CalPA Data Request 9.1

Regarding WMP initiative #7.3.4.15 (Substation Inspections):
On Page 182, PacifiCorp states that "substations are inspected eight times per year. Over the course of 2022, the goal is to complete 444 inspections." PacifiCorp reports performing two types of inspections on substations: Substation Inspection (including InfraRed) and Substation & Security Inspections. According to Table 8 (2021 non-spatial data file, columns AC, AD, AE, and AF), PacifiCorp has 67 substations.

(a) Please explain how all the substations are inspected at least eight times per year if only 438 inspections were completed in 2021.

(b) If some scheduled substation inspections were not completed in 2021, please explain why.

(c) Please explain the difference between Substation Inspections (including InfraRed) and Substation & Security Inspections.

(d) What is PacifiCorp's normal frequency for Substation Inspections (including InfraRed)? If this varies by HFTD tier, please state the frequency for each HFTD tier.

(e) What is PacifiCorp's normal frequency for Substation & Security Inspections? If this varies by HFTD tier, please state the frequency for each HFTD tier.

(f) Please provide a copy of five of the most recently completed Substation Inspections (including InfraRed).

(g) Please provide a copy of five of the most recently completed Substation & Security Inspections.

Response to CalPA Data Request 9.1

(a) Substation Inspections have a call schedule (the start date a work order is released in SAP). The work order has to be released for the inspection to occur. This Call Schedule for substation inspections releases eight work orders per year to allow for a minimum of inspections to be consistent with Policy 001 - PacifiCorp's Maintenance Intervals for Apparatus, Relays, Meters, and Line/Patrol Inspection and Communications Equipment.

The number of substations initially reported (67) includes hydroelectric plants, duplicates that occur due to substation being considered a transmission and distribution facility, and future substation (Lassen). These substations are not included in the total substations to be inspected eight times per year since they are inspected by a different organization (not transmission and distribution operations).

The total number of substations that are inspected per year without these substations is 55.

i. 55 California substations inspected for a total of 444 inspections per year.
ii. 54 non Western Electricity Coordinating Council (WECC) substations at eight per year = 432 (WECC FAC-501 Standard)
iii. 1 WECC substation at 12/year = 12

Please refer to Attachment CalPA 9.1-1 which provides a copy of Policy 001 - PacifiCorp's Maintenance Intervals for Apparatus, Relays, Meters, and Line/Patrol Inspection and Communications Equipment.

(b) All 444 scheduled substation inspections were completed in 2021. In some instances, the number of scheduled substation inspections can appear not completed due to documentation not being filed with the work order. If a work order does not have the documentation associated with it, the outstanding work order is investigated, and the proper documentation is retrieved to complete the work order. Please refer to Attachment CalPA 9.1-2 and Attachment CalPA 9.1-3 which provide documentation regarding the missing inspections.

(c) Substation Security and Inspection is periodic security and operation inspection which includes logging load and counter reads on equipment, and minor/major scope as outlined in Policy 001. This inspection includes California non-WECC substations and California WECC substations. Substation Infrared Inspections include infrared testing of substation bus, switches, and major equipment. Please refer to Policy 001 - PacifiCorp's Maintenance Intervals for Apparatus, Relays, Meters, and Line/Patrol Inspection and Communications Equipment for interval information.

(d) Substation Security and Inspections:

Non-WECC Subs: Call schedule of eight work orders per year to allow for a minimum of seven inspections and days between consecutive monthly' completion dates (Policy 001 - PacifiCorp's Maintenance Intervals for Apparatus, Relays, Meters, and Line/Patrol Inspection and Communications Equipment):

NOTE: Company policy requires a minimum of 7 inspections be performed annually with no more than 120 days between consecutive monthly or 180 days between the more detail major inspections.

WECC (FAC-501) Subs: Call schedule of 12 per year on a monthly cycle

NOTE: Substations associated with WECC critical paths (WECC - FAC-501) a minimum of 10 monthly inspections shall be performed with 3 of these monthly being the more detailed "major" shall be performed annually. The maximum interval between the monthly inspections shall be 65 days with 180 days the maximum interval between a major inspection.

Substation Infrared Inspections:
Distribution non WECC: Every 24 months
Transmission and WECC: Every 12 months

(e) Please refer to the Company's response to subpart (d) above.

(f) Please refer to Attachment CalPA 9.1-4 and Attachment CalPA 9.1-5.

(g) Please refer to Attachment CalPA 9.1-5.

CalPA Data Request 9.2

Table 12 of the Non-Spatial Data File included with PacifiCorp's 2022 WMP update refers to WMP initiative #7.3.4.14 (Quality Assurance and Quality Control of inspection). With this context in mind,

(a) Please provide a unit of measurement for the 11,485 in column AN.

(b) Please provide projected values for 2022 and 2023.

(c) Please provide a copy of the Quality Assurance/Quality Control procedure/program documentation related to asset management and inspections.

Response to CalPA Data Request 9.2

(a) In the PacifiCorp 2021 California Wildfire Mitigation Plan (WMP) Update, Section 7.3.4.14, page 153-154, there are a variety of quality assurance (QA) / quality control (QC) processes which occur; physical audits, software controls, quarterly desktop reviews and annual training. The 11,485 in column AN, describes the number of inspections reviewed as part of the quarterly desktop reviews, where the entirety of QA/QC inspection conditions found are reviewed with a cross functional team. Therefore, the units of AN is the number of inspections audited as part of the desktop review of all inspections.

(b) In the future, PacifiCorp plans to transition the QA/QC numbers reported to align with the physical audits described in Policy 123 - Facility Inspection Audit Policy for Transmission and Distribution Lines for California, Oregon and Washington. Therefore, the projected number of QA/QC physical audits for 2022 and 2023 are 1,010 and 1,010, respectively.

(c) For physical audits, Policy 123 - Facility Inspection Audit Policy for Transmission and Distribution Lines for California, Oregon and Washington is Pacific Power's audit policy for transmission and distribution lines in California, Oregon, and Washington. Please refer to Attachment CalPA 9.2 which provides a copy of Policy 123 - Facility Inspection Audit Policy for Transmission and Distribution Lines for California, Oregon and Washington.

CalPA Data Request 9.3

Regarding PacifiCorp's response to Cal Advocates data request CalAdvocates-PacifiCorp-2022WMP-02, Question 1, "Audit Summary (CA) (2021)" excel file:

(a) Please define columns M through R of this excel sheet.

(b) Please explain what is required for an inspection to pass or fail, per column L "Fail / Pass".

(c) Please explain what subsequent action PacifiCorp takes when a value is filled in for Column M "Add".

(d) Please explain what subsequent action PacifiCorp takes when a value is filled in for Column N "Rem".

(e) Please explain what subsequent action PacifiCorp takes when a value is filled in for Column O "Pri".

(f) What follow-up actions were performed as a result of the audits listed in this excel file (e.g., a new work order was generated if a new deficiency was found, or a work order was modified if a deficiency was determined to be less of an impact, etc.)?

Response to CalPA Data Request 9.3

In addition to the responses to subparts (a) through (f) provided below, PacifiCorp would like to offer to meet with representatives of the California Public Advocates Office to walk through the audit summary provided below.

(a) These are the different types of tracked changes that are made during the audits.

(b) In an urban section, PacifiCorp requires 90 percent or better and in rural sections, PacifiCorp requires 80 percent or better for the section to pass. If it does not meet this metric, then it will be a Fail and require some type of reinspection depending on the reasons for the failure.

(c) Column M correlates to the number of added conditions made by the auditor during the audit.

(d) Column N correlates to the number of removed conditions made by the auditor during the audit that are deemed not a condition.

(e) Column O correlates to the number of changes to the level of priority to the conditions made by the auditor during the audit.

(f) If a section has failed an audit, depending on the reason for the failed audit, a reinspection will occur. Once a reinspection is completed, an audit from both the Osmose QC team and Pacific Power audit team will reinspect the section before it is passed. A desktop audit is always in line with the field audits and will usually drive the field audit. This is a high-level overview of the overall data delivered to Pacific Power from the inspection contractor. The Company further evaluate the data for anomalies and check for patterns. Any issues found in the desktop audit will result in a field visit to determine the outcome of the condition.

CalPA Data Request 9.4

There was no question 4.

Response to CalPA Data Request 9.4

There is no response to provide as there was no question 4 submitted with the incoming data request from the California Public Advocates Office.

CalPA Data Request 9.5

Regarding PacifiCorp's response to Cal Advocates data request CalAdvocates-PacifiCorp-2022WMP-04, Question 1 response, "Audit Summary (CA)(2022Q1)" excel file:

What follow-up actions were performed because of the audits listed in this excel file (e.g., a new work order was generated if a new deficiency was found, or a work order was modified if a deficiency was determined to be less of an impact, etc.)?

Response to CalPA Data Request 9.5

The conditions found in the audit are fielded by a lineman for correction. If the lineman deems the conditions not valid the condition is removed. If the condition is valid, then it is repaired or setup to be corrected. In some cases, the lineman may choose to change the level or priority to a higher or lower priority depending on what is found. This would then change the timeframe for correction based on Company guidelines.

CalPA Data Request 9.6

Regarding 7.3.4.2 (Detailed inspections of transmission electric lines and equipment):

(a) Please explain why the annual total cost of inspections, presented in Table 1 below, fluctuates during years 2021 – 2023 while the number of inspections performed increases each year.

(b) Please explain the decrease in the unit cost of inspections from the 2021 proposed figures to the 2021 actual figure.

(c) Please explain the expected decrease in the unit cost of inspections from 2021 actual figures to 2022 projections.

Table 1. Side-by-side of Detailed transmission inspections performed and associated costs. (Source: Table 12 of non-spatial data)

Year	Number of Inspections	Costs
2021 (Proposed)	666	$27,808
2021 (Actual)	1,439	$27,000
2022 (Projected)	2,545	$9,000
2023 (Projected)	2,738	$18,000

Response to CalPA Data Request 9.6

(a) The values provided in Table 1 initially were incorrect. Please refer to the table below which shows actual and proposed unit costs:

Year	Number of Inspections	Costs	Per Unit Cost
2021 (Proposal)	666	$ 10,675	$ 16.03
2021 (Actual)	722	$ 14,700	$ 20.36
2022 (Projected)	918	$ 10,143	$ 11.05
2023 (Projected)	2,676	$ 54,044	$ 20.20

The total cost fluctuates with the volume of inspections completed, proposed, or projected. Inspection volumes fluctuate from year-to-year based on each assets prescribed five-year interval. Unit cost can vary depending on contractor pricing, material costs (Pole Test & Treat inspections), and time to inspect (based on travel time and structure complexity). PacifiCorp tracks these items and can provide on an as-needed basis.

(b) Please refer to the table provided above which shows actual and proposed unit costs in alignment.

(c) The decrease in projected unit cost for 2022 is the result of a formula error and has since been updated. The revised expectation for 2022 is in-line with historical spend.

CalPA Data Request 9.7

Table 12 of the Non-Spatial Data File included with PacifiCorp's 2022 WMP update refers to WMP initiative #7.3.4.1 (Detailed inspections on electric distribution equipment and line).

(a) Please provide the actual number of circuit miles inspected in this initiative each year from 2019 – 2021.

(b) Provide PacifiCorp's current forecast of the number of circuit miles to be inspected in 2022.

(c) Provide PacifiCorp's current forecast of the number of circuit miles to be inspected in 2023.

Response to CalPA Data Request 9.7

PacifiCorp plans, tracks, and reports inspections and corrections per facility point as opposed to per line mile. However, equivalent inspection miles were extrapolated in years 2015-2022 assuming little to no changes in grid topology. While these values reflect best estimates or equivalent line-miles, slight difference may exist when comparing to other data sets, such as the quarterly data report (QDR) or spatial data. Furthermore, the evolution of PacifiCorp's electronic database requires extrapolation when determining condition findings per inspection type. However, PacifiCorp's programmatic inspection results were generally extrapolated and categorized as either "Detailed" or "Safety" inspection results.

(a) PacifiCorp typically tracks this initiative by Facility Point and not by miles, however an algorithm can be used to estimate the number of line miles associated with a typical spread of Facility Points. The number of circuit miles inspected each year for distribution detail inspections is provided below:

2019: 475 circuit miles
2020: 604 circuit miles
2021: 563 circuit miles

Note: these are estimated values.

(b) PacifiCorp typically tracks this initiative by Facility Point and not by miles, however an algorithm can be used to estimate the number of line miles associated with a typical spread of Facility Points. The current forecast estimate is approximately 536 circuit miles for distribution detailed inspections in 2022.

(c) PacifiCorp typically tracks this initiative by Facility Point and not by miles, however an algorithm can be used to estimate the number of line miles associated with a typical spread of Facility Points. The current forecast estimate is approximately 527 circuit miles for distribution detailed inspections in 2023.

CalPA Data Request 9.8

Table 12 of the Non-Spatial Data File included with PacifiCorp's 2022 WMP update refers to WMP initiative #7.3.4.2 (Detailed inspections on electric transmission equipment and line).

(a) Please provide the actual number of circuit miles inspected in this initiative each year from 2019 – 2021.

(b) Provide PacifiCorp's current forecast of the number of circuit miles to be inspected in 2022.

(c) Provide PacifiCorp's current forecast of the number of circuit miles to be inspected in 2023.

Response to CalPA Data Request 9.8

PacifiCorp plans, tracks, and reports inspections and corrections per facility point as opposed to per line mile. However, equivalent inspection miles were extrapolated in years 2015-2022 assuming little to no changes in grid topology. While these values reflect best estimates or equivalent line-miles, slight difference may exist when comparing to other data sets, such as the quarterly data report (QDR) or spatial data. Furthermore, the evolution of PacifiCorp's electronic database requires extrapolation when determining condition findings per inspection type. However, PacifiCorp's programmatic inspection results were generally extrapolated and categorized as either "Detailed" or "Safety" inspection results.

(a) PacifiCorp typically tracks this initiative by Facility Point and not by miles, however an algorithm can be used to estimate the number of line miles associated with a typical spread of Facility Points. The estimated number of circuit miles inspected each year for transmission detail inspections is provided below:

2019: 62 circuit miles
2020: 225 circuit miles
2021: 452 circuit miles

Note: these are estimated values.

(b) PacifiCorp typically tracks this initiative by Facility Point and not by miles, however an algorithm can be used to estimate the number of line miles associated with a typical spread of Facility Points. The current forecast estimate is approximately 799 circuit miles for transmission detailed inspections in 2022.

(c) PacifiCorp typically tracks this initiative by Facility Point and not by miles, however an algorithm can be used to estimate the number of line miles associated with a typical spread of Facility Points. The current forecast estimate is approximately 860 circuit miles for transmission detailed inspections in 2023.

CalPA Data Request 9.9

Table 12 of the Non-Spatial Data File included with PacifiCorp's 2022 WMP update refers to WMP initiative #7.3.4.11 (Patrol inspections on electric distribution equipment and line).

(a) Please provide the actual number of circuit miles inspected in this initiative each year from 2019 – 2021.

(b) Provide PacifiCorp's current forecast of the number of circuit miles to be inspected in 2022.

(c) Provide PacifiCorp's current forecast of the number of circuit miles to be inspected in 2023.

Response to CalPA Data Request 9.9

PacifiCorp plans, tracks, and reports inspections and corrections per facility point as opposed to per line mile. However, equivalent inspection miles were extrapolated in years 2015-2022 assuming little to no changes in grid topology. While these values reflect best estimates or equivalent line-miles, slight difference may exist when comparing to other data sets, such as the quarterly data report (QDR) or spatial data. Furthermore, the evolution of PacifiCorp's electronic database requires extrapolation when determining condition findings per inspection type. However, PacifiCorp's programmatic inspection results were generally extrapolated and categorized as either "Detailed" or "Safety" inspection results.

(a) PacifiCorp typically tracks this initiative by Facility Point and not by miles, however an algorithm can be used to estimate the number of line miles associated with a typical spread of Facility Points. The number of circuit miles inspected each year for distribution patrol inspections is provided below:

2019: 2,140 circuit miles
2020: 1,944 circuit miles
2021: 2,172 circuit miles

Note: these are estimated values.

(b) PacifiCorp typically tracks this initiative by Facility Point and not by miles, however an algorithm can be used to estimate the number of line miles associated with a typical spread of Facility Points. The current forecast estimate is approximately 1,986 circuit miles for distribution patrol inspections in 2022.

(c) PacifiCorp typically tracks this initiative by Facility Point and not by miles, however an algorithm can be used to estimate the number of line miles associated with a typical spread of Facility Points. The current forecast estimate is approximately 2,167 circuit miles for distribution patrol inspections in 2023.

CalPA Data Request 9.10

Table 12 of the Non-Spatial Data File included with PacifiCorp's 2022 WMP update refers to WMP initiative #7.3.4.12 (Patrol inspections on electric transmission equipment and line).

(a) Please provide the actual number of circuit miles inspected in this initiative each year from 2019 – 2021.

(b) Provide PacifiCorp's current forecast of the number of circuit miles to be inspected in 2022.

(c) Provide PacifiCorp's current forecast of the number of circuit miles to be inspected in 2023.

Response to CalPA Data Request 9.10

PacifiCorp plans, tracks, and reports inspections and corrections per facility point as opposed to per line mile. However, equivalent inspection miles were extrapolated in years 2015-2022 assuming little to no changes in grid topology. While these values reflect best estimates or equivalent line-miles, slight differences may exist when comparing to other data sets, such as the quarterly data reporting (QDR) or spatial data. Furthermore, the evolution of PacifiCorp's electronic database requires extrapolation when determining condition findings per inspection type. However, PacifiCorp's programmatic inspection results were generally extrapolated and categorized as either "Detailed" or "Safety" inspection results.

(a) PacifiCorp typically tracks this initiative by Facility Point and not by miles, however an algorithm can be used to estimate the number of line miles associated with a typical spread of Facility Points. The number of circuit miles inspected each year for transmission patrol inspections is provided below:

2019: 766 circuit miles
2020: 766 circuit miles
2021: 1,063 circuit miles

(b) PacifiCorp typically tracks this initiative by Facility Point and not by miles, however an algorithm can be used to estimate the number of line miles associated with a typical spread of Facility Points. The current forecast estimate is approximately 1,058 circuit miles for transmission patrol inspections in 2022.

(c) PacifiCorp typically tracks this initiative by Facility Point and not by miles, however an algorithm can be used to estimate the number of line miles associated with a

typical spread of Facility Points. The current forecast estimate is approximately 1,057 circuit miles for transmission patrol inspections in 2023.

CalPA Data Request 9.11

Table 12 of the Non-Spatial Data File included with PacifiCorp's 2022 WMP update, refers to WMP initiative #7.3.4.5 (Infrared inspections of transmission electric lines and equipment). With that context in mind:

(a) Please explain why the actual cost of this initiative for 2021 is exactly $80,000.

(b) Please explain why the actual output of this initiative for 2021 is exactly 700 circuit miles.

(c) Please explain why the projected cost estimated for both 2022 and 2023 is exactly $80,000.

(d) Please explain why the projected output of this initiative for both 2022 and 2023 is exactly 700 circuit miles.

Response to CalPA Data Request 9.11

(a) The actual cost of the inspections for 2021 was $79,315, and will be updated in Table 12.

(b) The actual miles inspected were 701.22 miles. Each transmission line has an equipment number and details of the line are maintained in SAP. The transmission lines also have geographic information system (GIS) data that can be pulled to get distances. Depending on where the transmission line data is gathered the total mileage could be off by a small margin (+/- five miles). The actual line mileage when pulling data from our Facility Point Inspection tool which is the Company's official record of inspections and corrections shows the mileage of those lines to be 701.22 miles.

(c) The scope for inspections is currently planned to remain the same and the cost is estimated to be very similar to the previous year's inspections. The cost is based on the helicopter rates therefore the actual cost may vary depending on price of fuel, weather, and other contributing factors. The $80,000 will remain as the projected cost for the inspections.

(d) The scope for the lines inspected are all the transmission lines in California. The transmission lines total 701.22 miles.

CalPA Data Request 9.12

On average, how many person-hours of labor does it take PacifiCorp to complete one asset inspection in each of the following initiatives:

(a) Detailed Inspections - Distribution
(b) Detailed Inspections - Transmission
(c) Patrol Inspections - Distribution
(d) Patrol Inspections - Transmission

Response to CalPA Data Request 9.12

(a) Depending on the number of facility points in each section, the external contractor will complete roughly 200 to 300 inspections in a 40-hour work week or approximately eight to 12 minutes per inspection. This will vary depending on access availability to the facility point.

(b) Depending on the amount of facility points in each section, the external contractor will complete roughly 100 to 200 inspections in a 40-hour work week or approximately 12 to 24 minutes per inspection. This will vary depending on access availability to the facility point.

(c) Depending on access and issues observed, 500 to 1,000 inspections are completed in a 40-hour work week or approximately three to five minutes per inspection.

(d) Depending on access, issues observed, and transmission road conditions 100 to 200 inspections are completed in a 40-hour work week or approximately 12 to 24 minutes per inspection.

CalPA Data Request 9.13

Please provide the results of all 2021 pole loading assessments that PacifiCorp performed in HFTD areas.

Response to CalPA Data Request 9.13

Please refer to Attachment CalPA 9.13. The provided Light Detection And Ranging (LiDAR) Pole Strength Pilot summary provides the engineering analysis performed by integrating the LiDAR data into PLSCADD and running different strength simulations. Risk levels mentioned in column O were assigned based on elevation and comparisons to the Grade A and Grade B requirements. A high-risk pole is not a priority A failure and is closer to a priority B failure. Recommendations were given for the type of correction based on the risk and loading variables. Column P mentions that the poles are not part of the Wildfire Mitigation Plan (WMP) proactive pole replacement program, but a majority of the poles are being replaced through the current line rebuild projects.