PACIFIC POWER
A DIVISION OF PACIFICORP

825 NE Multnomah Street, Suite 2000
Portland, Oregon 97232

April 11, 2023

VIA ELECTRONIC FILING

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

Re: Advice No. 23-010—PacifiCorp New Demand Response Program for Residential Customers Using the Provisions of Schedule 106

In compliance with ORS 757.205, OAR 860-022-0025, and OAR 860-022-0030, PacifiCorp, d/b/a Pacific Power (PacifiCorp or the Company), submits for filing the following proposed demand response program for residential customers using the provisions of Schedule 106. The Company requests an effective date of May 17, 2023.

Purpose

The filing requests authorization to expand the demand response offerings available to Oregon customers. With this filing, the Company proposes the following changes:

- Introduce a demand response program for residential customers using the provisions of Schedule 106.
- Position residential costs for recovery through Schedule 291.

Demand Response Background

This filing is part of the continuing implementation of the conditions attached to Action Item No. 4 in Order 20-186 in Docket LC 70 by the Public Utility Commission of Oregon (Commission) which requires, in part, that:

> *PacifiCorp pursue demand response acquisition with a demand response RFP. PacifiCorp should work with non-bidding stakeholders from Oregon and other interested states to determine whether PacifiCorp should move forward with cost-effective demand response bids, or with a demand response pilot, or both.*

The demand response request for proposals (RFP) was issued on February 8, 2021. The Company emphasized in its request that bidders include programs in Oregon or Washington service areas and products that achieve at a minimum 3 megawatts (MW) in three years, scalable to 25 MW over five to 10 years.

The Company received bids from 18 firms covering multiple programs for multiple sectors. RFP bids were scored based on cost, volume, and equity criteria and the top bid for each program category was selected for inclusion into the 2021 Integrated Resource Plan (IRP) model.

Each program category represents a discrete set of customer end uses, e.g., irrigation or residential water heating. Modeling in the IRP reflects the top bid because all bids within a program category rely on the same pool of customers. Costs were characterized via RFP bids and the Conservation Potential Assessment (CPA) and compared against supply side resources.

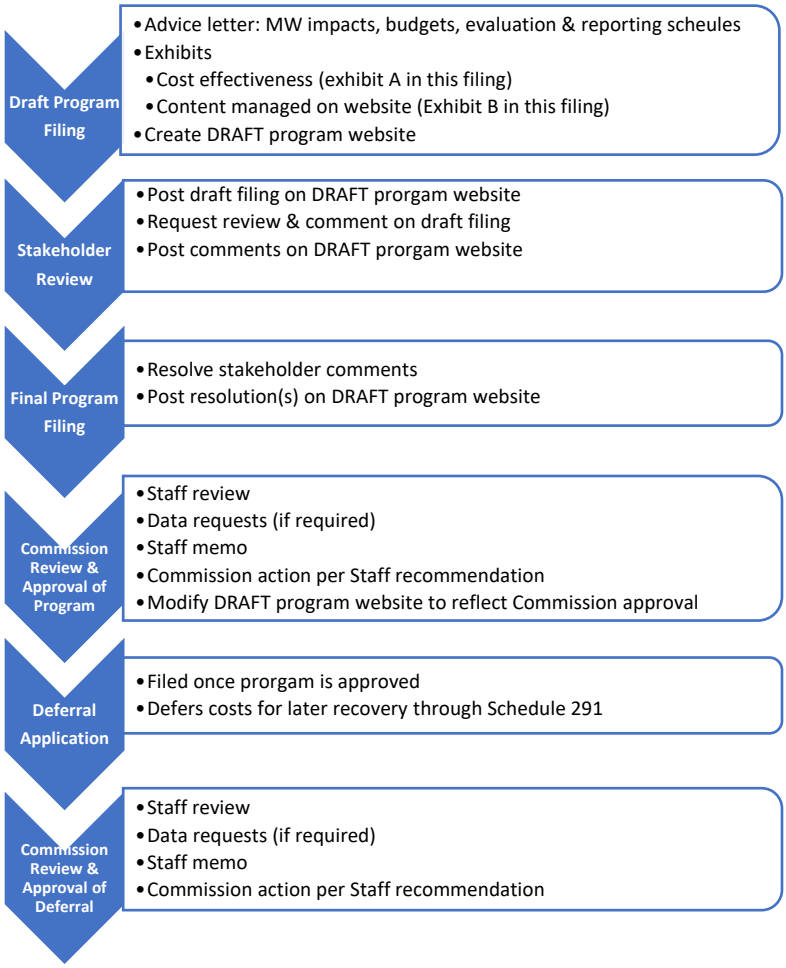
The modeling identified a need for demand response not just in the short term but throughout the planning horizon (2021–2040). The 2023 IRP preferred portfolio included the addition of 24 MW of cost-effective demand response in Oregon for 2023 with additional MWs being brought on in subsequent years.[1] Since the selected resources cover multiple customer types and programs, the Company requested and received approval for a broad demand response tariff, Schedule 106 to support multiple programs. PacifiCorp has already utilized Schedule 106 to expand the offer for irrigation customers and add an offer for commercial and industrial customers.[2] This is the third demand response program to utilize the provisions of Schedule 106.

Using the Provisions of Schedule 106 to Add a Demand Response Program

As outlined in Advice 22-004 Schedule 106 is designed to enable multiple demand response programs. Each new demand response program is filed with the Commission and include the information found on the website, deferral request (filed after program approval), cost effectiveness, evaluation and reporting schedule and other details that may be required to support an approval request. Figure 1 outlines how the Schedule 106 process is used to add a new demand response program. The information for the new demand response program proposed in this filing is included as Confidential Exhibit A and Exhibit B.

[1] Capacity impacts represent the average of winter and summer impacts in the 2023 IRP as seasonal MW volumes in the program are not additive.
[2] Advice 22-004 approved on May 5, 2022, expanded the offer for irrigation customers. Advice 22-011 approved on November 16, 2022, added an offer for commercial and industrial customers.

Figure 1 – Schedule 106 Process for Adding Demand Response Programs



As outlined in Advice 22-004, the Company plans to review this program annually for performance and the need for any changes. The Company will generally consider changes to its programs annually, though a program that is performing well may not require annual changes. Conversely, the Company may propose changes more frequently than annually if there is compelling market data. To initiate a program change, the Company will follow the process provided in Advice 22-004.[3]

Based on stakeholder conversations during the review and approval of the irrigation filing referenced above, the Company will not use the proposed program change process to make changes to Schedule 106, remove or add pilots/programs to Schedule 106, or propose an increase of expenditures to 130% or higher of total estimated annual budgets for programs under Schedule 106. Changes to Schedule 106, additional or removal of pilots/programs, and budget increases to 130% or higher will be made using the typical regulatory tariff revision process.

[3] Exhibit E.

Table 1 - Oregon residential selections for thermostats and water heaters in the 2023 IRP[4]

	2023	2024	2025	2026	2027
Incremental MW (gen)	3.5	0.5	6.2	2.9	2.3
Cumulative MW (gen)	3.5	4.0	10.2	13.1	15.4

Delivery of the Residential Program

PacifiCorp has selected Open Access Technologies International, Inc. (OATI) to deliver the program. They were the successful bidder in the 2021 Demand Response RFP (described above) to deliver these services for PacifiCorp's customers in Oregon and Washington.

OATI is responsible for the aggregation of smart thermostats using the capabilities of the equipment manufacturer software; directing customers to existing online technical resources to assist with installation of new thermostats; installation, operation, and maintenance of the load control devices on water heaters; dispatch of the devices as directed by the Company; customer participation; customer service; and issuance of customer incentives. Marketing messages will be reviewed and approved by the Company to ensure they are culturally responsive and strive to reach all customers. The Company, OATI, and the Energy Trust of Oregon (Energy Trust) team will continue their ongoing collaboration, so residential customers have cohesive messaging around energy efficiency and demand response opportunities and integrated or bundled customer incentive offers where it is feasible.

The residential demand response program is part of an overall equity approach by the Company to make demand response programs available to all customer classes. Participants receive an immediate benefit in the form of an incentive. The availability of flexible load benefits all customers including non-participants by reducing costs of utility operations. The program will focus on water heaters in multi-family buildings and smart thermostats controlling compressor-based cooling and/or heating equipment in multi-family and single-family homes. Control devices will be installed on existing tank type water heaters in good condition without integral communications capability (such as EcoPort).[5] Tank or heat pump water heaters with an EcoPort will have a compatible communications/control device installed. Tanks will not be replaced as part of this program. Tenants, homeowners, and multi-family property owners with master metered service are eligible to participate. OATI is a strong supporter of diverse businesses and has experience utilizing diverse subcontractors, including those installing hardware at customer sites. The OATI team delivering or supporting this program includes a diverse work force.

The residential program will operate as a complement to the residential time-of-use pilot (Schedule 6). To ensure both these offers are positioned to deliver useful information about

[4] Capacity impacts represent the average of winter and summer impacts in the 2023 IRP as seasonal MW volumes in the program are not additive.
[5] EcoPort is the brand name of CTA-2045 certified products.

customer willingness to change consumption patterns in response to incentives or pricing plans while not discouraging participation in either offer, co-participation will be limited during the first three years, i.e., through the end of 2025. A total of 700 pieces of equipment in residences participating in the time-of-use pilot may be enrolled in the demand response program. In the 2025 annual report, a recommendation will be provided about how to treat co-participation going forward.

Residential Program Period, Size and Grid Services Provided

The Company is proposing an ongoing residential demand response program without an end date to align with ongoing capacity needs in the 2023 IRP period (2023-2042). Control of water heaters will occur with no advance notice and provide capacity and reserve grid services, with the potential for frequency response grid services as well to the Company. Control of thermostats will occur with no less than 20-minute notice and will also provide capacity and curtailment grid services to the Company. These grid services are included in the impacts included in Table 2. Estimated impacts by equipment type as a percentage of the totals in Table 2 are provided in Table 3.

Table 2 – Total residential program impacts and participation estimates

	2023	2024	2025	2026	2027
MW Incremental (gen)[6]	2.5	4.9	5.5	4.9	4.6
MW Cumulative (gen)	2.5	7.4	12.9	17.9	22.5
Participants (incremental)	2,568	5,135	6,270	5,135	4,568
Participants (cumulative)	2,568	7,703	13,973	19,108	23,676

Table 3 – Estimated Impacts (percentage of total) by equipment type

Equipment type	Percentage of total MW in Table 2	Percentage of total participants in Table 2
Hot water heaters	86	76
Thermostats	14	24

Residential Program Costs

Estimated costs for the program are provided in Table 4 and include vendor costs, customer incentives, customer outreach/advertising, evaluation, measurement and verification and utility staffing costs directly attributable to managing the program. Costs include the impacts of customers participating in the product categories that align with the percentage estimates provided in Table 3.

[6] MW volumes represent expected or average capacity available during a given year. The value is less than the maximum connected load of enrolled equipment and is a planning estimate to account for duty cycles, e.g., all equipment would not be operating continuously during an event period, absent an event. This value corresponds to the max controllable load value in the cost effectiveness exhibit when the impacts of line losses are included.

Table 4 – Residential Program Costs

	2023	2024	2025	2026	2027
Total Program Costs[7]	$991,593	$1,546,725	$1,863,893	$1,997,976	$2,152,768

Cost Recovery

PacifiCorp proposes to recover the approved residential demand response program costs through Schedule 291 but is not proposing a change to Schedule 291 as part of this filing.

Annual Reporting and Evaluations

PacifiCorp will provide an annual report for the residential program by March 31 of the following year with information on participating customers, aggregate impacts by equipment type, opt outs, incentive and non-incentive expenditures, enrollment changes, customer service/satisfaction, and cost effectiveness. The first evaluation will be completed after 2024, the first full year of program operation. Subsequent evaluations will occur no less frequently than every two years.

Cost Effectiveness

As discussed at the December 6, 2021 Demand Response Workshop, the Company proposes to continue the use of the 2016 California Demand Response Protocol. Cost-effectiveness from a Total Resource Cost (TRC) and Utility Cost Test (UCT) perspective will be provided prospectively when seeking Commission approval for a new demand response program and retrospectively as part of the annual reporting. The cost effectiveness prospective provided will be similar to information on energy efficiency in Oregon.

Cost effectiveness for each of the two equipment types in the residential demand response program in addition to a combined view is provided in Confidential Exhibit A. The water heater offer is cost-effective from the utility cost and total resource cost perspectives when 10 years of benefits and costs are compared. Cost effectiveness of the thermostat offer is sub-optimal from both perspectives. When the benefits and costs from both offers are combined, the overall residential demand response portfolio is cost effective. Preliminary modeling from the 2023 IRP indicates a continued need for flexible loads available with relatively short notice and the anticipation of higher values for demand response in future planning cycles is consistent with the approach of bundling the offers for both equipment types and enrolling as many residential customers as possible starting in 2023.

[7] Additional detailed cost breakouts can be found in Confidential Exhibit A.

In addition to reserve and capacity benefits, control of water heaters, available in real time with no notice have the potential to provide frequency response services for the Company.[8] Frequency events are unpredictable and difficult to model on a prospective basis. It is also unclear to what extent water heaters will be used for frequency response purposes. Therefore, frequency response was not modeled as an additional benefit for water heaters at this time, though its potential as a benefit may be realized in future years. A summary of cost-effectiveness results over a 10-year horizon are summarized below in Table 5.

Table 5 – Residential Equipment Type Cost-Effectiveness Results

Product Category	UCT	TRC
Hot water heaters	1.4	1.5
Thermostats	0.5	0.6
Combined (sum of benefits/sum of costs)	**1.2**	**1.3**

Stakeholder Involvement – Action Item No. 4 in Order 20-186 in Docket No. LC 70

Stakeholder engagement was an integral part of pursuing demand response acquisitions with a demand response RFP. Key activities tied to the demand response are provided in summary form and are in addition to the residential demand response activities described later.

On January 21, 2020, PacifiCorp held a CPA workshop meeting in the 2021 IRP public input process. Highlights included review prior IRP/CPA comments, proposed CPA methodologies for demand response, interactions between demand response and pricing/rates options.

On February 18, 2020, PacifiCorp held a technical workshop in the 2021 IRP public input process. Highlights included further defining the grid services a demand response resource can provide and IRP credits for demand response.

On April 14, 2020, PacifiCorp held a stakeholder meeting interested in demand response. Highlights included background information on existing demand response programs, review of demand response in 2019 IRP, review of demand response potential in the conservation potential assessment, discussion of pilot concepts, and gathering input on how to structure or focus a demand response RFP.

On April 16, 2020, at its regular IRP public input meeting, PacifiCorp shared information on the demand response stakeholder meeting with the broader IRP audience.

[8] Additional information regarding frequency response service and needs can be found in Appendix F – Flexible Reserve Study of the Company's 2021 IRP. Available online at https://www.pacificorp.com/content/dam/pcorp/documents/en/pacificorp/energy/integrated-resource-plan/2021-irp/Volume%20II%20-%209.15.2021%20Final.pdf

In June 2020, the Company and Energy Trust met to have an intentional conversation around how to run energy efficiency/demand response programs most effectively for Oregon customers. The discussion was intended to gain insight into Energy Trust interactions with Portland General Electric Company's demand response programs in advance of developing the RFP.

On June 18 & 19, 2020, PacifiCorp held an IRP public input meeting, which included 2019 IRP Action Item 4 acknowledgement with demand response conditions and draft RFP schedule shared with broader IRP audience.

On August 28, 2020, PacifiCorp held an IRP CPA Technical Workshop. Highlights included an assessment of demand response resources, assessment methodology, transition to grid services view of demand response, development of demand response costs, draft potential results (short and long duration, winter, and summer) and a demand response RFP update.

On October 22, 2020, PacifiCorp held an IRP public input meeting. Highlights included demand response ramp rates, battery storage assumptions, types of demand response costs used in the levelized calculation, demand response cost bundles.

On October 14, 2020, Johnson Consulting Group was hired to: research demand response technical vendor requirements, summarize demand response RFPs that have been issued by other energy organizations, assist in developing a simple Request for Qualifications (RFQ) template to identify potential vendors, assist in the distribution of the RFQ to ensure it is widely circulated to encourage a robust response rate, conduct in-depth interviews with up to 15 potential demand response vendors to identify market barriers, opportunities, and critical elements that should be addressed in a forthcoming demand response RFP, and summarize key elements and essential components that should be considered in developing a demand response RFP and a demand response RFQ.

On October 22, 2020, PacifiCorp held an IRP Public input meeting. Highlights included demand response ramp rates, battery storage assumptions, types of demand response costs used in the levelized calculation, demand response cost bundles.

On November 2, 2020, PacifiCorp posted the RFQ for bidders to the following website: https://www.pacificorp.com/suppliers/rfps/demand-response-rfp-2021.html. RFQ responses were due on or before November 23, 2020, and were intended to build the bidders list for the RFP and help to expand our outreach to a range of suppliers. The RFQ also asked respondents to provide some brief descriptions of potential programs and also asked for Oregon pilot ideas, response to stakeholder interests. The RFQ was also posted to Peak Load Management Alliance, Association of Energy Service Professionals, International Energy Program Evaluation Conference, Energy Central, and E Source in order to reach a broad audience.

On February 8, 2021, PacifiCorp released the RFP to 26 bidders registered in the Company's on-line procurement system.

On February 9, 2021, PacifiCorp filed the RFP with the Washington Utilities and Transportation Commission under Docket UE-210088.

On March 15, 2021, the Company received RFP responses from 18 different organizations.

On April 23, 2021, PacifiCorp held an IRP public input meeting. Highlights included updates on All Source 2020 and the demand response RFPs.

On June 25, 2021, PacifiCorp held an IRP public input meeting. Highlights included update on demand response selected by the System Optimizer model selections from the 2021 demand response RFP.

On July 14, 2021, the Company provided Commission Staff an update of the RFP process including, modeling selections in the five categories (smart thermostats, commercial and industrial curtailment, residential batteries, irrigation, and water heating), costs and process steps.

On August 16, 2021, PacifiCorp filed a written update on its demand response efforts in Oregon in compliance with the directive provided by the Commission in Order No. 20-186. Staff provided a summary of the update at the August 24, 2021 regular public meeting.

On August 27, 2021, PacifiCorp held an IRP public input meeting highlighting the 2021 preferred portfolio action plan with demand side management actions.

On December 6, 2021, the Company held a demand response workshop with invitations sent to 17 organizations. Topics included Potential programs and design elements, targeted customers and eligibility, event parameters, measurement and verification structures, recruitment and managing the customer relationship, cost-effectiveness, evaluation, reporting, cost recovery, process and next steps.

Stakeholder Involvement – Residential Demand Response Program

On January 7, 2022, Company representatives met with Energy Trust staff to share the Company's plan for demand response in Oregon and explore opportunities for future coordination. Furthermore, during the last two years, integrating demand response with energy efficiency programs in general, and specifically joint opportunities for residential customers has been a standing topic during the regular coordination meetings between the Energy Trust and the Company.

On November 17, 2022, the Company provided information on residential demand response to the Oregon Community Benefits and Impacts Advisory Group.

On December 1, 2022, the Company provided information on demand response resources, including residential during our 2023 CPA IRP discussion.

On January 10, 2023, the Company hosted a technical workshop to educate and inform on the proposed residential demand response program and seek feedback on the proposed design. The workshop was attended by 23 participants representing 13 organizations. Presentation materials and meeting notes were posted on January 24, 2023.

On February 21, 2023, representatives from the Company and the Energy Trust met to discuss collaboration on demand response and energy efficiency offers for residential customers in Oregon including the possibility of bundling offers and co-marketing.

On February 27, 2023, the Company provided a draft filing on the DRAFT section of the Company's demand response website. Changes made since the January 10, 2023 technical workshop include increasing the one-time thermostat enrollment incentive from $25 to $50 and updating the cost-effective analysis to more fully capture the reserve value provided by water heaters (and the added enrollment incentive costs). Workshop participants were asked to provide comments by March 13, 2023.

On March 15, 2023, the Energy Trust provided comments.

On March 17, 2023, Staff at the Oregon Public Utility Commission provided comments.

On April 7, 2023, Company provided responses to comments on the draft filing and posted those responses on the DRAFT program website.

In addition to changes made to incorporate comments received, the Company elected to add an additional upfront enrollment incentive for water heaters. Cost effectiveness was updated to reflect this change. Other changes include added language in Exhibit B that specifies incentives are paid in advance (not in arrears) and won't be "clawed back" if a tenant moves out. This change mitigates the need to manage a pro-rating process for tenants who move out. Changes were also made to clarify the process for opting out of water heater events. The Company also updated information on demand response selections to align with the 2023 IRP.

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

By email (preferred): datarequest@pacificorp.com

By regular mail: Data Request Response Center
PacifiCorp
825 NE Multnomah St., Suite 2000
Portland, OR 97232

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

Sincerely,

Matthew McVee
Vice President, Regulatory Policy and Operations

Enclosure

CONFIDENTIAL EXHIBIT A

PROVIDED IN EXCEL FORMAT ONLY

- **CONFIDENTIAL_Oregon Residential CE Summary_FINAL_4-11-23.xlsx**
- **CONFIDENTIAL_Load Control_OR_Thermostat_Summer_Winter_FINAL 4-11-23.xlsb**
- **CONFIDENTIAL_Load Control_OR_WaterHeaters_FINAL_4-11-23.xlsb**

EXHIBIT B

OREGON RESIDENTIAL DEMAND RESPONSE

This document includes the following sections:

- Definitions
- Program Description
- Participation Requirements and Procedures
- Dispatch Parameters and Incentives
- Additional Conditions

DEFINITIONS

Available Dispatch Hours: Daily timeframe within which Pacific Power may dispatch its demand response control system.

Criteria: Additional requirements for participation beyond being an Eligible Customer. Criteria are set forth in Table 1 below.

Dispatch Days: The days upon which Pacific Power may or may not dispatch its demand response control system.

Dispatch Duration: The duration of time that demand response events may be dispatched for.

Dispatch Event: The period during which Participating Customers' electrical loads are shut off or controlled to minimize electrical consumption.

Dispatch Parameters: The criteria within which Pacific Power may dispatch its load control system.

Dispatch Notification: The approximate time between a Participating Customer receiving a notice from the Program Administrator or Pacific Power and the beginning of the Dispatch Event. Participating Customers shall receive no less than this amount of notification (in minutes) for Dispatch Events. "Real Time" shall mean no time between notice and beginning of event. **

Dispatch Period: The calendar year timeframe within which Pacific Power may dispatch its demand response control system.

Eligible Customer: Any party who has applied for, been accepted, and receives electric service at the real property, or is the electricity user at the real property.

Equipment Type: The type of electric using equipment a Participating Customer enrolls in the program. **

Incentive: Payments of gift cards (e-gift cards), money, or bill credits made by Program Administrator or Company to a Participating Customer for participation in a demand response offer. Incentives are specific to Equipment Type the Participating Customer elects for the season.**

Maximum Dispatch Events: The maximum number of events Pacific Power may utilize in dispatching its demand response control system annually.

Opt-Out: The process whereby a Participating Customer notifies the Program Administrator and/or the Company they do not want to be included in an upcoming event or adjusts their thermostat set point to interrupt an event. For water heaters, the customer may opt-out of the

program using the app to place the device into bypass mode or by contacting the Program Administrator at any time but will not receive a per event opt-out option.**

Participating Customers: Eligible Customers who meet the Criteria and agree to participate in the Residential Demand Response Program.

Program Administrator: A third-party entity selected by Pacific Power to engage with Eligible Customers about the residential demand response program, contract with Participating Customers on behalf of Pacific Power and provide the systems to control Participating Customers loads during certain times.

Targeted Area: One or more geographic area within Pacific Power's Oregon service territory that may have additional demand response requirements and/or value. Targeted Areas may be used by the Program Administrator to do one or more of the following: focus marketing, differentiate participation requirements and/or Incentives.

Targeted Customers: Eligible Customers with electrical equipment or energy use patterns that make them a preferred Participating Customer. These customers may be the focus of targeted enrollment or marketing efforts.*

* Definition is unique to the residential and commercial and industrial program.
** Definition is unique to the residential program.
All other definitions are the same as the definitions used in the Oregon Irrigation Load Control and commercial and industrial program.

PROGRAM DESCRIPTION

The Residential Demand Response Program is a program offered by Pacific Power that provides Incentives to Participating Customers with specified equipment types enrolled in the program in exchange for granting Pacific Power the right to curtail Participating Customers' loads at certain times within the Dispatch Parameters and during the Dispatch Period. The program may utilize another name for marketing purposes. Pacific Power contracts with the Program Administrator to deliver the Residential Demand Response Program; the Program Administrator will oversee the enrollment of Participating Customers, deliver Dispatch Notifications, and call Dispatch Events on behalf of Pacific Power. The ability to curtail these loads provides Pacific Power with capacity, curtailment, and reserve grid services.

1) Participation

Eligible Customer and relevant Criteria are included in the table in this document. Eligible Customers who meet the Criteria and agree to participate are Participating Customers. Participating Customers will be required to enroll equipment using an on-line platform provided by the Program Administrator to initiate participation. For multifamily properties with individual Pacific Power accounts the water heater enrollment will be an opt in at lease signing and be completed upon move in through an on-line platform provided by the Program Administrator. For multifamily properties where the property owner or manager is the Pacific Power account holder all the water heaters in the building will be enrolled by the program administrator using their software systems. Enrollment is perpetual (unless terminated by either party) and does not need to be

repeated each year. Participating customers may enroll one or more specific equipment types in the program.

2) Incentives

Incentives are available on a $/equipment unit (thermostat or water heater) per year basis. Incentives will be made available one time for enrolling a piece of equipment in the program in addition to an annual incentive for continued program and event participation. Incentives are paid by e-gift card, check, or electronic funds transfer, or a bill credit. The form of the payment will be posted on the website. One-time incentives for enrollment will be paid within 60 days of a complete and verified enrollment. Annual incentives for participation will be paid in advance within 60 days of initial successful enrollment and every 12 months thereafter. Participation incentives paid in advance will not be "clawed back" if the tenant moves out before 12 months have elapsed. Multifamily property owner incentives may be paid in a more or less frequent cadence to align with new move in enrollments and aggregation of incentives into fewer payments.

3) Dispatch Notification and Events

Participating Customers who enroll their thermostat will receive event notifications in the App associated with their equipment. Participating Customers who enroll a water heater will have access to the status of their water heater including power draw status and historical energy usage via the App associated with their equipment. Dispatch Events for thermostats are called with 20 minute-ahead notice and are focused primarily on providing capacity and curtailment for the utility. Dispatch Events for water heaters are called in Real Time with no notice and provide capacity and reserve grid services for the utility.

4) Equipment Operation

Event communication and control occurs through a Program Administrator-provided, two-way communications device (communicating via Wi-Fi) installed at the customer site on the water heater or through a thermostat manufacturer's aggregation software communicating with the Program Administrator's software. Communication between the device at the customer site and the aggregation software occurs through the Wi-Fi system provided by the customer. Unless activated during an event, the devices or aggregation software do not affect normal control of equipment, but they do convey information about the connected load back to the Program Administrator and Pacific Power.

5) Opt-Outs

To provide Participating Customers with some operational certainty around the impacts of the demand response program on their comfort, there are limits on hours in a day, the total number of events, and total hours when the loads may be curtailed. Recognizing that unforeseen operational issues may arise, Participating Customers in the water heater offer may opt out of the offer by calling or emailing the Program Administrator or by setting their device to bypass mode in the App if their water heater is enrolled. Participating Customers will not receive an individual event opt-out option for water heater events. Participating Customers may opt out of a Dispatch Event by adjusting the temperature set point on their thermostat. In order to maximize the impact

of the grid services and to minimize program costs, equipment that is consistently available for control is strongly preferred. Loads that are opted out or unavailable on a regular basis may be removed from the program at the sole discretion of the Program Administrator.

6) Quality Assurance, Change Process and Reporting

Quality assurance review and techniques may be utilized during the delivery of the program. Periodic program impact and process evaluations will be conducted by a third-party working for Pacific Power. Pacific Power will regularly review program performance, quality assurance and evaluation findings, and cost effectiveness results in combination with current Company resource planning results to evaluate potential program changes. Program changes may include changes to information in this document and will follow the process outlined in current version of Oregon Schedule 106.

Reports on program performance are provided to the Public Utility Commission of Oregon annually.

PARTICIPATION REQUIREMENTS AND PROCEDURES

Table 1 – Dispatch Parameters and Incentives

Dispatch Parameters and Incentives	**Description**
Eligible Customer	• All residential customers on Delivery Service Schedules 4, 6, and 7. • Master metered multifamily buildings served on Delivery Service Schedules 23, 28, 30 and 48.
Criteria	• Tank electric resistance water heater in good condition. Single phase up to 240V, 5500W. • Heat pump water heaters in good condition with CTA-2045 port. • Central air conditioning or heat pump. • Wi-Fi. • Enrollment of equipment at residences participating in the time of use pilot (Schedule 6) is limited to 700 pieces of equipment in total through the end of 2025.
Targeted Customer	• Water heating - multi-family • Thermostats - single family and multi-family
Dispatch Period	January 1 through Dec 31
Targeted Areas	All areas within Company's Oregon service area
Dispatch Days	Water Heaters • Sunday – Saturday Thermostats • Monday – Friday

Available Dispatch Hours	Water Heaters • All hours Thermostats • 12:00 PM – 9 PM
Maximum Dispatch Events	Water Heaters • One per day • Two per week Thermostats • One per day • Three per week • Thirty per year
Dispatch Duration	Water Heaters • Up to 2 hours Thermostats • Up to 4 hours
Dispatch Notification	Water heaters - Real Time (or None). Thermostats - 20 minutes
Incentive	Water heaters – single family • Enrollment (one time) - $25 • On-going participation (annual) - $25 Water heaters – multi-family separate meter • Enrollment (one time – in advance) - $25 ($5 to property owner/manager, $20 to tenant) • Ongoing participation by existing tenant (annual – in advance) - $25 paid to tenant • New tenant (annual participation - in advance). $5 to property owner/manager, $20 to tenant Water heaters – master meter • Enrollment (one time – in advance) $25 paid to owner/manager • Ongoing participation (annual – in advance) -$25 paid to owner/manager Thermostats – single family & multi-family (paid in advance to account holder) • Enrollment (one time) - $50 • On-going participation (annual) - $25

Opt-Out	Water heaters: • Participating Customers may opt out of the program at any time by contacting the Program Administrator or by setting their device to bypass mode in the App. Thermostats: • Participating Customers may opt out of a Dispatch Event by adjusting the set point on an enrolled thermostat when an event is in progress. Repeat opt outs may result in removal of the equipment from the program.

ADDITIONAL CONDITIONS

System Emergency Dispatch: In the event of a system emergency, Pacific Power may, at its discretion, expand the Dispatch Parameters beyond the parameters listed. Emergency events may be used to satisfy requirements of the North American Electric Reliability Corporation standard BAL-002-WECC-2 for Contingency Reserve Obligation and may be deployed when the utility is experiencing a qualifying event as defined by the Western Power Pool.