

**PUBLIC UTILITY COMMISSION OF OREGON
STAFF REPORT
PUBLIC MEETING DATE: February 13, 2020**

REGULAR **CONSENT** **EFFECTIVE DATE** February 14, 2020

DATE: February 3, 2020

TO: Public Utility Commission

FROM: Nick Sayen

THROUGH: Michael Dougherty and JP Batmale **SIGNED**

SUBJECT: PACIFIC POWER:
(Docket No. ADV 989/Advice No. 19-008)
Requests an extension and expansion of the Irrigation Load Control Program Pilot.

STAFF RECOMMENDATION:

The Oregon Public Utility Commission (Commission or OPUC) should approve Pacific Power's (PacifiCorp or Company) Advice No. 19-008, which extends and expands the Oregon Irrigation Load Control Program Pilot (Pilot), for service rendered on and after February 14, 2020.

DISCUSSION:

Issue

Whether the Commission should approve PacifiCorp's Advice No. 19-008, which extends the Oregon Irrigation Load Control Program Pilot through 2023, expands the Pilot to a broader, though still targeted set of customers beyond the Klamath Basin, and modifies several other operational aspects of the Pilot.

Applicable Rule or Law

PacifiCorp makes this filing pursuant to ORS 757.205, OAR 860-022-0025 and OAR 860-022-0030.

- ORS 757.205 requires public utilities file to all rates, rules, and charges with the Commission.
- ORS 757.220 requires utilities to file changes to any rates, tolls, charges, rules or regulations with at least 30 days before the effective date of the changes. The

Commission may approve tariff changes on less than 30 days' notice for good cause shown.

- OAR 860-022-0025 requires that revised tariff filings include statements showing the change in rates, the number of customers affected and resulting change in annual revenue, and the reasons for the tariff revision.
- OAR 860-022-0030 requires that tariff filings which result in increased rate include statements showing the number of customers affected, the annual revenue under existing schedules, the annual revenue under proposed schedules, the average monthly bills under existing and proposed schedules, and the reasons supporting the proposed tariff.

Analysis

Background

PacifiCorp filed Advice No. 19-008 on July 22, 2019. Following discussions with Staff, PacifiCorp filed to extend the rate-effective date to October 30, 2019, to allow for further review. As discussions continued, Staff requested additional time to review PacifiCorp's proposals and to discuss potential changes to the Pilot, ultimately leading the Company to file revised tariff sheets with a rate-effective date of January 14, 2020. Because January 14, 2020 is the same date as the Commission's regularly scheduled meeting, on January 9, 2020, PacifiCorp filed a final set of revised tariff sheets with a proposed rate-effective date of February 14, 2020, which allows for Commission review at a regular Public Meeting prior to the tariff's rate-effective date.

PacifiCorp's 2015 Integrated Resource Plan (IRP) selected irrigation load management as a capacity resource in Oregon beginning in 2022. Action item 3a in the 2015 IRP described the implementation of a west-side irrigation load control pilot beginning in 2016. This action item was acknowledged in Commission Order No. 16-071 in February 2016. In May 2016, the Commission approved the advice filing initiating Schedule 105, the Irrigation Load Control Program Pilot,¹ as well as the advice filing creating Schedule 95, the rate increase for funding the Pilot.²

The Pilot as currently implemented is a voluntary, direct load control offering for customers within the Oregon portion of the Klamath Basin. It is designed to provide load reductions during peak summer days by providing incentives to customers that allow the Company to interrupt their irrigation service under prescribed conditions. It was proposed to investigate whether the Company's existing irrigation program design and operation in Utah and Idaho would be effective in Oregon.

¹ See ADV 242, May 3, 2016, <https://edocs.puc.state.or.us/efdocs/UBA/adv242uba162659.pdf>.

² See ADV 279, May 3, 2016, <https://edocs.puc.state.or.us/efdocs/UBA/adv279uba145440.pdf>.

Early Results and Challenges

In 2016, Pilot activity focused on enrolling a small number of initial participants, testing, and related logistics. One two-hour event was called resulting in 100 percent participation and a modest demand reduction.³ However, at the end of the season, the Pilot implementer reviewed the 2016 economics for future years, and determined the Pilot was unsustainable for 2017 and beyond without a different pricing structure.

To allow time to identify alternate pricing and to issue a RFP for a new implementer, and because 2016 Pilot activity consisted of only one event, PacifiCorp extended the 2016 implementer and pricing structure for one additional year (2017). During this extension, the Pilot focused on maintaining existing participants, but put no resources toward outreach or to increase participation. All existing participants did return, and in 2017 the Pilot called four events with longer duration and in close proximity (one day separation). Participation in all events was 100 percent. Administrative logistics functioned as intended (e.g. event data was successfully captured by Pilot devices and the network operations center). The annual report noted the Pilot could be ramped up quickly and reliably with an experienced provider and an engaged grower community.⁴

A Pilot in Transition

PacifiCorp contracted with a new Pilot implementer in 2018. The new contract included a pricing structure believed to be sustainable. All prior participants were retained (completing new customer agreements) and received new equipment switches. Four events were called in 2018 and participation was 100 percent for three of the events (the event without 100 percent participation revealed a technical problem with a switch which was later corrected).

The one-year extension in 2017 allowed the Pilot to operate and collect data successfully over a complete season, and also provided time for PacifiCorp to smoothly revamp the Pilot administration in 2018. However, the transition did come at a cost in terms of Pilot growth: no new participants were added in 2017 or 2018.⁵

Key Pilot data, compiled by Staff from annual reports, is presented in the table below. (The 2019 report is not yet available. As cited previously, per an information request the Pilot added two new participants in 2019.) The Pilot has maintained steady participation despite administrative changes, delivered modest but reliable reductions in demand, and has run under budget, but the Pilot has not approached delivering the originally

³ See ADV 242, 2016 Irrigation Load Control Pilot Program in Oregon, March 31, 2017, page 7, <https://edocs.puc.state.or.us/efdocs/HAH/adv242hah164753.pdf>.

⁴ See ADV 242, 2017 Irrigation Load Control Pilot Program in Oregon, March 31, 2017, page 5, <https://edocs.puc.state.or.us/efdocs/HAH/adv242hah103022.pdf>.

⁵ OPUC Information Request 3, November 8, 2019.

anticipated 3,000 kW reduction (informed by the 2015 IRP Conservation Potential Assessment).

	2016	2017	2018
Participants; sites; pumps	3; 5; unknown	3; 5; 10	3; 5; 10
Estimated (target) kW reduction	0 - 2,000	3,000	3,000
Number of events	1	4	4
Available kW	565	546	563
Average actual kW reduced	281	432	258
Estimated costs	\$150,000	\$225,000	\$225,000
Actual costs	\$150,000	\$125,000	\$179,634

In the April 26, 2016, Staff Report, Staff recommended PacifiCorp undertake a review and recommendation of the Pilot after year three:

Given the length of the proposed Pilot Program, Staff recommends that after the third year of the pilot, the Company should assess the costs and benefits of the program and explain in detail the reasons why the program should be terminated at that time, stay the same, or be expanded to all agricultural customers.

Changes for Moving Forward

Advice No. 19-008 responds to this year three review. PacifiCorp is proposing five substantive changes to the Pilot moving forward. The Company's proposed changes, along with Staff's summary of the rationale and details, follow:

Change number one: extend the Pilot through 2023.

Staff summary: The extension adds time back to the Pilot that was lost due the administrative revamp (2017 and 2018). It also allows additional opportunity for further learning (as described below).

Change number two: offer the Pilot to a broader targeted set of customers beyond the Klamath Basin.

Staff summary: This change is intended to test whether localized deferral values can be achieved with the Pilot. Enrollment will focus on 70 of the larger pumps in targeted areas in the Klamath Basin, Central Oregon, and south of Medford. PacifiCorp's tools that facilitate queries of customers by substation or feeder has improved since the Pilot was first filed, and in 2019 the Company identified select areas in Southern and Central Oregon:

...with summer conditions suggesting targeted irrigation load control may provide additional system value. Each of the areas are predicted to reach their summer

capacity constraints in the 2027-2029 timeframe, which would require initial engineering design work to begin no later than 2026 in order to deliver a traditional capacity increase solution (e.g. new substation or large power transformer). The seven year period before a traditional capacity increase solution would need to be initiated makes these areas ideal for additional testing of irrigation load control. The areas have relatively low growth rates, making long-term deferral through irrigation load control a possibility.⁶

Additionally, the change is intended to balance increased participation and resource flexibility on the one hand, with controls on costs (targeted delivery within PacifiCorp's extensive rural territory) on the other hand, in order to provide a financially sustainable Pilot.

Change number three: expand the hours, days, and weeks the load control events may be called.

Staff summary: The Pilot limit of 52 hours of events per season will not change; however, the season end date will extend an additional two weeks from August 15 to September 1, the last daily dispatch hour will change from 8:00 PM to 10:00 PM, and finally, weekend and holiday event-exemptions will be removed (making all days during the season possible dispatch days). This modification, along with change number four, is in response to the need for increased resource flexibility identified by the Company's Energy Supply Management group, and should help generate higher value from quickly curtailable resources.

Change number four: add an hour-ahead notice option with a higher incentive than events called with a day ahead notice.

Staff summary: Participants are currently notified of an event a day ahead of time by the implementer with electronic notifications and courtesy phone calls. They receive an incentive of \$23-\$27/kW per year. This change would allow implementers to change to a shorter notice in exchange for a higher incentive rate. The current day ahead incentive would drop from \$23-\$27/kW per year to \$18/kW per year, and the new hour-ahead incentive would be \$30/kW per year. This proposal also necessitates several changes to incentive calculations:

- Incentives will be paid based on weekly available (enrolled) kW: the average of connected kW (measured by switches) from 12:00 PM to 10:00 PM for each day (not including dispatch days).
- Event impacts will be measured against prior day average for day ahead and prior hour average for hour ahead.

⁶ See ADV 242, 2018 Irrigation Load Control Pilot Program in Oregon, March 29, 2019, page 12, <https://edocs.puc.state.or.us/efdocs/HAH/adv242hah103022.pdf>.

- Participants who select the new hour-ahead option may move to day ahead during the season, but incentives for season will be paid at lower rate.

Change number five: test a new method of dispatch and analysis by creating an option for selected large loads to participate in the program using Automated Meter Infrastructure (AMI) data and manual control.

Staff summary: Previously participants with unique irrigation configurations (for example, medium voltage equipment such as 750 HP pumps) may not have been able to participate in the Pilot due to equipment limitations. However, AMI deployment is expected to be complete in Oregon in 2019, and while AMI is not capable of starting-stopping three-phase irrigation equipment for a Pilot event, if coupled with a manual start-stop, it can provide a new method to collect information on the equipment load.

The Company has identified this as a potential solution for potential participants with unique configurations, which are known circumstances in the Klamath Basin. The arrangement would necessitate a data lag, and dependence on the participant for manual start-stopping (vs. automated switches), so the proposal screens the use of this option for sites that meet specific criteria.

Staff compiled the following table of estimated key data for future Pilot performance from PacifiCorp's initial filing for the Pilot expansion:⁷

Estimated pilot metrics	2019	2020	2021	2022	2023
Number of pumps	10 - 70	70	70	70	70
kW delivered	500 - 2,500	5,000	5,000	5,000	5,000
Program costs	\$425,000	\$325,000	\$325,000	\$325,000	\$325,000

PacifiCorp has proposed continuing the annual reporting regime, and maintaining the same cost recovery arrangements (costs are recovered through Oregon Schedule 95; revenue, expenditures, and the account balance will be reviewed regularly; collection rate adjustments that may be necessary to keep the account in balance will be filed for Commission approval).

⁷ See ADV 989, Initial Utility Filing, July 22, 2019, page 5 and 6, <https://edocs.puc.state.or.us/efdocs/UAA/adv989uuaa155756.pdf>.

Staff Position

Staff is supportive of the proposal and encouraged to see higher kW savings targets, as well as a higher participant enrollment goal, though noted several areas of potential improvement. First, while the proposal includes a recommendation point regarding continuation of the Pilot (or not) after the 2021 season, the out years of the Pilot (2022 and 2023) appeared to have static kW savings targets and participant enrollment goals. In discussing this with PacifiCorp, it was clarified that activity during these years will likely consist of either ramping up the Pilot in preparation for a program, or winding down in preparation for cancellation, depending on the 2021 recommendation. Second, the proposal did not explicitly discuss an evaluation plan, particularly the use of a third-party evaluator. In discussion with the Company, Staff noted the value of an independent review is especially high when contemplating the transition from pilot stage to a program, and PacifiCorp agreed to use a third-party evaluator as part of informing the 2021 recommendation. Staff is appreciative of PacifiCorp's including these modifications.

Staff is anticipating the 2019 annual report, and is eager to read about Pilot performance during the first full year of operation with the new implementer. Moving forward, Staff will remain engaged with PacifiCorp to learn about Pilot progress towards the higher kW savings targets, and the higher participant enrollment goal.

Conclusion

Staff recommends the Commission approve PacifiCorp's proposal to extend and expand the Oregon Irrigation Load Control Program Pilot. Staff concludes that the Commission may find this advice filing applies changes that are fair, just, and reasonable.

PROPOSED COMMISSION MOTION:

Approve PacifiCorp's Advice No. 19-008, effective with service on and after February 14, 2020.