 12, 2024, just four months prior to the Group 2 2025 WMP Update filing deadline, and that work scope and resulting model adjustments take time to develop. GPI recommends updating and reissuing the ACI to re-scope the required progress for completion in the 2026-2028 Base WMP filing and add the requirement to provide the vendor's plan and timeline as implicated in PacifiCorp's 2025 WMP Update.

1.4.2. PC-23-03 PSPS and Wildfire Risk Trade-Off Transparency

In its response to ACI PC-23-03, PacifiCorp fails to address the required progress in its 2025 WMP or the accompanying 2023-2025 WMP Revision. PacifiCorp provided a timeline with milestones in its 2023-2025 Base WMP for implementation of its PSPS Risk Assessment Solution. PacifiCorp's 2023-2025 WMP Revision (redlined) updates its timeline for implementing its PSPS Risk Assessment solution:

Q1 2023—Project Scoping Requirements
~~Q2 2023 – Identify Solution~~
Q3 2023— Solution Development
Q41 2023—Solution Testing
Q1 2024 – PSPS ~~Solution Release~~ Testing and Pilot
Q4 2024— Full Implementation

The timeline previously culminated in a "PSPS solution release" in Q1 2024, hence the timely ACI requirement to report on the developed method and method application in its 2025 WMP Update.[20] However, in its 2025 WMP Update, PacifiCorp's ACI response only references updates in the 2023-2025 WMP revision in Sections 6.7 and 7.1.4.1 and fails to provide a summary in response to the ACI Required Progress. Referencing its revised 2023-2025 Base WMP in its 2025 WMP Update in response to PC-23-03 is inadequate.

PacifiCorp extends its PSPS risk assessment implementation deadline from Q1-Q4 2024 and fails to provide a justification explaining why the PSPS solution release requires an extension. PacifiCorp also fails to provide any material updates on the PSPS risk assessment method it intends to implement. The revision effectively constitutes a milestone change for initiative RA-01: Risk and Risk Component Calculation but is not technically reportable under the 2025 WMP Update Guidelines.[21] However, this issue is separately addressed in an ACI and the schedule change indicates an implementation delay that is preventing PacifiCorp from providing an adequate response to PC-23-03. PacifiCorp should be required to revise its 2025 WMP Update to provide a summary in response to PC-23-03 that reports the delayed PSPS risk model implementation timeline in its ACI response, includes a justification as to why it will fail to meet

[20] PacifiCorp 2023-2025 Redline Wildfire Mitigation Plan, July 08, 2024, p. 111.
[21] OEIS 2025 WILDFIRE MITIGATION PLAN UPDATE GUIDELINES. January 2024. Section 2, p. 13.

its proposed timeline, the steps it is taking to ensure subsequent timely implementation, and any other reasons as to why is it currently unable to address the Required Progress for PC-23-03.

In Section 7.1.4.1., referenced within its response to PC-23-03, PacifiCorp's only PSPS RSE update states:

> Completion of this work will support the comparison of select alternatives for select mitigations, initially for wildfire risk and potentially in the future for PSPS risk to address the recommendations of PC-23-03.[22]

This statement is equivocal and suggests that PacifiCorp does not have a plan with development and implementation timeline or milestones to address PC-23-03 Required Progress related to "risk buy-down estimate" ranking. GPI recommends ordering PacifiCorp to provide a plan with milestones and a timeline for developing a PSPS risk buy-down estimation method. This should be issued in a new ACI.

PacifiCorp has provided an inadequate response to PC-23-03 on account of both its failure to provide a proper summary within the 2025 WMP Update, and its failure to address the Required Progress. The former shortcoming should trigger a 2025 WMP Update revision. The latter should result in issuing PacifiCorp a determination of "insufficient" for its response to PC-23-03. This ACI should remain open or, alternatively, close PC-23-03 and issue a new ACI to require PacifiCorp to report on the unaddressed Required Progress. In the latter option PacifiCorp's response to PC-23-03 can be recorded as insufficient in perpetuity. This will support WMP compliance tracking and the consideration of ACI responses in WMP approval/denial decision making.

In either case GPI also recommends expanding the Required Progress to require PacifiCorp to provide a plan with milestones and a timeline for when it will develop a PSPS "risk buy-down estimate" or RSE method, and if not planned, how it will address the capability gap. Adequate responses to PC-23-03 or a new ACI should be required in the 2026-2028 Base WMP and failure to provide adequate responses should be penalized.

---

[22] PacifiCorp 2023-2025 Redline Wildfire Mitigation Plan, July 08, 2024, p. 134.

1.4.3. PC-23-05 Independent Review Plan Transparency

PacifiCorp inadequately addresses PC-23-05, "Independent Review Plan Transparency", based on its failure to summarize its response in the 2025 WMP Update and its failure to comply with the Required Progress. GPI recommends requiring PacifiCorp to file a 2025 WMP Update revision to provide the missing responses for each Required Progress element within its 2025 WMP Update filing.

PacifiCorp creates two new risk assessment improvements to address ACI PC-23-05. The first is "Develop Policy and Procedures for Review of Internal Planning Models." This appears to be an internal model review process, which does not address the core "external independent review" requirement of PC-23-05. However, this model improvement activity is important and should include elements such as in-house data QA/QC. Notably the provided timeline is high level, and all its deliverable deadlines are scheduled around/after the 2026-2028 WMP (Q1-2 2025) and the 2027 WMP Update (Q1-Q2 2026) filing deadlines (PacifiCorp redlined text additions are in purple underline):

Q2 2025 — Scoping and Planning
Q3 2025 —Identify Requirements
Q4 2025-Q1 2026 —Develop Processes and Procedures
Q2 2026 —Implement New Processes and Procedures

Based on this timeline PacifiCorp will not have Process and Procedures for review of Internal Planning Models for another 2 years. The proposed Q2 2026 completion date also suggests that it may not be reported on the in the WMP until the 2027 or even 2028 WMP Updates, filed circa Q1 or Q2 of 2026 and 2027, respectively. This delay is untenable and unjustified given that the risk planning models underpin justifications for wildfire risk mitigation selections, timelines, prioritization, and costs. It is prudent to implement "Policies and Procedures for Review of Internal Planning Models" more quickly, even if they are initially under development, and to continue to build out the policies and procedures over time. This will provide more oversight and internal assessments of the models in the intervening 2 years compared to dragging the development process out 2+ years prior to implementing a more comprehensive set of Policies and Procedures all at once. It is also likely this improvement element will be ongoing even after

the initial implementation milestone is met. GPI recommends requiring PacifiCorp to accelerate its Scoping and Planning milestone to Q4 2024/ Q1 2025 and to report on its progress in its 2026-2028 WMP. We also recommend requiring PacifiCorp to implement a phased approach to its "Policies and Procedures for Review of Internal Planning Models" planned improvement that includes staggered implementation and development milestones resulting in implementation progress during 2025 and 2026. PacifiCorp should be required to report on its progress in its 2026-2028 WMP base plan and its 2027 WMP Update.

PacifiCorp's "Independent Review of Planning Risk Models" risk assessment improvement does address the ACI. However, its timeline is also extended out to 2025-2026 and it fails to address the ACI requirement that "PacifiCorp must present actionable tasks it will be completed by its 2026-2028 Base WMP…". The timeline provided is (PacifiCorp redlined text additions are in purple underline):

Q4 2025 — Scoping and RFP Development
Q1 2026 — Select Independent Reviewer
Q2-Q3 2026 — Third Party Review
Q4 2026 — Third Party Review Complete

GPI interprets the ACI to mean that the task-based timeline must include actionable tasks that PacifiCorp will *complete prior to and report on* in its 2026-2028 Base WMP. None of the proposed tasks and deadlines will be completed prior to the 2026-2028 Base WMP filing in Q1-Q2 2025. Progress on the first two tasks will only be completed in time for reporting in the 2027 WMP Update (est. filing in Q2 2026). A complete third-party review in Q4 2026 will not make it into a formal WMP filing until circa Q2 2027 (i.e. the 2028 WMP Update). This constitutes a 3-year timeline. The delay is untenable and unjustified given that the risk planning models underpin justifications for wildfire risk mitigation selections, timelines, prioritization, and costs. Given ongoing risk modeling standard development in other proceedings and within the WMP itself, this extended timeline may also obfuscate the purpose of this critical model review process and extend the timeline on any critical updates. GPI recommends ordering PacifiCorp to accelerate its third-party planning risk model review timeline by up to least 1 year, for a completion date of Q4 2025 or Q1 2026. This is prudent even if the review process will not include the PSPS risk model. PacifiCorp has relatively few PSPS events and the gains from

accelerating the wildfire risk model review process outweigh any third-party PSPS model review delays. A separate ACI can order third party review of PacifiCorp's PSPS risk planning model.

GPI recommends requiring PacifiCorp to remedy these deficiencies and delays in a revised 2025 WMP Update.

1.4.4. PC-23-08 Covered Conductor Installation Progress

PacifiCorp hired a contractor to help manage its line rebuild projects. This decision and PacifiCorp's ACI response generally address PC-23-08. GPI provides additional comments on PacifiCorp's Line Rebuild wildfire mitigation initiative and apparent contractor cost premium above (see recommendation 1.2.4). GPI is concerned that PacifiCorp's ratepayers may be paying a premium for third-party covered conductor installations in lower risk locations. This concern is exacerbated by PacifiCorp's cursory and vague solutions to address its identified permitting and material constraints that ultimate impact the rate of its more cost effective in house covered conductor installation approach.

PacifiCorp's only commitment to improving identified delays due to permitting and supply chain constraints are:

> Plan to identify and pursue permitting earlier in the project process.
> Plans to order additional material when feasible.[23]

PacifiCorp does not provide any trackable or actionable "plans" to mitigate its permitting delays such as updated operating procedures and development timelines, or improved coordination with permitting agencies. It also does not define any actionable elements of its "plan" to frontload material acquisition. The statement "when feasible" is also undefined and suggests there may not be an actionable plan at all. PacifiCorp's response casts doubt on whether it has seriously considered any actionable or systematic improvements to its in house covered conductor scoping, planning, and implementation process that will reduce barriers to achieving a faster more cost-effective covered conductor buildout rate.

[23] PacifiCorp 2025 Wildfire Mitigation Plan, p. 27.

PacifiCorp's third-party solution to its covered conductor line rebuild shortfalls appears to come at a cost premium, while its other plan adjustment solutions to manage permitting and material constraints are cursory and vague. In addition to our recommendations in 1.2.4 above, GPI recommends issuing one or multiple new ACI the requires PacifiCorp to provide the following information in its 2026-2028 Base WMP:

- PacifiCorp should provide a plan for how it will conduct QA/QC on the contractor line rebuild work.
- PacifiCorp must detail to what extent material constraints is impacting its line rebuild pace by resulting in project-specific delays. PacifiCorp must also provide its comprehensive plan to "order additional material when feasible" and explain how it addresses the identified material constraints.[24] The plan should include any updated covered conductor planning, implementation, and processes timelines that mitigate identified material availability barriers. PacifiCorp must also report on its progress, successes, and barriers while implementing its plan. PacifiCorp must also assess whether addressing material constraints may be a lower cost solution capable of supporting more accelerated in house covered conductor build rates.
- PacifiCorp should be required to report on the number of line rebuild projects that were delayed due to permitting issues and the duration of the delay. It must also detail its plan to "identify and pursue permitting earlier in the project process" and how the plan will address the identified constraints.[25] The plan description must include actionable approaches to achieve the intended outcome. PacifiCorp must also report on its progress, successes, and barriers while implementing its plan to "identify and pursue permitting earlier in the project process."[26] PacifiCorp must also provide a response that clarifies whether addressing permitting delays may be a lower cost solution that supports more accelerated in-house annual line rebuild rates.

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

PC-23-09 orders PacifiCorp to set its detailed and intrusive asset inspection rates at the industry standard of 95 to 100 percent by its 2025 WMP Update, which is consistent with its reported

[24] Ibid.
[25] Ibid.
[26] Ibid.

QA/QC pass rate of 97 percent in 2022. PacifiCorp's 2025 WMP refers to its response in the revised 2023-2025 WMP in Section 8.1.6 Quality Assurance and Quality Control and fails to provide a summary in its 2025 WMP Update. This is a failure to comply with the 2025 WMP Guidelines, which state: "The electrical corporation must provide narrative responses to each required progress that specified reporting in the 2025 WMP Update."[27] PacifiCorp's 2025 WMP filing constitutes a failure to comply with the Guidelines and in general is slipshod work that at best slows the external review process and at worst attempts to obscure its failure to comply with OEIS orders.

PacifiCorp fails to comply with PC-23-09. PacifiCorp declines to update its Detailed and Intrusive Yearly Target Pass Rate for 2023-2025 to the required 95 to 100 percent.[28] It instead retains its 90 percent and 80 percent Urban and Rural annual QA/QC pass rates, respectively. PacifiCorp justification is that it always has a target QA/QC goal of 100 percent[29] – this is a ridiculous and empty statement. Perfect outcomes are an obvious goal of any work regardless of the work type. QA/QC are methods intended to identify shortfalls that lead to less than 100 percent success with the goal of identifying and remedying the drivers, such as human and systemic error, in order to achieve the target pass rate.

PacifiCorp next states that its QA/QC pass rate "was developed in refence to managing its independent inspection contractors who perform the detailed and intrusive inspections." We interpret this to mean that these QA/QC targets are either set by, or are conveyed to, the third-party inspection contractors. In either case, PacifiCorp should be transparently holding its third-party inspectors to the current industry standards of 95 to 100 percent pass rates – there is no instance where this target should not be established as a transparent target for or requirement of third-party inspectors.

PacifiCorp's narrative response to PC-23-09 further attempts to justify its lower QA/QC targets by stating:

---

[27] 2025 Wildfire Mitigation Plan Update Guidelines, January 2024. p. 17.
[28] PacifiCorp 2023-2025 Redline Wildfire Mitigation Plan, July 08, 2024, p. 184
[29] PacifiCorp 2023-2025 Redline Wildfire Mitigation Plan, July 08, 2024, p. 184

> Having a higher required pass rate can be beneficial, assuming that the QA/QC process itself remains a constant, but it can also be problematic if it deters improvements in the QA/QC process itself. A QA/QC process which seeks to evolve the audit and impose more exacting standards can improve the overall quality of the inspection program, even if the recorded "pass rate" is lower (because of a higher frequency of noted exceptions). Having a slightly higher margin for exceptions, prior to triggering contractual remedies, can be useful when imposing new requirements and standards through the QA/QC process, especially because condition identification and prioritization often implicates some degree of subjective judgment.[30]

This type of reasoning is quite simply a strawman argument that attempts to redirect the issue to address improving its QA/QC process and thus blatantly avoids remedying the QA/QC pass rate target requirement per PC-23-09, which PacifiCorp has already reported meeting in 2022. The notion that PacifiCorp must depress its QA/QC Detailed and Intrusive Urban and Rural inspection pass rated below the industry standard and below its own reported 2022 pass rate to allow it to "improve" its QA/QC inspection process is abjectly bogus. The suggested "new requirements and standards" needs since "condition identification and prioritization often implicate some degree of subjective judgement" should be developed and established in asset inspection guidelines and any necessary inspector trainings, whether for 3rd party contractors or in house inspectors. QA/QC is not the appropriate tool or pathway to enact such updates. The QA/QC process and any associated updates to the QA/QC process should *evaluate the success* of the updated inspection "requirements and standards" and the approaches used to communicate these new standards to inspectors. PacifiCorp's response is either a strawman to avoid updating its QA/QC pass rate, or it genuinely suggests that PacifiCorp does not understand the purpose of QA/QC as an *evaluation tool,* not a pathway to enact methodological updates.

Notably, PacifiCorp does not provide any plan or timeline to make purported inspection method improvements and QA/QC method updates – suggesting this is simply an empty suggestion with no planned action or outcomes. If PacifiCorp deems it necessary to improve its detailed and intrusive inspection methods with "new requirements and standards" it should do so as part of an inspection method update process, complete with new and transparent guidelines and/or trainings provided to its inspectors. It should then evaluate the outcome using the previous QA/QC assessment method as well as concurrently applying an updated QA/QC method to determine

[30] PacifiCorp 2023-2025 Redline Wildfire Mitigation Plan, July 08, 2024, p. 185

QA/QC pass rates based on both the original and updated methods. There is nothing preventing PacifiCorp from transparently reporting both QA/QC results until it reaches the 95 to 100 percent QA/QC pass rate for the updated/improved method.

Perhaps most telling is PacifiCorp's response that states:

> PacifiCorp is hesitant to remove this margin, which implicates other policy and procedural issues. PacifiCorp will explore with its contractors the potential of amending current contractual requirements relative to the QA/QC process and possibly increasing the required pass rate.[31]

It appears that existing contractual agreements are the real root of the issue as to why PacifiCorp is declining to comply with PC-23-09. GPI recommends rejecting PacifiCorp's proposed "different QA/QC process and resulting pass rate, separate from the current process used for contract management, [that] might be appropriate for WMP reporting purposes."[32] Or, minimally order PacifiCorp to provide a comprehensive plan, timeline, and method for its proposed "different QA/QC process and resulting pass rate." These "different" WMP QA/QC reporting methods must not sacrifice any QA/QC rigor for the sake of superficially complying with PC-23-09 and reporting adequate QA/QC pass rates in the WMP while meeting existing contract terms.

GPI recommends that the OEIS finds PacifiCorp's response to PC-23-09 "insufficient" and order PacifiCorp to update its QA/QC pass rates to 95 to100 percent per the original ACI. GPI recommends ordering PacifiCorp to disclose any contractual QA/QC pass rates it has with third party contractors and the associated contract term. PacifiCorp should also be ordered to report on if or when it can renegotiate or sign a new contract that includes the required 95 percent QA/QC pass rate. Multi-year third-party contracts that perpetuate and permit QA/QC pass rates below industry best practices may need to be re-negotiated if actual pass rates drop below the 95 to 100 percent industry standards. It may be necessary to re-issue an ACI to PacifiCorp regarding its current and future QA/QC pass rate targets that tracks progress on this issue and PacifiCorp's align with industry best practices.

---

[31] PacifiCorp 2023-2025 Redline Wildfire Mitigation Plan, July 08, 2024, p. 185
[32] PacifiCorp 2023-2025 Redline Wildfire Mitigation Plan, July 08, 2024, p. 185

1.4.6. PC-23-11 Distribution Detailed Inspection Frequency

PacifiCorp provides an inadequate and vague plan in response to PC-23-11. GPI assessed whether PacifiCorp's proposed detailed inspection frequency analysis is right-sized to address the ACI Required Progress to conduct an "analysis for determining the updated frequency for performing detailed inspections."

PacifiCorp's plan entails performing detailed inspections on all Tier 3 locations in 2025 and to assess the results to determine if the detailed inspection frequency should be updated in Tier 2 and Tier 2 locations. PacifiCorp's HFTD Tier 3 footprint is only 63.7 miles of overhead circuit miles (transmission and distribution), or 2 percent of its total overhead system. We assume that PacifiCorp's 5-year Detailed Inspection cycle equates to inspecting 20 percent of its overhead circuit miles each year (n=649 overhead circuit miles per year). Based on its 2022 and 2023 Priority A Detailed Inspection find rates (n=257 A Tags; n=224 A Tags) this equates to an estimated find rate of 0.37 Priority A Condition Tags per overhead circuit mile in PacifiCorp's California territory. Extrapolating this find rate to its planned 2025 detailed inspections in the HFTD Tier 3 equates to a forecast of 23 Priority A Tags. This projection may be on the high end since the detailed inspection A tag find rate was lower in 2020 and 2021. Regardless we estimate that the available dataset from PacifiCorp's proposed detailed inspection need evaluation will be around 23 Priority A Tags.

PacifiCorp must also factor in time since the last detailed and/or patrol inspection, from 1-5 years. Since PacifiCorp's HFTD Tier 3 is concentrated in two small regions it's not clear whether their proposed study will capture and be able to analyze the impact of different detailed inspection frequencies (1-5 years). Tag find rates should also be evaluated for a range of overhead assets and failure modes. The estimated 23 priority A tags within the forecasted data set will ostensibly include multiple asset types and Priority A Condition causes. These three critical variables will distribute the already small dataset, lowering its statistical power for assessing the optimal detailed inspection frequency needed to proactively find and remediate priority A tags associated with top wildfire risk drivers. We also note that conditions in its HFTD Tier 3 locations may not be the ideal proxy for assessing the optimal detailed inspection frequency for its Tier 2 and HFRA footprints.

The proposed study is vague, not well designed, and may not be adequate for the required purpose. PacifiCorp's proposed detailed inspection evaluation is not right-sized to support the required analysis of risk-informed detailed inspection frequencies in its HFTD Tier 3 and Tier 3 locations. The proposed evaluation is also missing critical information such as study design and how it will specifically address the question of optimal detailed inspection frequency in the HFTD Tier 2 and Tier 3 necessary to mitigate wildfire risk from Priority A tags with high ignition risk. It also fails to address inspection frequencies that may be relevant to is new HFRA. The study plan also lacks concrete outputs and anticipated outcomes, and fails to provide a trackable timeline with milestones other that the plan to complete the detailed inspections in 2025.

GPI recommends issuing PacifiCorp a Revision Notice that orders it to right-size and bolster its proposed "analysis for determining the updated frequency of performing detailed inspections" accordingly:

- Right-size the proposed analysis and select work locations to ensure that the study can inform optimal inspection frequency between 1-5 years for top A Tag ignition risk drivers in HFTD Tier 2 and Tier 3 zones. Or, provide a justification as to why the proposed study is right-sized.
- Provide a study timeline with milestones and a final reporting deadline.
- Summarize the intended outputs (e.g. a final report, optimal inspection frequency between 1-5 years) and outcomes of the analysis.

1.4.7. PC-23-12 Priority A/Level 1 Remediation and Imminent Threat Designation and PC-23-13 Priority A/Level 1 Condition Remediation Delays

GPI recommends issuing PacifiCorp a Revision Notice that requires it to provide more comprehensive responses to both PC-23-12 and PC-23-13. Regardless of PacifiCorp's internal Level 1 tag risk ranking system as "imminent" for all Level 1 asset tags utilities must: "Take action immediately, either by fully repairing the condition, or by temporarily repairing and reclassifying the condition to a lower priority" per GO 95 Rule 18. PacifiCorp's quarterly reported median time between identifying and remediating Level 1 asset tags in 2023 ranges from 10.5 to 278 days on its distribution system located in the HFTD Tier 2 and 3. PacifiCorp

reports a large increase in median Level 1 tag resolution time in Q4 2023 in its HFTD (189-278 days) and should be required to explain the primary drivers of this dramatic uptick. It's quarterly 95th percentile remediation times in 2023 were also consistently higher than other utilities, ranging from 30 to 465 days for tags located in the HFTD (Tier 2 and 3). Comparatively, the IOUs report 95th percentile and median Level 1 tag remediation times ranging from 0.1-38 days and 0.1-2 days, respectively, in the HFTD (Tier 2 and 3). In 2023, PacifiCorp's median time for Level 1 asset tag resolution in its HFTD (10.5-278 days) was also longer than median resolution times in its non-HFTD (3-16 days). These trends are concerning and indicate that PacifiCorp's methodology and barriers to resolving Level 1 asset findings are resulting in remediation times that are above current best practices. These long remediation times are effectively allowing known wildfire risk conditions to persist in high wildfire risk areas.

To our knowledge PacifiCorp's long median and 95th percentile Level 1 asset tag resolution times cannot be classified as resulting from a tag "backlog." Rather, this issue is likely perpetuated by a combination of its alternative designation of some Level 1 tags as "imminent" and non-imminent, as well as its identified barriers to remediation which include access, material, permitting, and resources. PacifiCorp's responses to associated ACI PC-23-12 and PC-23-13 are vague and wholly inadequate particularly given the severity of the issue.

GPI recommends requiring that PacifiCorp abandon its alternative definition of Level 1 priority asset finding tags as "imminent" and non-imminent. GPI previously addressed this issue in comments. PacifiCorp's alternate designations for Level 1 conditions is not consistent with the GO 95 Rule 18 definition and should be eliminated. All Level 1 conditions should be remediated through "immediate" action per GO 95 Rule 18. Complying with the required definition and action for Level 1 condition findings should improve PacifiCorp's Level 1 tag resolution time. GPI recommends issuing a new ACI that orders PacifiCorp, in its 2026-2028 Base WMP, to eliminate its alternative definition of Level 1 findings and to provide updated utility policies and procedures that conform to GO 95 Rule 18 and that are designed to achieve current best practice median Level 1 tag remediation durations. This ACI should also require PacifiCorp to establish Level 1 tag resolution duration targets for each year of its 2026-2028 Base WMP and to report on its progress. These targets should be designed to set PacifiCorp on a pathway to achieving best practice median and 95th percentile Level 1 asset tag remediation times.

Regarding PC-23-12, the current response acknowledges a failure to provide a timeline with milestones to complete the third-party audit. Regardless of PacifiCorp's communications with OEIS this is wholly unacceptable and outside best practices for WMP reporting. GPI recommends issuing PacifiCorp a Revision Notice and requiring that they update their response to PC-23-12 to include a timeline and milestones for the third-party audit. The timeline must minimally include scope of work development, RFP issuance, third party selection, audit implementation, analysis, and reporting milestones.

Regarding PC-23-13, PacifiCorp's response perpetuates the reason for which the ACI was issued in the first place, citing the failure to provide sufficient detail. The cursory response suggests Level 1 tag resolution delays are largely due to access issues and permitting delays. PacifiCorp does not identify whether additional workforce resources would mitigate these barriers to timely Level 1 tag resolution. Their response largely implies that PacifiCorp has little to no recourse for reducing the delays caused by access (i.e. weather) and permitting. It fails to provide tractable plans to target and overcome these barriers in a meaningful way that will ensure faster resolution of Level 1 asset conditions. PacifiCorp should be issued a Revision Notice that orders it to comply with the ACI as written and to detail how its efforts will enable it to achieve Level 1 tag resolution duration targets for each year of its 2026-2028 Base WMP, as recommended above. PacifiCorp cannot simply claim that safety is reasonably compromised due to the whim of the weather. It instead must adjust its operating approach to maintain a safe system despite its geographic challenges.

1.4.8. PacifiCorp should be issued an ACI that addresses its continued failure to complete Table 8-5 Grid Design, Operations, and Maintenance Performance Metrics Results by Year (p. 155)

In Base WMP Section 8.1.1.3 Performance Metrics Identified by the Electrical Corporation, PacifiCorp does not update its purported lack of ability to provide performance metrics on Grid Design, Operations, and Maintenance. Some of the Table 8-5 rows should be readily available in PacifiCorp's data management systems, such as annual "Open work orders" and "Grid inspection findings." Even if PacifiCorp has low ignition counts, it should still be able to report on Equipment-caused outages and other annual performance metrics that are typically reported in

the QDR tables. It is unacceptable for PacifiCorp to continue to shirk its performance metric reporting requirements in Section 8.1.1.3. GPI recommends issuing an ACI that orders PacifiCorp to close this performance metric reporting gap in its 2026-2028 WMP. Failure to do so should be penalized.

GPI previously addressed this exact same issue in PacifiCorp's 2023-2025 Base WMP filing.[33] Continued failure to comply with this core element of the WMP filings and evaluation metrics is objectively unacceptable and should be punishable by some form of penalty such as a lowered WMP "grade" or other suitable penalization tools that signal WMP shortcomings to the public and other stakeholders (e.g. insurers, investors, etc.).

1.4.9. PacifiCorp must address gaps in its Vegetation Management (VM) open work order tracking capabilities

PacifiCorp's territory includes heavily treed and vegetated regions in Northern California. It's reported QDR data tables show vegetation contact as a persistent and primary risk driver of wire down and unplanned outage events in PacifiCorp's distribution system for reporting years 2022 and 2023.[34] These recent data are relevant to VM work, QA/QC, and database capabilities for the purpose of HFTD risk reduction, but also for PacifiCorp's recently identified HFRA.

Vegetation contact caused wire down and unplanned outage events continue to occur in PacifiCorp's HFTD Tier 2 and Tier 3. Vegetation contact contributed to 69 percent (n =11) and 67 percent (n=2) of wire down events in the HFTD Tier 2 and Tier 3 in 2023 (Q1 2023). Unplanned outages associated with vegetation contact in the HFTD Tier 2 and Tier 3 amounted to 30 percent (n=35) and 56 percent (n=5) of all unplanned outages in 2023. Vegetation contact ranked as the leading driver of HFTD Tier 2 unplanned outages in Q1 and Q4 2023.

Vegetation caused unplanned outages and wire down events are more frequent in the non-HFTD. In 2022, vegetation contact resulted in 49 percent (n=22) of wire down events in PacifiCorp's non-HFTD, ranking as the leading driver of wire down events in Q2-Q4 2022. This trend

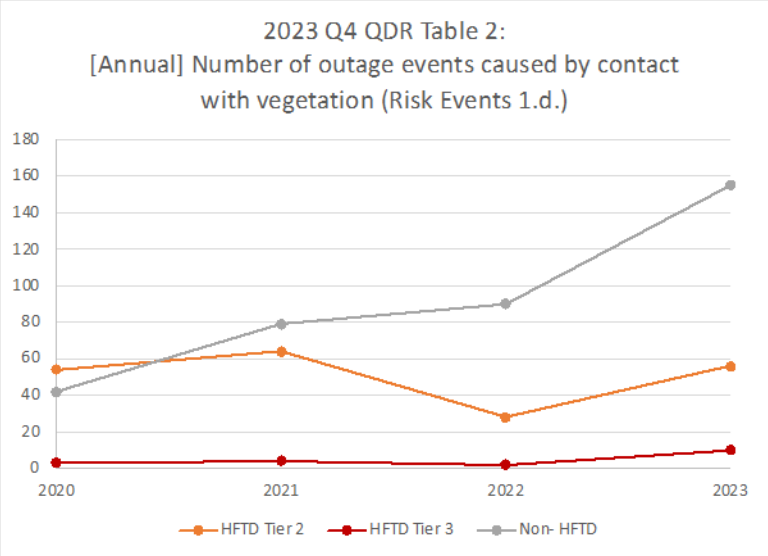
[33] GPI Comments on the SMJU 2023-2025 WMPs, p. 41.
[34] PC_2023_Q4_Tables115_R1.xlsx, Table 5, April 19, 2024.

persisted in 2023, with vegetation contact identified as the risk driver for 43 percent (n=25) of all non-HFTD wire down events and ranking as the leading driver of wire down events in Q1 and Q4 of 2023. Vegetation contact also contributed to 17 percent (n=135) and 14 percent (n=122) of non-HFTD unplanned outage events in 2022 and 2023, respectively, and ranked as the leading driver of unplanned outages in Q4 2022. These relatively consistent non-HFTD unplanned outage events associated with vegetation contact (~129 per year) and non-HFTD vegetation contact caused wire down events (~24 per year) over reporting years 2022-2023 indicate that PacifiCorp must continue to develop its VM capabilities to manage its newly identified HFRA wildfire risk.

The 2023 Q4 QDR Table 2 reporting "Number of outage events caused by contact with vegetation" (Risk Events 1.d.) provides additional historic data back to 2020 and exhibits an upward trend in vegetation caused outage risk events in the non-HFTD, which includes the newly identified HFRA (Figure 1).[35] These non-HFTD vegetation caused outage events are also approaching an outsized contribution to total vegetation caused outage events given the non-HFTD overhead circuit mile footprint. PacifiCorp reports its existing overhead circuit miles (transmission and distribution) as of Q4 2023 in QDR Table 7 (3,245 circuit miles). The non-HFTD overhead circuit mile footprint amounts to 64 percent of total, while the HFTD Tier 2 and 3 overhead circuit miles account for 34 and 2 percent of total, respectively.[36] Annual outage events caused by contact with vegetation and occurring in the non-HFTD rose from 42 percent of total in 2020 to 54 percent in 2021, 75 percent in 2022, and 70 percent in 2023, which exceeds the proportional overhead circuit mile footprint.[37] At the same time, the proportional occurrence of outage events caused by vegetation contact in the HFTD Tier 2 dropped from 2020 to 2023 and was smaller than the associated overhead circuit mile footprint in 2022 and 2023.

[35] PC_2023_Q4_Tables115_R1.xlsx, Table 2, April 19, 2024.
[36] PC_2023_Q4_Tables115_R1.xlsx, Table 7, April 19, 2024.
[37] PC_2023_Q4_Tables115_R1.xlsx, Table 2, April 19, 2024.

Figure 1. Number of outage events caused by contact with vegetation as a function of reporting year for the non-HFTD, HFTD Tier 2, and HFTD Tier 3. Source: PacifiCorp's 2023 Q4 QDR Table 2.



These non-HFTD vegetation risk trends are relevant to risk accumulation in PacifiCorp's HFRA. However, it's important to note that the available QDR data is not able to inform the number of vegetation caused outages in the non-HFTD that are co-located within PacifiCorp's new HFRA – an assessment that is necessary to gauge the relative risk contribution of vegetation caused outages to both location specific HFRA and territory-wide wildfire risk. GPI recommends requiring PacifiCorp to assess and report on its risk event data within PacifiCorp's newly identified HFRA, including vegetation caused outages and wire down events. Regardless, these findings indicate a continued need for PacifiCorp to bolster its VM capabilities including the ability to track VM work orders and to complete their QA/QC program development and implementation activities.

PacifiCorp continues to report that it is "unable" to provide Vegetation Management and Inspection performance metrics by year in its 2023-2025 WMP (Section 8.2.1.3), despite at least some of these metrics being reported in the QDR Tables.[38,39] This is unacceptable for public transparency purposes. While some of the data is provided in QDR data tables, these data are

[38] PacifiCorp 2023-2025 Redline Wildfire Mitigation Plan, July 08, 2024, p. 209
[39] PC_2023_Q4_Tables115_R1.xlsx, Table 2, April 19, 2024

likely less accessible to the public and should be included in the public WMP filings. This shortcoming also constitutes non-compliance with straightforward WMP Guidelines and should not be permitted to persist on a matter of principle and failure to comply. GPI strongly recommends holding PacifiCorp responsible for completing any performance metrics tables in its forthcoming 2026-2028 WMP.

PacifiCorp states that its lack of VM work order due dates prevents it from completing WMP Table 8-20 "Number of Past Due Vegetation Management Work Orders Categorized by Age."[40] ACI PC-23-16 Vegetation Management Priority Tagging is designed in part address this shortcoming by requiring PacifiCorp to develop a risk-based prioritization method. Equally concerning, however, is that PacifiCorp continues to not report total open vegetation management work orders, work order age, and "time between vegetation inspection finding and resulting trimming activity" in either its 2023-2025 WMP update or its QDR tables.[41,42] PacifiCorp previously reported that its mobile data management software (MDMS) is unable to track "open" work locations.[43] PacifiCorp's ongoing failure to report total open VM work orders, work order age, and time between finding and remediation in its Q4 2023 QDR either suggests they are still unable to track, retain, and analyze data on VM work orders or they are withholding this information. Either case is unacceptable.

We also note that PacifiCorp's utility peers, Liberty and BVES, both provide at least some vegetation work order data. Liberty provides "vegetation management work order" counts and "Time between vegetation inspection finding and resulting trimming activity" back to 2020 in its Q4 2023 QDR. BVES minimally provides VM work order counts in the Q4 2023 QDR. The persistent failure of PacifiCorp to provide vegetation work order data is concerning for risk management transparency as well as its lack of maturity relative to peer utilities.

PacifiCorp reported an increase in non-HFTD distribution system "vegetation clearance findings from [routine-other] inspection" from 7,589 findings in 2022 (Q2-Q4) to 15,818 findings in 2023

[40] PacifiCorp 2023-2025 Redline Wildfire Mitigation Plan, July 08, 2024, p. 231
[41] PacifiCorp 2023-2025 Redline Wildfire Mitigation Plan, July 08, 2024, p. 230
[42] PC_2023_Q4_Tables115_R1.xlsx, Table 2, April 19, 2024
[43] PacifiCorp 2023-2025 Redline Wildfire Mitigation Plan, July 08, 2024, p. 230

(Q2-Q4) despite inspecting fewer line total miles in 2023.[44,45,46] These data provide the first insights into PacifiCorp's potential VM open work position. The missing data are crucial to providing transparency into PacifiCorp's vegetation management inspection and work order initiatives, including the severity of its VM findings, whether its VM work order closure rate can prevent backlog accumulations, and whether VM work orders are timely resolved in both HFTD and non-HFTD areas, which includes the new HFRA.

The advent of PacifiCorp's newly identified HFRA (a subset of its non-HFTD), its increasing number of vegetation caused outage risk events in the non-HFTD, and a more than doubling of reported vegetation clearance findings in the non-HFTD distribution system all point to a pressing need for PacifiCorp to substantially advance its VM work order database, analysis, and reporting capabilities. ACI PC-23-16 is insufficient to produce the advancements PacifiCorp must achieve to adequately track VM related wildfire risk and provide the required WMP reporting metrics. GPI strongly recommends issuing a new ACI that requires PacifiCorp, in its 2026-2028 WMP, to develop the ability to track and report VM open work orders, time between vegetation inspection finding and resulting trimming activity, and past due work orders. The ACI should specify that PacifiCorp must be able to track all required QDR and WMP VM metrics for its HFRA, in addition to its HFTD and non-HFTD. The ACI should also require PacifiCorp to propose a plan for updating their VM work order tracking capabilities that includes a timeline with milestones. There is no indication that PacifiCorp intends to close its MDMS VM work order data collection and tracking gaps. Without issuing an ACI the OEIS should expect PacifiCorp to continue leaving its data reporting for these important metrics blank in both the WMPs and the QDRs.

---

[44] PC_2023_Q4_Tables115_R1.xlsx, Table 1 and 2, April 19, 2024; Annual actual progress in 2023 Q1-4 for "Patrol (ground) inspections for vegetation clearances around distribution electric lines" totaled 1,027 line miles. Annual actual progress in 2023 Q1-4 for "Detailed inspections of vegetation around distribution electric lines" totaled 829 line miles.

[45] Metric name "Number of trees inspected where at least some vegetation was found in non-compliant condition" for "routine" and "other" inspections. Data provided are for Q2-Q4 of 2022 and 2023 since PacifiCorp did not provide data prior to Q2 2022.

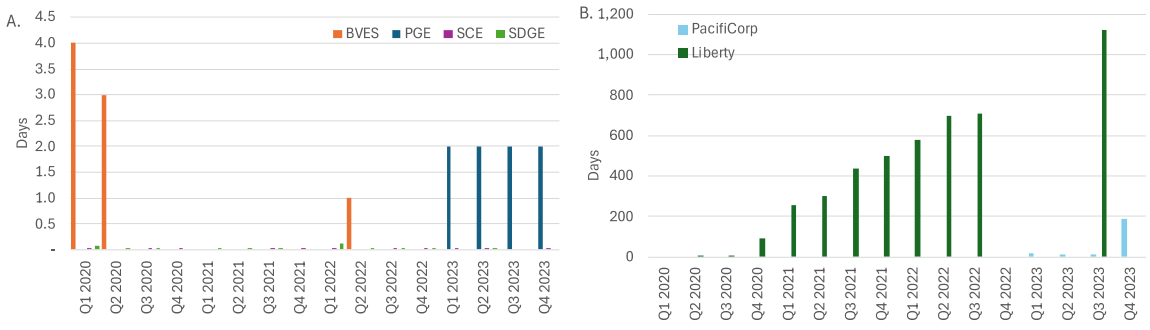
[46] PC_2022_Q4_Tables115_R0.xlsx, Table 1, January 1, 2023. Annual actual progress in 2022 Q1-4 for "Patrol inspections of vegetation around distribution electric lines and equipment" totaled 1,194 line miles. Annual actual progress in 2022 Q1-4 for "Detailed inspections of vegetation around distribution electric lines and equipment" totaled 1,158 line miles.

2. Comments on Liberty's 2025 WMP Update

2.1. Liberty should be issued an ACI that requires it to set Level 1 condition remediation time targets

Liberty reports the slowest HFTD-located Level 1 Condition tag resolution times of all utilities (Figure 2). The most robust data on Liberty's median and 95th percentile Level 1 Condition resolution times are from Q3 2021, where Liberty reports resolving 44 Level 1 conditions on its distribution system located in HFTD Tier 2. The corresponding median and 95th percentile Level 1 condition resolution times are 436 and 437 days, respectively.[47] Their Q4 2023 QDR also shows an increase in median and 95th percentile resolution time since 2020 within the HFTD (Figure 2). Utility data on Level 1 inspection finding resolution times in the HFTD suggest best practices for median resolution are 4 days or less. GPI recommends issuing Liberty an ACI that requires it to establish one or multiple phased Level 1 inspection finding resolution time-lapse targets that culminate in Liberty achieving a 4 day or less resolution time. Ideally Liberty would achieve best-practice Level 1 asset inspection finding resolution times by the end of the 2026-2028 WMP cycle. The ACI should require Liberty to include the target(s), a work plan to achieve the targets in its 2026-2028 WMP, and annual narrative reports on progress over the next 3-year WMP cycle.

Figure 2. Median Time between level 1 asset inspection finding and resulting maintenance activity in the HFTD Tier 2 for (A.) BVES, PGE, SCE, and SDGE as well as (B.) PacifiCorp and Liberty.
Source: 2023 Q4 QDR Data Tables, Table 2.



[47] Liberty Q4 2023 QDR Table 2.

Liberty reports a Level 1 inspection finding resolution time of 1,121 days in Q3 2023. However, it also reports completing no Level 1 "grid condition fixes in response to inspection findings" in Q3 2023 in its Q4 2023 QDR filing. Liberty also reports fixing three Level 2 grid conditions in the HFTD Tier 2 in Q4 2023 but does not report a corresponding median or 95th percentile resolution time. The ACI on Liberty's Level 1 asset inspection finding resolution duration should also require Liberty to resolve these reporting incongruencies, explain their origin, and provide a plan for how to improve their grid condition resolution tracking and reporting going forward.

2.2. Liberty should establish a clear work plan and forward targets for completing its Expulsion Fuse Replacement initiative

Liberty added expulsion fuse replacement targets of 500 units for both 2024 and 2025. Liberty did not aggregate these targets into a total 2025 target per the ACI requirement. Regardless, in 2023 they exceeded their target of 3,800 expulsion fuse replacements by completing 4,122 units.[48] Based on this trajectory Liberty will have replaced an estimated 5,122 expulsion fuses with the new replacement expulsion fuse. In its 2026-2028 WMP, Liberty should provide the total number of expulsion fuses installed in its territory, the amount remaining that require replacement, and a plan with annual targets to complete this initiative.

2.3. Liberty must provide targets for its WMP-VM-INSP-02: VM Inspection Program – Patrol, WMP-VM-VFM-04: Fire-Resilient-Right-of-Ways, WMP-GDOM-GH-12e: Open wire/grey wire, and WMP-VM-VFM-03: Substation Defensible Space initiatives

WMP-VM-INSP-02: VM Inspection Program – Patrol: Liberty reports a 25 percent increase in cost for its WMP-VM-INSP-02: VM Inspection Program – Patrol. However, it fails to provide any 2025 targets in its 2025 WMP update, in Sections 3.2 "Targets and Expenditures" and Section 4. "Quarterly Inspection Targets for 2025." It only explains that it "does not establish targets." Liberty should be ordered to update its 2025 WMP Update with targets for its VM patrol inspection initiative and to provide targets going forward.

WMP-VM-VFM-04: Fire-Resilient-Right-of-Ways: Liberty increase the cost of its fire-resilient-right-of-way work by 113 percent but fails to provide a target or description of work planned for

[48] Liberty Q4 2023 QDR Table 1.

2025 in its 2025 WMP Update or corresponding 2023-2025 WMP.[49,50] Its fire-resilient-right-of-way work is described as part of its Integrated Vegetation Management program and includes elements such as National Forest partnerships, tree and shrub planting, and VM restoration corridors. However, it's not clear which or if all of these activities are occurring in any given year or the scope of work planned and completed. Failure to provide annual project specific summaries of planned work, as well as location and scope of work make it difficult to assess the relative wildfire mitigation value of this work, which is especially relevant given its cost hike. Liberty should be required to update its 2025 WMP Update with an initiative target and project description as well as a more comprehensive explanation for the cost increase. Going forward Liberty should provide targets for this initiative. Transparency is critical for evaluating cost reasonableness, risk mitigation impact, and current best practices.

WMP-GDOM-GH-12e: Open wire/grey wire: Require Liberty to Update its 2025 WMP Update to include its existing Open wire/Grey Wire targets in the Section 3.2 table.

WMP-VM-VFM-03: Substation Defensible Space: Liberty sets a target of 12 units for its substation defensible space program and subsequently *states* "Liberty does not establish targets for its VM substation defensible space WMP initiative."[51] Liberty should be required to eliminate this contradiction and to set targets for all years going forward. Liberty's target did not increase, however, its costs for this initiative increased by 300 percent based on alignment with historic spend data. This and other relatively large cost hikes are a disconcerting trend in Liberty's 2025 WMP Update.

2.4. Liberty should be ordered to provide more detailed explanations for its initiative cost increases, report on cost-benefit and/or RSE values and provide a plan for improving its cost assessments to ensure it is implementing a cost-effective wildfire risk mitigation strategy

Liberty reports qualifying cost increases for 10 initiatives with either no target increases or even target decreases.[52] Liberty's explanation of these cost increases in its 2025 WMP Update are

[49] Liberty 2025 WMP Update, pp. 12, 19.
[50] Liberty 2023-2025 Revision R4 Redline, p. 268-269.
[51] Liberty 2025 WMP Update, p. 19.
[52] Ibid. pp. 12-13.

largely inadequate, vaguely referencing the use of historic data or based on additional experience. There are also no clarifications provided in the 2023-2025 WMP Revision 5 Redline. Liberty responses to stakeholder questions during the Group 2 Workshop filled in some of the necessary information. For example, GPI queried why Liberty reported reducing its Grid Monitoring System deployment from 10 to 7 fault indicators but doubled he cost. Liberty provided that it completed above-target work in 2024 and that costs vary based on circuit length, with some longer circuits scoped for work in 2025.[53] This type of information and level of detail is required to justify its WMP Update approval.

Liberty's failure to provide this and other more detailed information in its 2025 WMP regarding cost and/or target changes is problematic. Proposed cost and/or target adjustments in Liberty's 2025 WMP Update cannot be verified as reasonable or just without detailed justification summaries. Failure to provide adequate justifications should also not be predominantly addressed through one-off Data Requests by participating stakeholders or the OEIS. This approach results in critical information being widely distributed across multiple filings, a reduction in public transparency, and establishes an inconsistent basis for utility Plan approval, essentially making the 2025 WMP Update reporting structure moot. The critical information necessary to justify a reportable change must be provided in the WMP Update for public transparency, consistency, and posterity.

The descriptions in Liberty's 2025 WMP Update are insufficient to predicate the approval of the requested cost and/or target increases. Approving a vague WMP Update like Liberty's would also fails to provide transparency regarding the basis for plan approval. Liberty should be required to submit a revised 2025 WMP Update with narrations explaining the justification for each target and expenditure adjustment. Explanations should include the specific sources of cost increases. For example, whether Liberty should provide detail such as whether it previously underestimated the cost of labor, the amount of labor required, or made program implementation changes and the expected outputs and outcomes of those changes and associated cost adjustments.

[53] Group 2 2025 WMP Update Workshop, July 31, 2024.

Liberty should also provide clear justifications for target changes. For example, whether it completed work ahead of schedule and is planning to achieve 3-year WMP cycle targets versus maintain annual targets. In some cases, it may be reasonable to assess target compliance on the 3-year WMP cycle, versus an annual cycle. GPI generally supports Liberty's lowered 2025 Grid Monitoring System target given they are on track to achieve the 3-year target and taking into consideration variable circuit length. However, approval/denial requires an adequate justification from the utility as to why an initiative target was changed. Liberty should be required to file a revised 2025 WMP Update that provides a useful justification for any target changes.

Large fluctuations in projected cost could prove problematic for applying risk spend efficiency or cost-benefit metrics. Liberty has only recently developed a more robust risk modeling framework that will allow it to calculate percent of risk impact and risk buydown metrics, which should be inputs that inform its mitigation approach and initiative portfolio in its 2026-2028 WMP. Liberty should work towards more stable cost projections and/or update units that better capture risk reduction associated with each mitigation. For example, circuit miles protected by Grid Monitoring Systems and SRP may be more indicative of scope of work, associated cost, and resulting risk by down versus a higher granularity target of number of planned circuits.

2.5. Require Liberty to provide an update on its resonant grounding pilot, including a summary of its assessment of future cost and needs as well as a justification for future proofing its substations to support a "Swedish neutral" without implementing a pilot to verify cost-benefit

Liberty adjusts its proposed timeline to pilot the "Swedish neutral" resonant grounding system on one substation with an original completion date in December 2025. The completion date is now listed as "TBD" and the pilot is "delayed." It appears Liberty will not achieve this mitigation target in the 2023-2025 WMP cycle. Liberty explains it will "assess future cost and resource needs" and that it is "designing its substation rebuilds with provisions to potentially install Swedish neutral systems where possible if Liberty chooses to pursue this technology at a later date."[54] REFCL systems, such as those manufactured by Swedish Neutral, are of particular

[54] Liberty 2025 WMP Update, p. 9.

interest as a utility wildfire mitigation approach in California but have experienced significant setbacks with piloting and implementation.

GPI is concerned that moving forward with future-proofing its substation rebuilds without scoping a pilot may render the updated substation rebuild design moot if Liberty ultimately forgoes "Swedish neutral" system adoption. Delays in piloting the resonant grounding system will also impact Liberty's ability to assess the mitigation's cost-benefit, which may in turn result in a delay to eventual utility-wide implementation. Delaying the pilot may also require that Liberty resort to a more limited portfolio of traditional mitigations and will limit Liberty's ability to compare mitigation cost-benefits across a wide range of approaches including resonant grounding systems. GPI recommends issuing Liberty an ACI that requires a comprehensive update on its planned "future cost and resource" resonant grounding need assessment, including quantitative and qualitative summaries, as well as detailed updates on whether or when it will complete any substation rebuilds that would allow it to move forward with a Pilot phase. If Liberty has elected to forgo the resonant grounding pilot altogether, it should provide a detailed summary as to why its preliminary assessment justifies this decision, including an estimated risk reduction, cost-benefit, implementation timeline, and a comparison of these projections against other adopted wildfire mitigation approaches.

2.6. Require Liberty to establish risk model implementation milestones and dates per the requirements in LU-23-04

LU-23-04 requires Liberty to provide additional detail on its operational and planning models, as well as expected milestones and dates to track model maturity over time.

Liberty fails to establish any milestones or dates for its PSPS risk model development process, and instead only provides generalized statements regarding plans to develop the PSPS risk model after the fire risk models are developed.[55] Its 2025 WMP Update and corresponding 2023-2025 WMP Revision 4 Redline provide graphical model development milestones and dates for years 2022-2024, most of which include dates that have already passed. It only provides vague plan trajectories to "Update/Enhance Direxyon Asset Risk Analysis" and develop as "PSPS Risk

[55] Liberty 2023-2025 WMP Revision 4 Redline, pp. 77, 78, 87, 92-93, 124.

Assessment Solution" in "2025+."[56] Some specific planned updates to its wildfire risk models are added to and summarized in the base plan Section 6.5 "Enterprise system for risk assessment." These include actionable outputs such as adding asset types to the Direxyon model, operationalizing the Technosylva FireRisk tool, Operationalizing the Direxyon Asset Risk Analysis Tool, and PSPS risk modeling. None of the planned updates have implementation timelines with interim milestones. Perhaps most concerning is that Liberty fails to provide any concrete model development plans or milestones for the entirely of 2025, which is the plan year most relevant to the 2025 WMP Update.

In the Group 2 2025 WMP Update Workshop, Liberty also reported that it was still in the model development phases and working to understand and "productionalize" the model output and are working towards understanding what percent of total risk the model captures.[57] Liberty also references having a list of planned model development objectives that includes adding assets such as transformers and assessing the risk reduction of mitigations such as SRP.[58] GPI appreciates the forward momentum that Liberty appears to be taking in its risk modeling methodology overhaul. However, to comply with LU-23-04 Liberty must provide more concrete development and output milestones with dates for year 2025.

The 2025 WMP Update is intended to preemptively report on updates, changes, and/or response to identified planning gaps, especially regarding work planned for 2025, the year ahead of filing. Liberty fails to satisfy this objective of the 2025 WMP as well as fails to provide an adequate response to LU-23-04. Liberty should be required to revise its 2025 WMP Update with milestones and dates outlining its risk modeling development work plan for 2025. While LU-23-04 only requires reporting within its 2025 WMP Update, Liberty should also be prepared to similarly provide a risk model development and implementation plan with milestones and dates in its forthcoming 2026-2028 WMP for years 2026-2028.

[56] Liberty 2023-2025 WMP Revision 4 Redline, p. 124.
[57] 2025 WMP Update Group 2 Workshop, July 31, 2024.
[58] Ibid.

2.7. Liberty must provide and substantiate the method it uses to assess mitigation effectiveness of SRP, Traditional overhead hardening, and covered conductor

In LU-23-06 Liberty is required to report on the effectiveness of SRP and Traditional Hardening in regard to its plan to "not pursue more installation of covered conductor." The ACI requires Liberty to provide the calculations that form the basis of its SRP, CC and traditional OH effectiveness assessment and adjust its CC targets accordingly.

Liberty reports it is pursing "more installation of covered conductor."[59] Based on its 2025 WMP Update this statement does not mean it has adjusted its target to include a higher covered conductor installation target for the 2023-2025 WMP cycle, but rather refers to ongoing CC build out per its original 2023-2025 WMP. Liberty has still provided inadequate justification for its effectiveness scores for SRP, traditional overhead hardening, and covered conductor. Liberty does not provide effectiveness calculations as required by the ACI, suggesting is has not completed this type of analysis and does not leverage data from other utilities. Liberty stated that it plans to assess SRP effectiveness via is new wildfire risk model, however, this was not clearly scoped in the 2025 WMP Update, 2023-2025 WMP, or its response to LU-23-04.[60]

Instead, Liberty provides a plot of SAIFI and SAIDI as a proxy for ignition risk mitigation before and after traditional overhead hardening and covered conductor. The figure and accompanying qualitative assessment do not differentiate between locations with traditional overhead versus covered conductor installations or by circuit attributes such as vegetation type, density, asset age etc. This masks whether the associated reliability gains are a function of the mitigation installed and locational attributes, versus what Liberty suggests as universal "high" effectiveness. For example, traditional overhead hardening that replaces an ageing system (i.e. higher probability of an outage) but that is in a location with relatively low probability of ignition given an outage, such as an urban area, would effectively reduce circuit SAIFI and SAIDI and may be appropriate given the non-burnable substrate. However, installing that same mitigation to replace an ageing system (i.e. high probability of outage) in a location with a high probability of ignition given an outage, will likely reduce the outage rate but not provide the same wildfire

[59] Liberty 2025 WMP Update., p. 28

[60] 2025 WMP Update Group 2 Workshop, July 31, 2024

risk mitigation effectiveness for outage events as would installing covered conductor and/or SRP. It is well documented that these grid hardening mitigations are better suited to reducing risk from specific risk drivers such as line slap, vegetation contact, and perhaps even ground contact.

The system average interruption duration and frequency indices are metrics for reliability not wildfire risk. While they may include the impacts of wildfire risk events and drivers, they are an inadequate broadbrush proxy for identifying the risk mitigation effectiveness of grid hardening mitigations for specific ignition risk drivers. It is currently common practice to utilize risk driver-specific outage event data to inform risk and mitigation effectiveness. A traditionally rebuilt overhead system may reduce outage events in general but may not necessarily be the optimal mitigation for wildfire risk reduction which must also mitigate lower probability, high consequence outage events. Overreliance on SAIDI and SAIFI as a broadbrush proxy for wildfire mitigation effectiveness could lead Liberty down a costly path that requires it to reconductor/rebuild with covered conductor before the useful life of its traditional hardening projects are realized.

While Liberty's limited utility-caused ignition data set, due in part to it's small footprint, is a challenge, this should not be taken to imply that its territory is subject to lower wildfire risk from risk drivers associated with surrounding or similar regions. It is not clear why Liberty fails to use existing utility data informing covered conductor versus traditional overhead system effectiveness. The IOUs were ordered to conduct covered conductor effectiveness study that Liberty should leverage to inform its grid hardening effectiveness assessment. However, Liberty does not mention any use of this extensive and public study.

Liberty does report using SRP effectiveness data from other utilities given that it has not yet been implemented on its system and is not yet included in its risk models. GPI supports Liberty's use of data from other utilities. However, other utility data must also be considered in context of whole system design, such as location specific attributes (e.g. vegetation type) and whether it is implemented alongside other mitigations such as covered conductor and enhanced vegetation clearance etc. Liberty does not appear to consider these system specific aspects including the requirement in LU-23-06 to assess its effectiveness in the context of layered mitigations, It instead only provides an anecdotal reference to SDG&E's success with SRP deployment. This

suggests Liberty may have not considered SRP effectiveness holistically, including the locational attributes, risk drivers, and/or complimentary mitigations under which SRP is most effective.

Liberty also fails to define what it classifies as "high" effectiveness. Its "high" effectiveness designation is a broadbrush assessment that does not appear to consider effectiveness against specific ignition risk drivers and its relevance to Liberty's territory. At this stage Liberty has identified adding SRP wildfire risk effectiveness into its risk modeling assessment.[61] However, it has not indicated plans to conduct further quantitative analyses on the effectiveness of covered conductor versus traditional hardening within its territory on a risk-driver or circuit/segment specific basis. Liberty's current assessment of traditional hardening, SRP, and covered conductor wildfire risk mitigation effectiveness fails to address the ACI and is overall inadequate. Liberty's response should be found insufficient. Liberty should be required to advance its grid hardening risk mitigation effectiveness assessment including using existing covered conductor effectiveness data available through other utilities and its new risk modeling framework. Its assessment should consider effectiveness against specific wildfire ignition risk drivers and location specific risk. Liberty should be required to provide an update in its 2026-2028 WMP filing, either in response to LU-23-06 or in response to a new, updated ACI. If OEIS issues a new ACI, Liberty's response to LU-23-06 should be recorded as insufficient in perpetuity and the ACI should be closed.

2.8. Require Liberty to provide additional justification for why its responses to the Maturity Survey were due to a misunderstanding

LU-23-07 requires Liberty to provide a plan for how it will progress the maturity of its grid design and resiliency capability by 2026. GPI recommended both caution when evaluating maturity survey responses, and the addition of one or more ACI to address Liberty's Maturity Survey responses that were 3 years, or one full WMP cycle, behind its peers. GPI still recommends caution when considering the Maturity Survey structure and resulting responses and acknowledges that misunderstandings are possible when completing the survey. However, Liberty does not adequately address the ACI. Liberty's response suggests its lack of maturity in these areas is "likely due to a misunderstanding of the question as presented in the WMP

[61] 2025 WMP Update Group 2 Workshop, July 31, 2024.

Maturity Survey."[62] It states that reviewing the questions it would have answered differently. It does not, however, provide any clarification as to which questions it would answer differently, how, on what basis. It also does not offer an alternative survey score, and how an updated score would compare to its peers. Nor does Liberty report on efforts to clarify any original misunderstandings with OEIS or directly benchmark with other utilities. The response is inadequate and should be ruled as insufficient.

Given that multiple stakeholders, including GPI, have identified challenges with the Maturity Survey design, GPI recommends a joint effort between the OEIS and Liberty to elucidate if, and for which questions, a misunderstanding may have occurred versus whether critical capabilities may be lacking in Liberty's grid design and resiliency capability relative to its peers. This effort can inform future improvements for both the Maturity Model survey and Liberty's WMP maturation process. Liberty should be required to revise its response to LU-23-07 that includes a report on the outcome, including an updated Maturity Survey capability scores as appropriate.

2.9. Require Liberty to assess the risk mitigation effectiveness of risk rank informed detailed inspection frequencies above GO95 standards via aerial or ground inspection methods

LU-23-10 requires Liberty to provide "a plan to update its detailed inspections in higher risk areas" and "demonstrate that its existing inspection program adequately addresses risk." Liberty reports that its L1 and L2 find rates are in the HFTD Tier 3 are 0.04 and 8.82 percent of inspections respectively. It determines that these find rates are acceptable and that Level 2 issues are remediated in accordance with GO 95 Rule 18.

This assessment is inadequate. Liberty fails to recognize that the Level 2 findings, which can include ignition risk conditions, are left in place for up to 5 years assuming compliance with GO 95 detailed inspection frequencies. This is an inadequate outcome for the highest wildfire risk areas that can be mitigated with additional risk-informed inspections. Liberty's adherence to a 5-year Detailed-Ground inspection cycle is consistent with its peer utilities (PacifiCorp and BVES).[63] However, unlike its peers, Liberty also reports performing no Detailed - aerial

[62] Liberty 2025 WMP Update, p. 30.
[63] Liberty 2023-2025 WMP Revision 4 Redline, p. 671 (Table F-10 and F-11).

inspections.[64] PGE, SCE, SDG&E, PacifiCorp and BVES all conduct drone inspections at frequencies above GO 95 standards, in addition to Detailed – Ground inspections, and in high-risk locations (e.g. HFTD or risk-model informed). An analysis by PGE reports that aerial and ground inspections are complimentary and suited to better identify different conditions.[65] Liberty is lagging in both its valuation assessment of risk-informed detailed inspections above GO 95 requirements and in its Detail inspection program approach and frequency relative to its peers.

Liberty also fails to provide any indication that it will consider applying its new risk model, including asset risk and/or total wildfire risk outputs, to perform targeted detailed inspections that bridge the minimum GO 95 requirements. Utilities' more granular risk models also frequently identify top tier wildfire risk outside of the HFTD Tier 3 or even Tier 2 zones. Focusing risk-informed mitigations based on HFTD Tier 2 and Tier 3 zone designations alone is no longer best practices.

Liberty's response to LU-23-10 should be deemed inadequate. In a new ACI, GPI recommends requiring Liberty to provide an assessment of the potential for Detailed - aerial surveys to compliment Detailed – Ground surveys in terms of both condition detection and time between Detailed Inspections. It is reasonable for Liberty to benchmark its detailed inspection program with its peer utilities. It is also reasonable to require Liberty to provide an assessment of its risk model output compared to HFTD and non-HFTD zones and report on whether its updated risk model indicates that top risk locations outside of the HFTD Tier 3 zones warrant more frequent detailed inspections.

2.10. Liberty should be required to benchmark with other Utilities' infrared and drone inspection programs as well as perform more meaningful pilots

LU-23-12 requires Liberty to define pilot scopes, milestones, and timelines for LiDAR, infrared, and drone inspections. It reports that its aerial infrared pilot included 0.1 miles of inspections on 120 kV and 60 kV riser pole, and that the assessment is ongoing.[66] The pilot scope is miniscule

[64] Ibid.
[65] Pacific Gas & Electric Company's 2023-2025 WMP Revision 6, Redlined Version. July 5, 2024. P. 1098.
[66] Liberty 2025 WMP Update, p. 35.

and is likely inadequate to determine the value of infrared inspections for identifying transmission asset hotspot conditions. Liberty also fails to provide project milestones and timeline for the infrared pilot. It is unclear if or when Liberty will ever gather sufficient data and statistically significant results from its infrared pilot to inform its risk mitigation potential and whether it should become a standardized inspection tool. Liberty's response regarding infrared inspections is inadequate and it should be required to submit a revised response. The revision should either explain why a 0.1-mile scope is adequate, provide an updated scope, or justify benching the pilot altogether. The revised response should also provide traceable milestones with a timeline as required in the ACI.

Liberty describes its drone pilot as a 1-mile inspection planned for 2024 that will target work for outage management. A 1-mile pilot is overly small in scope. The small scope coupled with outage focused inspections will also not allow Liberty to catch up with its peer utilities, BVEs and PacifiCorp, which conduct Detailed aerial inspections as part of their risk mitigation portfolios. Considering that Liberty is the only utility that does not conduct Detailed- aerial inspections it is also clearly not making any effort with its Drone Inspection pilot to close this capability gap. Liberty also fails to provide a milestone and timeline for completing the pilot and reporting on results. GPI recommends finding that Liberty's response to LU-23-12 is inadequate. Liberty should be issued a new ACI that requires it to benchmark against peer utility drone programs and to develop a drone pilot that includes evaluating its application for Detailed - aerial inspections.

2.11. Require Liberty to provide a Pilot implementation scope or work and timeline that includes a segue into a plan for full-scale replacement of non-exempt arresters

LU-23-13 required Liberty to provide a timeline for the evaluation and pilot phase of its exempt lightening arrestor installation. Liberty provides a timeline for its evaluation phase which culminates in "pilot implementation" in Q3-Q4 2025.[67] Liberty does not provide a pilot phase scope of work nor milestones specific to its pilot phase, such as when it will gather, analyze, and report on Pilot data, leading to the launch of subsequent pilot phases or a system wide

[67] Liberty 2025 WMP Update, p. 35.

replacement effort. GPI was also unable to locate a non-exempt lightening arrester pilot scope of work (e.g. units planned and duration of testing) in its 2023-2025 WMP or 2025 WMP Update. Liberty also uses equivocal language that it "will" use its asset tracking application to "identify and track arrestors in the field" and for "project tracking." This does not indicate that the asset tracking application "can already" serve the identified need. A CalAdvocate's data request confirms our concerns regarding application capabilities and Liberty's lack of reporting on total known non-exempt lightening arrestors that are within scope for a comprehensive replacement program.[68]

GPI recommends requiring Liberty to revise its 2025 WMP to detail its pilot implementation plan including scope of work (number of units and test duration), milestones, and a timeline. Pilot milestones must include data collection, analysis, and result reporting. This information is relevant to the 2026-2028 WMP. If Liberty will not have adequate pilot data to report on and launch a full-scale replacement program in its next Base WMP, then it should be issues a new ACI that minimally requires it to provide updates on its pilot program. If it will complete its Pilot before the next Base Plan filing, Liberty should be issued a new ACI that requires it to provide a comprehensive replacement program with targets and a timeline through to completion. In either case, Liberty should also be required to identify the total number and locations of non-exempt lightening arrestors in its territory as an indicator of wildfire risk exposure and remediation time.

3. Failure to exact penalties for WMP and/or ACI noncompliance weakens the OEIS's regulatory clout

PacifiCorp has repeatedly failed to comply with ACI according to both intervenor comments and OEIS Decisions. The lack of non-compliance penalty approaches other than WMP Denial is weakening the regulatory clout of the annual WMPs and signaling to utilities that almost anything goes without any meaningful fallout. GPI strongly recommends developing creative solutions for non-compliance penalties that are capable of deterring non-compliance in the absence of fiscal penalties or outright Plan Denial.

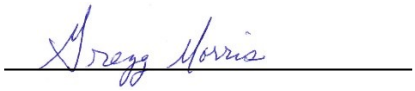
[68] Liberty Response to CalAdvocates-Liberty-2025WMP-01 CalAdv-01-1.7 Filed 7/24/2024.

Conclusions

We respectfully submit these comments and look forward to reviewing future wildfire mitigation plans and related filings. For the reasons stated above, we urge the OEIS to adopt our recommendations herein.

Dated August 12, 2024.

Respectfully Submitted,



Gregory Morris, Director
The Green Power Institute
a program of the Pacific Institute
2039 Shattuck Ave., Suite 402
Berkeley, CA 94704
ph: (510) 644-2700
e-mail: gmorris@emf.net