



October 17, 2023

VIA ELECTRONIC FILING

Public Utility Commission of Oregon
Attn: Filing Center
201 High Street SE, Suite 100
Salem, OR 97301-3398

Re: UM 1857—PacifiCorp’s Compliance Filing – Energy Storage Pilot and Evaluation Plan Update

PacifiCorp d/b/a Pacific Power (PacifiCorp or the Company) submits for filing in compliance with Public Utility Commission of Oregon (Commission) Order No. 18-327, and modified by Order Nos. 19-242, 19-333, and 21-270, updated estimated benefits and costs associated with the Company’s energy storage pilot programs. Confidential information in this filing is provided in accordance with General Protective Order No. 17-274.

Pilot Project 1—Energy Storage Solution

On April 2, 2018, PacifiCorp selected for Commission approval in this docket the two megawatt/six megawatt-hour (MWh) base case energy storage solution as the preliminary sizing for the proposal, as described in Section 4.0 of the Final Oregon Energy Storage Project Proposal document (Pilot Project 1). This sizing met the minimum threshold of five MWh as set forth by House Bill 2193, accommodates the historic outage characterization on the feeder, and presented the lowest risk option given the information available to PacifiCorp at the time. PacifiCorp now provides an additional update on the current status of this project.

The Company originally planned to construct this project on land near the Hillview Substation in Corvallis, Oregon. After an exhaustive search of available property with willing property owners, it was determined that the only viable land would result in the removal of at least one residence and displacement of the occupant. Following consultation with Commission staff, PacifiCorp restarted the search for available property looking at other locations both in Corvallis and across PacifiCorp’s Oregon service territory. One location that is fed from the Lakeport Substation located in Klamath Falls, was identified as a good candidate that allows for all of the high-level use cases. The Company engaged in negotiations for the use of a portion of a vacant parcel of land on which the Company intends to acquire a termed exclusive easement. The easement was secured in September 2023.

The Owner’s engineering is being provided by an external engineering firm and was procured through competitive bid and awarded at the end of 2018. The Owner’s Engineer was selected based on lowest bid. The winning bid was for **[Begin Confidential]** [REDACTED] **[End Confidential]**. This cost is in addition to the internal engineering reviews and project management. The combined costs were originally estimated to be approximately \$60,000;

Docket UM 1857
Public Utility Commission of Oregon
October 17, 2023
Page 2

however, based on current estimates and awarded contracts, this portion of the project is now estimated to be \$255,000. The Owner's Engineers have completed the conceptual design, interconnection application, and permitting review. Following the initial reviews performed by the Owner's Engineer, it was deemed that the Company's internal engineering team could review the detailed designs for a lower cost, therefore these services were shifted to PacifiCorp's internal engineering teams.

The engineering, procurement, and construction (EPC) request for proposals issued in 2019 did not receive any qualified bid responses. As a result the EPC contract has been split into three contracts. The Engineering contract was awarded in December of 2019 for **[Begin Confidential]** [REDACTED] **[End Confidential]**, which was in line with the updated total project estimates. The equipment vendor has been selected and the agreement executed in 2020 for approximately **[Begin Confidential]** [REDACTED] **[End Confidential]**. The Construction contract will be competitively bid in Q4 of 2023 once design is complete and the generation interconnection approval is granted. Based on the Q4 2023 construction bid, physical construction of the facility is expected to occur starting in December 2023 through April 2024. The project is planned to go into service by mid-2024. The project is currently one year behind the previously report in service dates of mid 2023 due to changes in the cyber security and communication requirements that required additional engineering and procurement.

This project is subject to the generation interconnection process. This review and acceptance process requires the project to apply for a position in the interconnection queue once property rights have been obtained. The Company submitted this project for generation interconnection review in 2020 and it was placed in the spring 2021 queue. Project approval and construction is expected to start in fall 2023 for commercial operation in spring 2024.

Finally, the cost of interconnecting the battery system to the distribution system was originally estimated at \$550,000 but is now estimated at \$805,000 based on the current design. **[Begin Confidential]** [REDACTED]

[End Confidential].¹

Pilot Project 2—Community Resiliency Pilot

In the stipulation filed in docket UM 1857 by PacifiCorp on July 18, 2018, and adopted by the Commission in Order No. 18-327 (September 4, 2018), PacifiCorp committed to developing a Community Resiliency Pilot (Pilot Project 2) to provide technical and financial assistance to study and deploy energy storage resources to facilities critical to emergency response or disaster

¹ PacifiCorp's 2019 IRP is available online at the following link: <https://www.pacificorp.com/energy/integrated-resource-plan.html>.

recovery. The stipulation laid out a phased approach for Pilot Project 2, beginning with a consultant-led technical assistance concept resulting in a limited number of initial studies (Phase I), followed by financial assistance for the installation of energy storage resources for up to four critical facilities (Phase II).

In Order No. 18-327, the Commission authorized PacifiCorp to recover up to \$200,000 in Phase I of Pilot Project 2. Upon completion, PacifiCorp agreed to file a final Phase I report and a revised plan estimating the costs and identifying the anticipated benefits of expanding the Pilot Project 2 into Phase II.

On December 18, 2020, PacifiCorp filed its final Phase I report for the Pilot Project 2. That report contained several notable learnings:

- 1) Battery energy storage can reduce critical facility dependency on fuel deliveries and infrastructure corridors that provide relief services during disaster events, contributing to a more resilient back-up system than a standard back-up generator alone may provide.
- 2) There are limited funding opportunities to develop battery energy storage resources, and current rates do not incentivize energy storage. In the absence of an economic case to support battery energy storage adoption, the Pilot Project 2 suffered lower-than-expected participation and follow-through from initial conversations with many potential program participants.
- 3) Commercial facilities' adoption rates of battery energy storage systems in Oregon remain low, in part because the economics of battery energy storage are not competitive with the alternative fossil fuel back-up power options. Appropriately designed policy mechanisms—including incentives, grant funding programs, and beneficial tariff design—can encourage battery energy storage adoption and promote widespread resiliency benefits throughout Oregon.
- 4) As adoption of commercial-scale battery energy storage resources increases, PacifiCorp will need to develop its capabilities to effectively manage battery energy storage resources in order to harness the associated grid services benefits for its ratepayers.

Based on those learnings, PacifiCorp believed that an expanded community resiliency offering had the potential to offer an array of benefits to its critical facility customers and the communities they serve, its ratepayers, and the Oregon battery energy storage industry.

On August 26, 2021, Order No. 21-270 approved Phase II of PacifiCorp's Pilot Project 2. Outlined in the proposal were the intentions of the Company to provide up to ten technical feasibility studies to leadership of critical facilities interested in learning more about how battery storage might increase resiliency at their site. Additionally, PacifiCorp was approved to make battery storage project development funding available during two competitive solicitation periods. Criteria would consider likelihood of project success, amount of funding requested, and diversity of project location and facility type. Applicants would be allowed to request grant funding of up to 100 percent of project cost. In exchange for grant funding, the customer would allow PacifiCorp to actively manage a portion of the battery system during normal facility operations. Approval of up to \$200,000 was given for technical feasibility studies, as well as up to \$1,300,000 for the funding of on-site battery storage systems.

As per the requirements in Order 21-270, PacifiCorp held a stakeholder workshop on September 20, 2021. The topics covered included a general overview of the program, proposed timelines, identified research objectives, grant selection criteria and immediate next steps.

The first of two grant application submission windows were opened on October 11, 2021. The window was scheduled to close on January 14, 2022, but the Energy Trust of Oregon, speaking on behalf of facilities working to complete applications, requested the window remain open for an additional month. With Commission Staff approval, the application submission window remained open until February 18, 2022.

PacifiCorp received one application for grant funding during this first window. That application request was later rescinded, as the applicant had later determined the need for reallocation of internal funding sources.

The second grant application submission window opened on August 1, 2022, and closed on October 28, 2022. Two applications were submitted. Both applications were approved, and the projects are currently being constructed. Grant funding will be awarded upon confirmed installation and interconnection of the battery systems.

Technical feasibility studies have been provided on a "rolling" basis, beginning at the commencement of the initial grant application submission window. To date, eight studies have been provided to customers.

Additional Items

Since Pilot Project 1 is not yet in service, the Company is unable to provide a "a narrative of EIM benefits that have been achieved," or a "quantitative evaluation of the costs and benefits of the ESS in Project #1 relative to all other ESSs operated by PacifiCorp, and a narrative discussion on whether any learnings from PacifiCorp's other storage projects can be applied in Oregon" at this time.

Docket UM 1857
Public Utility Commission of Oregon
October 17, 2023
Page 5

Please direct any informal correspondence and questions regarding this filing to Cathie Allen
Regulatory Affairs Manager, at (503) 813-5934.

Sincerely,

A handwritten signature in black ink, appearing to read 'Matthew McVee', written in a cursive style.

Matthew McVee
Vice President, Regulatory Policy and Operations

CERTIFICATE OF SERVICE

I certify that a true and correct copy of **PacifiCorp's Annual Update on Pilot Programs** was served on the parties listed below via electronic mail in compliance with OAR 860-001-0180.

Service List UM 1857

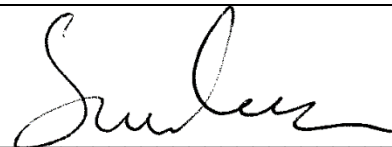
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Dated this 17th day of October, 2023.



Santiago Gutierrez
 Coordinator, Regulatory Operations