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Re: CA 2022-WMPs  
OEIS-PC-22-001

Please find enclosed PacifiCorp's responses to OEIS data requests 1.1-1.7.

If you have any questions, please call me at (503) 813-7314.

Sincerely,

           /s/             
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Manager, Regulation

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## OEIS Data Request 1.1

### Expenditure Discrepancies

- (a) In PacifiCorp's non-spatial data Table 12, there are many instances of WMP expenditure totals not matching those in WMP Tables 3.1-1 and 3.1-2. For example, according to Table 12 of its Q1 2022 Quarterly Data Report ("20220502T144302\_QDR.xlsx"), PacifiCorp's territory spend in 2020 was \$10,003.2 (\$ thousands; summing columns AA and AC); however, according to Tables 3.1-1 and 3.1-2 from its 2022 WMP Update (pp. 27-28), PacifiCorp's territory spend in 2020 was \$19,416 (\$ thousands). There are many such expenditure discrepancy examples. Please clarify which totals are correct by submitting updated WMP Tables 3.1-1 and 3.1-2 and/or a revised Table 12 in excel format, whichever is deemed necessary to rectify the errors.
- i. For reference, the following have been found with discrepancies between PacifiCorp's Table 12 versus its 2022 WMP Update Tables 3.1-1 and/or 3.1-2:
1. Territory spend – 2020 Actual (described above)
  2. Territory spend – 2021 Actual
  3. Situational Awareness spend – 2021 Actual
  4. Grid Design and System Hardening spend – 2020 Actual, 2021 Actual, and 2022 Projected/Planned
  5. Vegetation Management spend – 2021 Actual
  6. Resource Allocation spend – 2020 Actual
  7. Emergency Planning and Preparedness spend – 2022 Projected

### Response to OEIS Data Request 1.1

Summing of columns AA and AC in the Q1 2022 Quarterly Data Report (QDR) provides the total spend for programs for which the scope includes areas outside of the high fire threat district (HFTD) only. For example, the Covered Conductor initiative 7.3.3.3 which is only located within the HFTD, thus the spend is accounted for inside the HFTD, is not included in the \$10,003 (\$ in thousands) mentioned in the question above. It is recommended to account for all spend to sum columns AA, AB, AC, and AD for comparison to Table 3.1-1 and Table 3.1-2.

Additionally, it would appear that Table 3.1-1 and Table 3.1-2 were not populated using the final Q1 2022 data. The revised totals have been included below that should align with the final Q1 2022 data.

**Table 3.1 Summary of WMP expenditures – Total (WMP Table 3.1-1)**

Year	Spend in thousands of \$USD	Spend in thousands of \$USD (Values entered in the 2022 WMP)
2020 Planned	\$25,011	\$25,011
2020 Actual	\$18,520	\$19,416
2020 Difference	\$6,491	\$5,595
2021 Planned	\$33,375	\$33,375
2021 Actual	\$42,149	\$33,098
2021 Difference	(\$8,774)	\$277
2022 Planned	\$91,900	\$96,819
2020-22 Planned (With 2020 and 2021 Actual)	\$152,570	\$149,333

**Table 3.2. Summary of WMP expenditures by category (WMP Table 3.1-2)**

WMP Category	2020			2021			2022	2020-2022 Planned (w/ 2020 and 2021 Actuals)
	Planned	Actual	Change	Planned	Actual	Change	Planned	
Risk and Mapping	\$25	\$186	(\$161)	\$186	\$188	(\$2)	\$186	\$560
Situational Awareness	\$278	\$1,178	(\$900)	\$462	\$1,473	(\$1,011)	\$3,054	\$5,705
Grid Design and System Hardening	\$15,403	\$8,937	\$6,466	\$25,035	\$23,099	\$1,936	\$74,603	\$106,639
Asset Management and Inspections	\$1,219	\$1,004	\$215	\$848	\$919	(\$71)	\$974	\$2,897
Vegetation Management	\$5,783	\$6,998	(\$1,215)	\$6,561	\$16,199	(\$9,638)	\$12,413	\$35,610
Grid Operations	\$2,000	\$0	\$2,000	\$0	\$0	\$0	\$0	\$0
Data Governance	\$25	\$181	(\$156)	\$210	\$215	(\$5)	\$400	\$796
Resource Allocation	\$278	\$0	(\$278)	\$0	\$0	\$0	\$0	\$0
Emergency Planning	\$0	\$0	\$0	\$0	\$0	\$0	\$210	\$210
Stakeholder Cooperation and Community Engagement	\$0	\$36	(\$36)	\$73	\$58	\$15	\$60	\$154
<b>Total</b>	<b>\$25,011</b>	<b>\$18,520</b>	<b>\$6,491</b>	<b>\$33,375</b>	<b>\$42,149</b>	<b>(\$8,774)</b>	<b>\$91,900</b>	<b>\$152,570</b>

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## **OEIS Data Request 1.2**

### **Weather Stations**

- (a) How many of PacifiCorp's weather stations are Remote Automatic Weather Stations (RAWS)?
- (b) How many of PacifiCorp's weather stations are Micro Weather Stations (MWS)?
- (c) Are any of PacifiCorp's weather stations outfitted with 10hr fuel moisture sensors?
- (d) Are any of PacifiCorp's weather stations able to report weather observations more frequently than every 10 minutes?
- (e) What is the total number of weather stations PacifiCorp plans to have deployed in its weather station network for optimal density?

## **Response to OEIS Data Request 1.2**

- (a) There are two remote automatic weather stations (RAWS) that were installed in January of 2021. There are no active plans to install additional RAWS, but they will be considered if the locations do not allow for a micro weather station (MWS) to be installed.
- (b) There were 31 MWS installed by the end of 2021. In 2022, an additional 50 MWS are planned to be added, giving a total of 81 MWS in the state.
- (c) For MWS installed prior to 2021, the fuel moisture sensors were included with the installation, and maintained as part of the preventative maintenance program. For 2022, onward, PacifiCorp identified that data regarding dead and live fuel moisture can be provided through Technosylva weather modelling.
- (d) The weather stations have the ability to be programmed for more frequent observations. To date, the 10-minute weather data has been granular enough for real time operations and longer term risk modeling. As PacifiCorp develops additional dynamic risk modeling capability, the Company may investigate whether or not an increased frequency of weather station data can provide additional benefits.
- (e) At the end of 2021, there were 33 weather stations, and the intended plan is to install 50 additional weather stations in 2022. That would give a weather station network of 83 stations in California. However, PacifiCorp has not determined the optimal final density of weather stations in California. Page 153 of PacifiCorp's 2022 Wildfire Mitigation Plan (WMP) mentions plans to develop a weather station circuit based methodology which will support determination of a weather station optimal density.

### **OEIS Data Request 1.3**

#### **Continuous Monitoring Sensors**

- (a) In Table 5.2 (WMP Table 5.3-1) on page 115 of PacifiCorp's 2022 WMP Update, the 2021 target for "Continuous monitoring sensors" is 22, with a completion of only 2 in 2021.
- i. Please provide details on the missed target of 22.
  - ii. If the target number is inaccurate, please provide the correct number of sensors targeted in 2021.

### **Response to OEIS Data Request 1.3**

- (a) Please refer to the Company's responses to subparts i. and ii. below:
- i. PacifiCorp makes every attempt to report an accurate plan, however at the time where the target of 22 was put into the 2020 Wildfire Mitigation Plan (WMP), the full scope of the pilot program was being drafted. As PacifiCorp worked with Texas A&M University to identify the scope and circuits for the pilot program, a final number of four distribution fault anticipation (DFA) devices in California was set for this initial phase of the pilot. Therefore, PacifiCorp has updated its reported targets to align with the pilot plan.
  - ii. The correct number for 2021 is two.

## **OEIS Data Request 1.4**

### **Fuel Moisture Sampling**

- (a) Does PacifiCorp conduct fuel moisture sampling for live vegetation?

## **Response to OEIS Data Request 1.4**

- (a) No, there are no fuel moisture sampling sensors or devices utilized for live vegetation. While PacifiCorp does not have devices or sensors for live vegetation fuel moisture sampling, live vegetation fuel moisture can be obtained from fire agencies for use.

## **OEIS Data Request 1.5**

### **HD Camera Installation**

- (a) In section 4.4.1.1 and 7.3.2.2 PacifiCorp describes developing a new wildfire detection program.
  - i. In 2022, how many HD Cameras does PacifiCorp plan to install in its CA service territory.
  - ii. Will PacifiCorp be leveraging Satellite Fire Detection as part of its wildfire detection program?

## **Response to OEIS Data Request 1.5**

- (a) Please refer to the Company's responses to subparts i. and ii. below:
  - i. PacifiCorp is currently in the scoping phase of the Wildfire Detection program which will include HD Cameras. At this time, the exact number of HD Cameras is being determined and will probably not become operational until 2023.
  - ii. At this time, PacifiCorp does not plan to have a separate pilot for Satellite Fire Detection. With the procurement of Technosylva, PacifiCorp plans to utilize their services for fire detection which may include the use of Satellite Fire Detection.

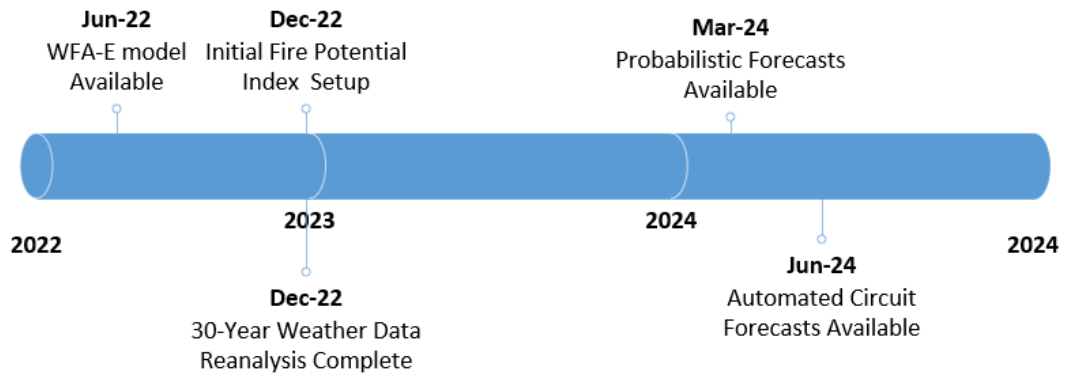
## OEIS Data Request 1.6

### Fire Potential Index

- (a) Does PacifiCorp currently have a Fire Potential Index (FPI) or another metric that serves as an FPI?
- i. If not, describe how PacifiCorp plans to develop an FPI.

## Response to OEIS Data Request 1.6

- (a) No.
- i. Currently, PacifiCorp is working towards the development of a Fire Potential Index (FPI), as stated on page 36 of PacifiCorp's 2022 Wildfire Mitigation Plan (WMP). The first step of this is to procure the Technosylva WFA-E module, as described in the graphic below, which was presented on May 18, 2022 in the "2022 Wildfire Mitigation Plan Update Workshop for SMJUs and ITOs" submissions with the California Office of Energy Infrastructure Safety (OEIS).



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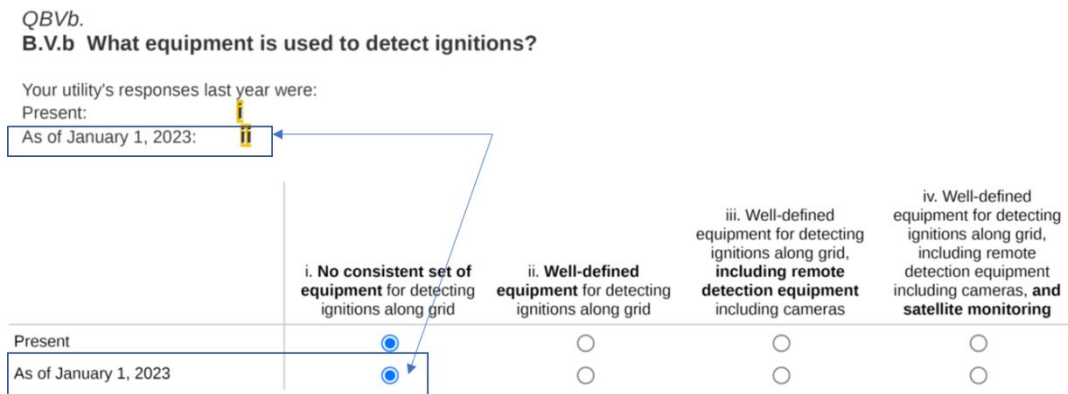
### OEIS Data Request 1.7

#### Maturity Survey

- (a) In question B.I.b of PacifiCorp’s 2022 Wildfire Mitigation Plan Maturity Survey (2022 Maturity Survey), PacifiCorp plans to automatically validate field calibrations on its weather stations by January 2023.
  - i. Provide details on what work PacifiCorp is doing in 2022 to meet this goal.
- (b) In question B.V.b of PacifiCorp’s 2022 Maturity Survey, PacifiCorp anticipates having well-defined equipment for detecting ignitions along the grid by January 2023.
  - i. Provide details on what type of equipment PacifiCorp plans to have installed in 2022 to meet this goal.

#### Response to OEIS Data Request 1.7

- (a) Please refer to the Company’s response to subpart i. below:
  - i. To automatically validate the field calibrations there are settings in the weather station’s data logger which can be changed to record when calibrations occurred.
- (b) Please refer to the Company’s response to subpart i. below:
  - i. PacifiCorp identified a potential aggregating error with the 2022 maturity survey. While the summary above describes PacifiCorp’s 2023 plan as “ii. **Well-defined equipment** for detecting ignitions along grid”, the actual response was “i. **No consistent set of equipment** for detecting ignitions along the grid”. Please refer to the screenshot provided below:



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However, the implementation of cameras is being explored in the research project to support further maturation in this area. While the Company does not expect to have a consistent set of equipment across the grid, the Company is looking to improve detection capabilities beyond existing fault detection capabilities that exist with its system today.

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