

July 22, 2019

***VIA ELECTRONIC FILING***

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

Attention: Filing Center

**RE: Advice No. 19-008  
Irrigation Load Control Program Pilot expansion**

In compliance with ORS 757.205, OAR 860-022-0025, and OAR 860-022-0030, PacifiCorp, d/b/a Pacific Power, submits for filing the following proposed tariff pages associated with Tariff P.U.C. OR No. 36, which sets forth all rates, tolls, charges, rules, and regulations applicable to electric service in Oregon. The company requests an effective date of August 28, 2019.

First Revision of Sheet No. 105-1	Schedule 105	Irrigation Load Control Program Pilot
First Revision of Sheet No. 105-2	Schedule 105	Irrigation Load Control Program Pilot

**Purpose**

The purpose of this filing is to request authorization to extend and expand the pilot irrigation load control program (Pilot Program). The Pilot Program has been available since 2016 for irrigation customers in the Klamath Basin through Schedule 105, Irrigation Load Control Program Pilot. With this filing, the company proposes the following changes:

- Extend the Pilot Program through 2023;
- Offer the Pilot Program to a broader targeted set of customers beyond the Klamath Basin;
- Expand the hours, days, and weeks the load control events may be called;
- Add an hour-ahead notice option with a higher incentive than events called with a day-ahead notice; and
- 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.

The proposed expansion of the Pilot Program to customers in selected areas is intended to test whether localized deferral values can be achieved. The proposed expanded hours and shorter notice option is a direct response to the need for increased resource flexibility identified by the company's Energy Supply Management (ESM) group. This added flexibility should help generate higher value from quickly curtailable resources.

The proposed expansion aligns with the Post Year Three Recommendation provided in the 2018 Annual Report filed in Advice 16-04 on March 29, 2019. The proposed expansion is designed to balance added benefits from increased customer participation and resource flexibility with intentional controls on delivery costs to provide a sustainable delivery model for the company and its third party delivery partner. Targeted delivery within the company's extensive rural territory is an important tool to control costs and concentrate potential benefits.

The proposed expansion reflects changes in company planning efforts and results. During the first three years of the Pilot Program (2016-2018), West system demand response capacity resources identified by the company's Integrated Resource Plans (IRP) and updates<sup>1</sup> have consistently moved further into the future. At the same time system wide selections are moving out, there is an increased focus on planning for and deploying added tools and analysis to identify localized values and solutions. The Distributed Energy Resources Alternatives process and tool provides a consistent way to compare costs and benefits of facility upgrades with the cost and benefits of various non-wire solutions, including load management.<sup>2</sup> Localized deferral value may be higher in select areas than the system wide values in the 2017 IRP.<sup>3</sup> These two trends, support the targeted expansion to customers in areas with potential localized deferral value.

Expanding and increasing the flexibility of this resource as proposed maintains a presence in the demand response space in Oregon and provides flexibility to respond to changes triggered by legislation on carbon, increasing renewable resource penetration, or potential economic coal retirements.

### **Pilot Program Design Changes**

Requested changes are based on operational experience during the first three years of the Pilot Program. The changes are designed to increase customer participation and focus that increased participation in areas where localized deferral values may be achieved. Focus on areas with the highest value helps control delivery costs—a key learning from prior years. The proposed changes to available days and hours and the additional option for a shorter event notice are intended to increase resource flexibility in response to trends in the Energy Imbalance Market. This flexibility should help generate higher value from quickly curtailable resources when dispatched by the company's ESM group.

The Pilot Program provides PacifiCorp with a summer capacity product and, consistent with the characterization of the voluntary load reductions as a capacity product, the company provides participants incentive payments based on the availability of load reduction, regardless of whether the company calls upon a load reduction for any given event. The value of a capacity product with standby characteristics similar to generating resources that can be called upon when needed to manage system reliability, is the *ability* to call for the load reduction *should* it be needed. In other words, the value of the resource is not limited to resource utilization (in this case, the need

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<sup>1</sup> 2015 IRP Update, 2017 IRP and 2017 IRP Update.

<sup>2</sup> 2017 Smart Grid Report – Appendix E <https://edocs.puc.state.or.us/efdocs/HAQ/um1667haq11754.pdf>.

<sup>3</sup> 2017 IRP – T&D deferral value - \$13.57/kilowatts (kW) which reflects a utilization factor. For a substation with a need, the 100% utilization value for D from the 2017 IRP is \$15.60/kW.

for load reduction). This concept is similar to capacity benefits from operating reserves, representing system capacity that is set aside and available as needed to respond to unanticipated changes in system conditions.

During the last three years, the Pilot Program utilized a day-ahead notice to participants to inform them of scheduled events. Grower acceptance of this notice has been good and no growers have opted out. However, during the same period, the company's ESM group identified the increasing need for more flexible responses; those that are available and can be dispatched with relatively short notice on the same day the resource is needed. For this reason, the company will add an option for growers to participate in the Pilot Program utilizing an hour-ahead notice. Incentives offered for this more flexible hour-ahead resource will be higher than those offered for the day-ahead resource. Growers will be allowed to sign up for either option at the beginning of the enrollment period with the intention of staying with their elected option (by load control switch) for the entire season. Selection of a notice option for the season will help the ESM group quantify available resource by size (megawatt) and flexibility attributes (elapsed time between notice and start of an event). To increase the uptake of the shorter notice period option, there will be a "no regrets" option that allows growers to move back to the day-ahead notice option for the balance of the season should the hour-ahead notice not fit their business requirements. However, growers who switch options will receive incentives for all available capacity for the season at the lower (day-ahead notice) rate.

Based on data collected during the first three years of the Pilot Program, connected irrigation load decreases materially beginning in early September. Maintaining program dispatch capability during a month when the resources are steadily declining in size adds costs without adding additional value. The company's proposal to extend the Pilot Program Dispatch Period from the week including August 15 to the week including September 1 and eliminate voluntary events is intended to be a cost efficient way to capture most of the value of connected loads toward the end of the irrigation season.

Deployment of AMI started in Oregon during the 2018 season and is expected to be complete in 2019. While AMI equipment is not capable of controlling (stopping and starting) three-phase irrigation equipment, the infrastructure can provide an alternate means to acquiring information on connected load without installing a load control switch. PacifiCorp has identified this AMI capability as a potential solution for customers with unique configurations, specifically large, medium voltage pumps where installing load control equipment is prohibitive from a logistical and operations perspective. Customers with this type of equipment may be agreeable and capable to manually control the equipment in response to either day-ahead or hour-ahead event notifications. The implementation contractor has indicated a willingness to integrate AMI provided data into their system that provides real time information on kW available for dispatch. It is expected there will be a lag (up to one day) on information uploaded this way compared to the intra-hour data acquired through a load control switch. This lag and the dependence on operator versus automated control are reasons PacifiCorp would limit the use of this option to installations meeting the following criteria: a) technical barriers to installation of conventional equipment; b) loads  $\geq 200$  kW; c) loads with relatively low intraday variability; and d) in-place operational personnel and/or systems to control the equipment. Impacts for these sites would be validated using AMI data, and incentives would be paid based on the validated kW curtailed

relative to the baseline. While this alternate approach is not likely to provide the certainty needed to defer infrastructure investments, successful performance during events will generate some arbitrage value and provide an opportunity for testing a new method of dispatch and data analysis.

The current and proposed program parameters are summarized in the table below:

<b>Program Parameters</b>	<b>Description – current</b>	<b>Description – proposed</b>
Eligible Customers	Irrigation Customers on Schedules 41 or 48 in and around Klamath Falls.	Irrigation customers on Schedules 41 or 48 in and around targeted areas posted on company web site.
Program Period	Week including June 1 through week including August 15 <sup>4</sup> . Voluntary period: August 15 September 30.	Week including June 1 through week including September 1. Voluntary events eliminated.
Program Hours	Weekdays, 12:00 p.m. to 8:00 p.m. Pacific Time.	All days, 12:00 p.m. to 10:00 p.m. Pacific Time.
Dispatch Limitations	52 hours per year, 20 events per year, up to 4 hours per event.	No change
Dispatch notification	Day ahead	Day ahead and hour ahead
Incentive Rate	Estimated at \$23-\$27/kw per year. The program vendor may adjust the incentive rate based upon the needs of the program.	<ul style="list-style-type: none"> <li>• Day ahead at \$18/kW per year</li> <li>• Day ahead (2018 participants and any new participants prior to 2019 approval) at \$23/kW per year for at least the 2019 season</li> <li>• Hour ahead at \$30/kW per year</li> </ul>
Opt-Outs	Participants may opt-out of dispatches. Opting out will lower participation payments proportionally.	No change
Incentive Payments	The incentive payment is calculated at the end of the irrigation season and paid to each participant in the Fall. Participant incentives will be determined by multiplying the average load (kW) a customer can reliably shut-off during program hours by the incentive rate, adjusted for event participation (opt-outs).	<p>No changes in payment timing or calculations.</p> <p>Payments will be different by Dispatch Notification option selected.</p>

<sup>4</sup> In addition, voluntary events may be dispatched separately through September 30.

The company will continue to use Connected Energy who started delivering the Pilot Program in 2018. The company initiated a competitive Request for Proposal (RFP) process in 2017 in response to the learnings from the first two seasons, which concluded pilot delivery was not sustainable for the original provider. Connected Energy was the successful respondent to the RFP and is responsible for the installation, operation and maintenance of the irrigation load control devices, dispatch of the devices as directed by the company, customer participation, customer service, and issuance of irrigation incentives to be paid to participating irrigation customers. The Connected Energy equipment also provides participating customers with near real-time access to energy usage data available through a dynamic web portal.

To maintain engagement with prior participants and to position the program for expansion requested in this filing, the company proposes two tactics for the 2019 season. First, growers who participated in the 2018 season and any new participants prior to the approval of this advice filing will be offered the legacy day-ahead incentives for at least the 2019 season. Second, the company and Connected Energy would begin marketing to the new offer(s) ahead of the requested August 28, 2019 effective date.

The Pilot Program continues as a complement to the irrigation time-of-use pilot program<sup>5</sup>. To ensure both programs are positioned to deliver useful information about grower acceptance of the incentive offers and their ability to shift usage in response to these offers, customer participation will continue to be limited to one pilot program during each season.

### **Pilot Program Period and Size**

PacifiCorp is proposing to extend the pilot period from 2020 to 2023 to test the revised program design, and provide information on the value of enhanced flexibility and deployment in areas with localized deferral value. Enrollment will focus on 70 of the larger pumps in targeted areas in the Klamath Basin, Central Oregon, and south of Medford. Targeted areas with localized deferral value will be posted on the company's web site and used as one of the criteria for program eligibility.

Customer data from the targeted areas was used to inform the expected average availability of the Pilot Program summarized in the table below:

	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>
Est. kW Delivered	500 - 2,500	5,000	5,000	5,000	5,000

Note: 2019 availability is estimated as a range between current enrollment and half of the targeted pumps given timing of expansion approval and interest from potential new customers.

Through the end of the extension requested in this filing, the company will continue to provide an annual report within 90 days of the end of each calendar year with the same content and format as provided in past reports. A recommendation regarding continuation of the program will be provided after the 2021 season (three seasons after the expansion requested in this filing has been in effect). In response to Recommendation No. 3 in the April 26, 2016 Commission

<sup>5</sup> Irrigation time-of-use was filed under tariff advice letter 15-003 and 15-006, and approved by the Public Utility Commission of Oregon on March 24, 2015, and April 28, 2015, respectively.

staff memo in Advice No. 16-04, the company will continue to use Appendix A: Demand Response Cost Effectiveness Protocols of the California Public Utilities Commission Distributed Energy Resource Avoided Cost Framework as a guide to report the costs and benefits of the Pilot Program.

### **Pilot Program Costs**

Estimated costs for the Pilot Program are provided in the table below and includes: vendor costs, customer incentives, and customer outreach/advertising. These costs align with the new Connected Energy contract and reflect a targeted focus on enrolling larger pumps.

	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>
Est. Program Costs (Calendar Year)	\$425,000	\$325,000	\$325,000	\$325,000	\$325,000

Note: Costs are estimates and based on the expected average availability (i.e., 5,000 kW in years 2020-2023) and all customers enrolling in the hour-ahead notice option. 2019 costs are higher than other years due to one-time installation costs for switches.

### **Cost Recovery**

The company will continue to recover Pilot Program costs through Oregon Schedule 95, Pilot Program Cost Adjustment. Revenue, expenditures, and the account balance will be reviewed regularly. Collection rate adjustments that may necessary to keep the account in balance will be filed for Commission approval.

### **Stakeholder Involvement**

The company has provided annual reports on the program and included information in the company's Smart Grid Report.

In early 2018, the company provided Commission staff with a high level briefing on options under consideration for new delivery contracts. The company received general direction that there was value in capacity management tools, and continuation of the program with a new provider appeared to be an appropriate course of action. In May 2019, the company met informally with staff to discuss the company's proposed changes to the Pilot Program. During this meeting, staff requested any information available on grower willingness to respond to shorter event notifications.

Pacific Power's Regional Business Manager in Klamath Falls has discussed the existing program with growers and water user groups during on-going conversations covering multiple topics. Customers have generally been appreciative of the company's efforts to offer programs that help them manage energy costs. The Regional Business Manager circulated a very brief survey regarding willingness to participate utilizing shorter event notifications in return for a higher incentive. Feedback was limited and informal and generally receptive to shorter notifications in return for higher incentives.

In addition to the survey mentioned above, the company contacted the three participants in the current program to assess their interest in the proposed shorter event notifications. Only two participants responded, and both were agreeable to the proposal.

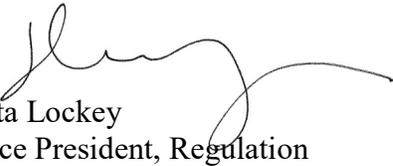
It is respectfully requested that all formal data requests regarding this matter be addressed to:

By email (preferred): [datarequest@pacificorp.com](mailto:datarequest@pacificorp.com)

By regular mail: Data Request Response Center  
PacifiCorp  
Lloyd Center Mall, Room 2265  
Portland, OR 97232

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

Sincerely,



Etta Lockey  
Vice President, Regulation

Enclosures

# **Proposed Tariffs**

IRRIGATION LOAD CONTROL PROGRAM PILOT

**Purpose**

This optional tariff allows Customers in target areas in Oregon posted on the Company web site, taking service for agricultural irrigation and agricultural soil drainage pumping under Electric Service Schedule Nos. 41, and 48 to participate in a demand response pilot program. (C)  
(C)

**Available**

To areas served by the Company in target areas in Oregon posted on the Company web site. (C)  
(C)

**Applicable**

Available to qualifying customers in target areas on Schedule Nos. 41, or 48 who are receiving service for agricultural irrigation and agricultural soil drainage pumping. The Program Pilot will expire after the 2023 irrigation season. (C)

**Program Description**

A detailed description of the program can be found on the Company website at: [www.pacificpower.net/orilc](http://www.pacificpower.net/orilc).

- **Mandatory Program Events:** The Company shall have the right to implement a Mandatory Dispatch Event according to the following criteria:
  - a) Dispatch Period: Week including June 1 through week including September 1. (C)
  - b) Available Dispatch Hours: 12 PM to 10:00 PM Pacific Time (C)
  - c) Maximum Dispatch Hours: 52 hours per Program Year
  - d) Dispatch Duration: Not more than four hours per Dispatch Event or twelve hours per week
  - e) Dispatch Event Frequency: limited to a single (1) Dispatch Event per day (C)
  - f) Dispatch Days: all days during Dispatch Period.
  - g) Dispatch Notification: Day-ahead or hour-ahead notification will be provided for each Dispatch Event (C)(D)
- **Program Provider:** The Irrigation Load Control Program will be operated by a third party load control program provider. Participating Customers will contract directly with the Program Provider.
- **Incentives:** Incentive options for participation shall be provided by the Program Provider to any eligible customer upon request through the process described on the Company website. Incentives will differ based on the Dispatch Notification requirements. (M2)  
(C)  
(M2)(C)

(Continued)

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**Program Description (continued)**

- **Non-Discrimination:** Eligible facilities of similar size, operations and ability to participate will be treated in a fair and consistent manner. Any claims of discriminatory treatment should be addressed through the dispute resolution process described below.
- **Participation:** The Company or Program Provider shall have the right to qualify program participants, at their sole discretion based on criteria the Company or Program Provider considers necessary to ensure the effective operation of the Program and utility system. Criteria may include, but will not be limited to: impact on the Company's transmission and distribution system and/or cost effectiveness. The Company may limit participation levels. Participation limits beyond those included in this schedule will be described on the Company website.
- Metered points of delivery enrolled in this pilot will not be eligible to participate concurrently in any time-of-use (TOU) pilot which is offered by the Company.

(M1)

For additional information or to initiate participation, Schedule 41, or 48 customers who are receiving service for agricultural irrigation and agricultural soil drainage pumping should visit [www.pacificpower.net/orilc](http://www.pacificpower.net/orilc).

**DISPUTE RESOLUTION:** Issues associated with the Irrigation Load Control Program that have not been resolved by the Program Provider should be directed to the Pacific Power irrigation hotline at (1-800-715-9238). In the event the issue is not resolved by Pacific Power, the customer may elect to follow the process outlined at <http://www.puc.state.or.us/consumer/Customer Complaint Process.pdf>.