PACIFIC POWER
A DIVISION OF PACIFICORP

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Portland, Oregon 97232

August 16, 2021

VIA ELECTRONIC FILING

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

Attn: Filing Center

Re: LC 70 – PacifiCorp Update on Demand Response Resource Acquisition

PacifiCorp d/b/a Pacific Power (PacifiCorp or the Company) submits for filing in compliance with Public Utility Commission of Oregon (Commission) Order No. 20-186 and action item 4 which asked for an update on demand response efforts prior to filing of the 2021 IRP.

Background

PacifiCorp's 2019 IRP[1] identified the addition of 178 MW of DR system wide by 2029 as resource additions of a least cost least risk long term resource plan. A condition of acknowledgement of the 2019 IRP Demand Side Management (DSM) actions by the Oregon Commission directed PacifiCorp in Order No. 20-186 to do the following:

1. Pursue demand response acquisition with a demand response RFP. To the extent practicable, the demand response bids may be considered with bids from the all-source RFP.
2. 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.

To acquire the resource needs identified in the 2019 IRP, the company issued the All Source (AS) 2020 Request for Proposals (RFP)[2] on July 7, 2020 for large scale resources and subsequently issued a demand response (DR) RFP for cost effective DR resources. Successful initial short list bids from this DR RFP joined final bids from the AS 2020 RFP for a combined analysis in the 2021 IRP to determine the optimal acquisition of resources to meet system needs. During discussions with non-bidding stakeholders in the fall of 2020, PacifiCorp agreed to consider RFP responses which initially may not be cost-effective, to move forward as pilots in Oregon. If RFP responses were found to be cost-effective then PacifiCorp would initiate processes to procure those resources in Oregon and Washington.

[1] https://www.pacificorp.com/energy/integrated-resource-plan.html.
[2] https://www.pacificorp.com/suppliers/rfps/all-source-rfp.html.

2021 Demand Response RFP

On February 8, 2021, PacifiCorp issued an RFP soliciting proposals from implementation contractors for Demand Response (DR) resources. Although a variety of programs were eligible for consideration, of most interest to PacifiCorp were programs located in Oregon and/or Washington with the following focus:

1. Non-Residential Curtailment
2. Residential and/or Small Commercial Smart Thermostat or Water Heaters
3. Irrigation load control

Additionally, bidders were asked to the meet the following minimum requirements:

1. Programs must achieve 2 MW of quantifiable demand reductions within three years of operation.
2. Programs must demonstrate a strong focus on customer service, participation and satisfaction to both end use customers and internal PacifiCorp staff.
3. Program bidders must demonstrate experience delivering similar DR programs while meeting goals with high levels of customer satisfaction and customer service.
4. Programs must be designed to cover all program functions as a turnkey offer.
5. PacifiCorp must be enabled to initiate events through the (Energy Management System) EMS using integrated vendor provided (Demand Response Management System) DRMS software and hardware which meets all cybersecurity and system integration requirements.
6. Bidders must provide information on performance characteristics for valuation (as listed in Table 1).

Table 1 – DR Program Performance Characteristics for Valuation

Program Performance Characteristic	Minimum Characteristic for RFP	Greater Value
Notice	Day Ahead	60 min, 22.5 min, 7.5 min, <2 sec
Cancellation notice	Day Ahead	Hour Ahead to no restriction
Ramp to Available Demand Reduction	1 hour	60 min, 22.5 min, 7.5 min, < 2 sec
Duration of Curtailment	1 hour / event	Shorter or longer duration as specified by PacifiCorp
Total Number of Events	10 events per season/year	More events per season/year
Event Frequency	1 per week	More events per day/week
Total Load Shed Capability	2 MW	25 MW or larger
Targeted Curtailment Capability	All participants / full load shed only (on/off)	Ability to follow changing targeted curtailment amount
Time for Program Growth to Total Load Shed Capability	3 years	Faster growth

In response to the RFP, PacifiCorp received bids from 18 firms covering five major technology categories. Proposals by technology and state are summarized below in Table 2.

Table 2 – DR Program Performance Characteristics for Valuation

Number of Bidders by Technology Category	OR	WA
Smart Thermostat	9	8
Non-residential Curtailment	8	11
Residential Battery	4	5
Irrigation Load control	3	3
Grid Interactive Water Heaters	1	1
Total[3]	25	23

PacifiCorp first evaluated proposals for conformance to the RFP minimum requirements and for completeness of responses. Remaining bids were then grouped by state, customer type, and end use type and scored with price and non-price components. Price scores were developed with bidder pricing and electric system benefits to determine a net cost of capacity for each bid. Non-price components were based on bidder's ability to demonstrate diversity in staffing and equitable delivery of programs. Price scores were up to 80 percent of weight using net cost of capacity ($/kW-yr) and non-price scores were up to 20 percent of weight. The non-price score (either 0, 10 or 20 points) was added to the price score (between 0-80) for each bid resulting in a final weighted score between 0 and 100 points. The three highest scoring bids from each group of customer type and end use were then used for modeling (along with the 2020 AS bids) in the IRP. For technologies that did not receive three bids, the remaining qualifying competitive bids moved forward for IRP modeling with the 2020 AS bids.

IRP modeling

The IRP modeled resources using the average stated cost of capacity from bidders and the total expected MW volume[4] in each year to develop a net cost of capacity for each resource ($/kw-yr). For Pacific Power States, bids that received points for Non-Price scores, were assigned up to 10 percent secondary value credit in the IRP modeling. DR bids were modeled in both the 2019 IRP system optimizer and the 2021 IRP Plexos modeling platform when that modeling tool became available. The following resources were selected for Oregon based on IRP modeling:

1. Non-Residential Curtailment
2. Residential Smart Thermostat
3. Grid Interactive Water Heaters
4. Irrigation load control
5. Residential Batteries[5]

[3] Total proposed programs are greater than total bidders as some bidders proposed multiple programs covering multiple states.
[4] Stated capacity volumes from bidders were adjusted to reflect parameters specific to system and end-use load characteristics.
[5] While not requested as a specific resource, the Company received battery proposals that were not cost-effective. However, CPA modeled battery resources did appear cost-effective. The Company plans to further evaluate residential battery resources for consideration.

Procurement

DR resources will then move forward in the initiation of procurement processes for those resources. Top bidders modeled in the IRP as cost-effective will be asked to confirm their pricing, non-price attributes, and volumes for demand response. Vendors selected as providing the best price will then enter negotiations with the Company on details regarding program structure, final pricing, and requirements. If additional performance characteristics or customer service functions are needed, the negotiation team will engage with the vendor selected to explore current capability to meet current needs. The Company will not dismiss other vendors until a contract has been agreed to by both parties.

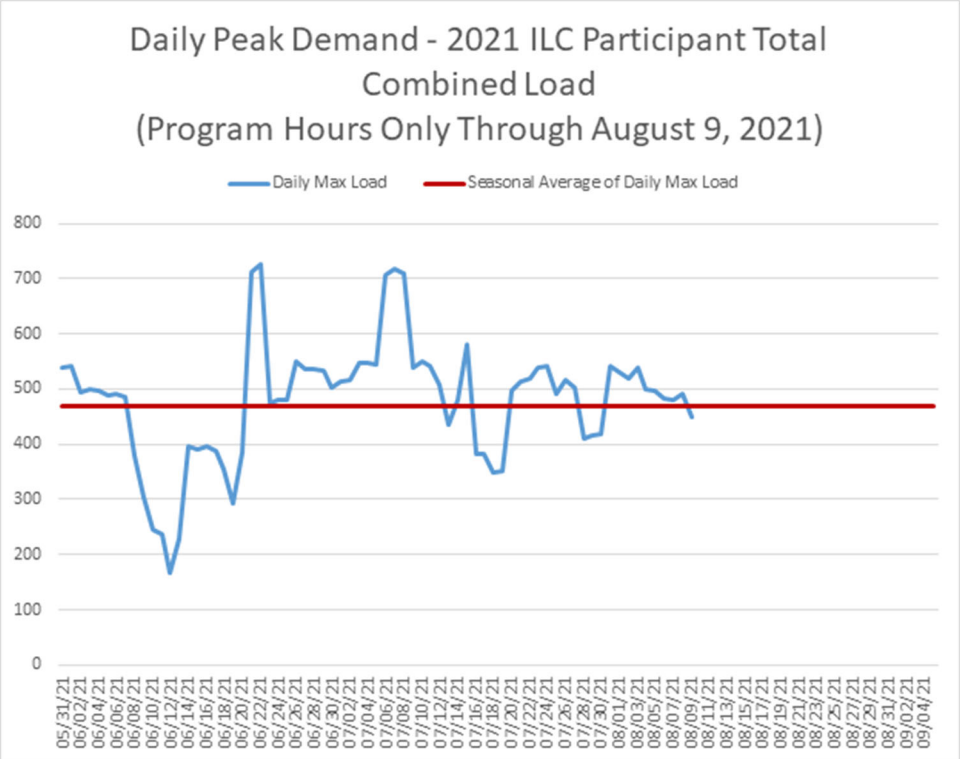
Program and tariff schedule filing

Following final vendor selection, PacifiCorp plans to host a workshop for non-bidding stakeholders to collect feedback on program outreach and delivery prior to filings. The Company expects to file draft tariff schedules and program filings for demand response programs for Commission consideration in Q4 of 2021, unless directed otherwise. Program filings will provide detailed information on the costs and capacity volumes expected from programs along with information on implementation and marketing for consideration. Given recent record summer heatwaves in the Pacific Northwest, PacifiCorp hopes to be able to deploy demand response at scale by the summer of 2022.

Update on the Oregon Irrigation Pilot

PacifiCorp offers an irrigation load control pilot program to selected customers through Oregon Schedule 105. The following information is a mid-2021 season update on available loads, a comparison with available loads from 2020, event performance and marketing activities. This information is preliminary. Final information will be provided in the 2021 annual report.

Through August 9th, 2021, the average available load from all participants is 469 kW, nearly 20 percent lower than the 574 kW for the 2020 season. This is due primarily to reduced pumping as a result of reduced water availability from the upper Klamath Lake.


Daily Peak Demand - 2021 ILC Participant Total Combined Load
(Program Hours Only Through August 9, 2021)
Daily Max Load
Seasonal Average of Daily Max Load
800
700
600
500
400
300
200
100
0
05/31/21
06/02/21
06/04/21
06/06/21
06/08/21
06/10/21
06/12/21
06/14/21
06/16/21
06/18/21
06/20/21
06/22/21
06/24/21
06/26/21
06/28/21
06/30/21
07/02/21
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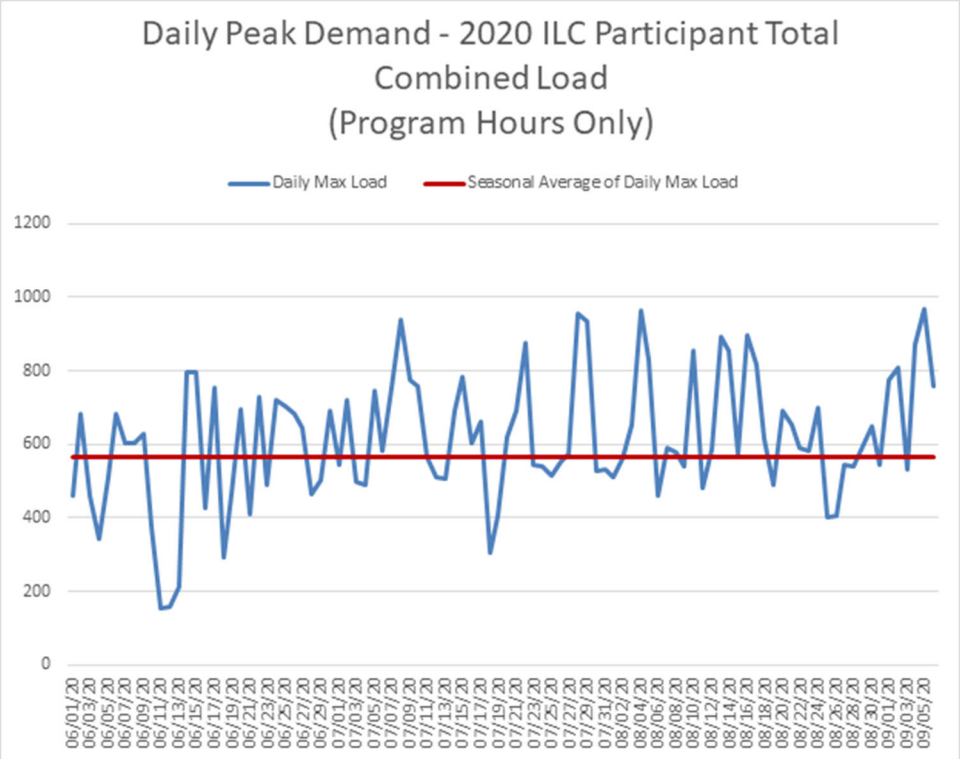
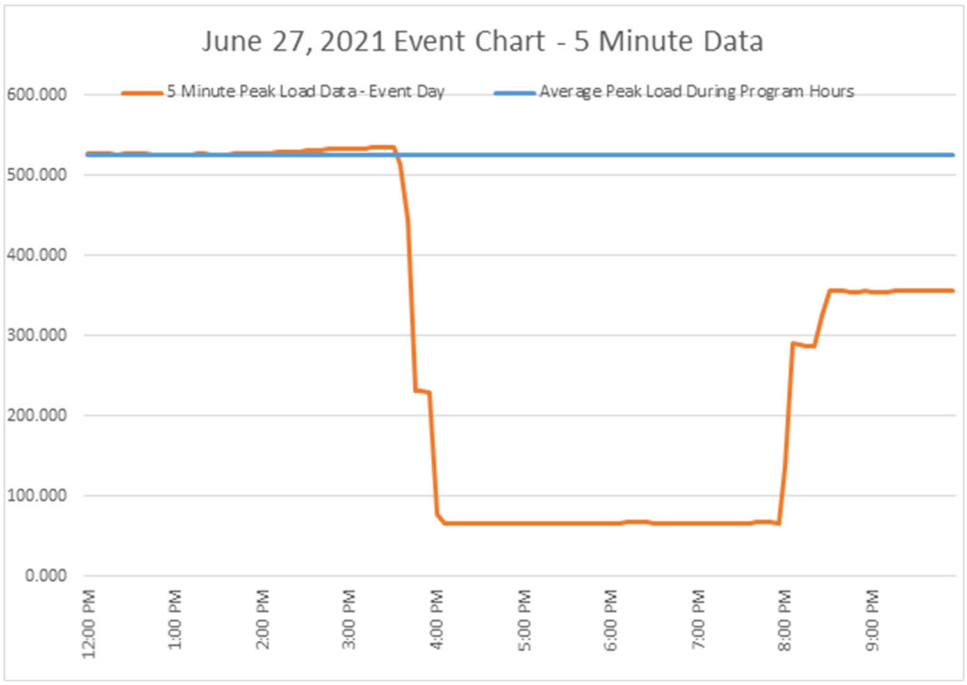


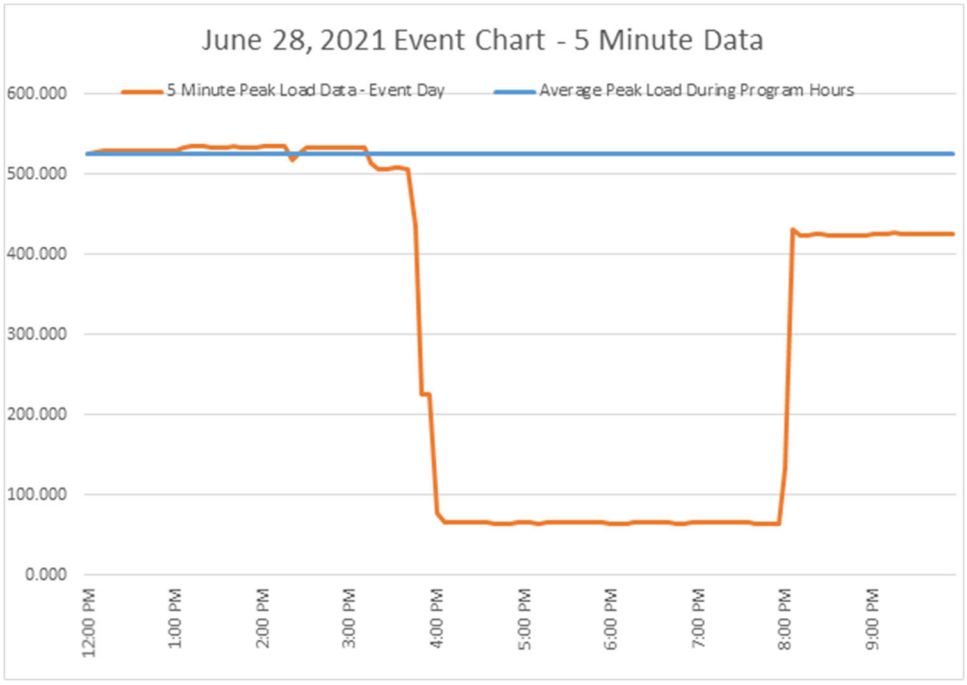
As of August 9, 2021, PacifiCorp has initiated three load control events:

- June 27, 2021 between hours of 4:00PM - 8:00PM - Sunday[6]
- June 28, 2021 between hours of 4:00PM - 8:00PM - Monday
- July 30, 2021 between hours of 4:00PM - 8:00PM - Friday

Three additional events between August 12th and 14th have been scheduled.

[6] Expanded days, including weekends were proposed in Advice 19-008 and approved on February 14, 2020.


June 27, 2021 Event Chart - 5 Minute Data
5 Minute Peak Load Data - Event Day
Average Peak Load During Program Hours
600.000
500.000
400.000
300.000
200.000
100.000
0.000
12:00 PM
1:00 PM
2:00 PM
3:00 PM
4:00 PM
5:00 PM
6:00 PM
7:00 PM
8:00 PM
9:00 PM


June 28, 2021 Event Chart - 5 Minute Data
5 Minute Peak Load Data - Event Day
Average Peak Load During Program Hours
600.000
500.000
400.000
300.000
200.000
100.000
0.000
12:00 PM
1:00 PM
2:00 PM
3:00 PM
4:00 PM
5:00 PM
6:00 PM
7:00 PM
8:00 PM
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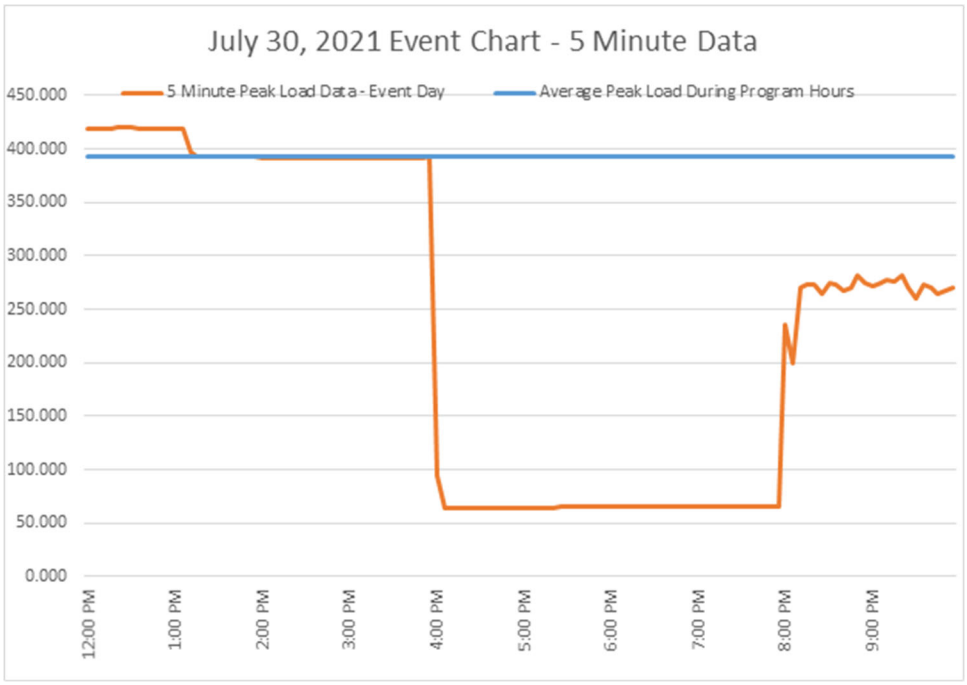

In 2021, customer marketing activities continued with the goal of expanding program participation, primarily in Southern Oregon. Working with the Energy Trust of Oregon (ETO), Connected Energy identified irrigation customers who have participated in ETO incentive programs for irrigation upgrades and enhancements. Through contact data provided by ETO, Connected Energy initiated calls to more than fifteen potential program participants. Interest in the program has been favorable, but the current timing of crop harvesting along with current water restrictions has resulted in several requests to contact them again in 4-6 weeks. Several other irrigators have voiced strong interest in the program for next year, provided they have access to water and therefore the ability to operate their irrigation pumps.

Sincerely,

Shelley McCoy

Shelley McCoy
Director, Regulation