



# Oregon

Kate Brown, Governor

**Public Utility Commission**

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August 11, 2020



BY EMAIL

PacifiCorp, dba Pacific Power

Cathie Allen

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RE: Advice No. 20-008

At the public meeting on August 11, 2020, the Commission adopted Staff's recommendation in this matter docketed as ADV 1147. The Staff Report and a receipted copy of the sheets in your advice filing are attached.

Nolan Moser

Chief Administrative Law Judge

Public Utility Commission of Oregon

(503) 378-3098

**PUBLIC UTILITY COMMISSION OF OREGON  
STAFF REPORT  
PUBLIC MEETING DATE: August 11, 2020**

REGULAR  CONSENT  EFFECTIVE DATE August 12, 2020

**DATE:** August 3, 2020

**TO:** Public Utility Commission

**FROM:** Mitchell Moore

**THROUGH:** Bryan Conway, John Crider, and Matt Muldoon **SIGNED**

**SUBJECT:** PACIFIC POWER:  
(Docket No. ADV 1147/Advice No. 20-008)  
Update to Tariff P.U.C. No. 36 to add a standard service offering

**STAFF RECOMMENDATION:**

Staff recommends that the Commission approve Pacific Power's (PacifiCorp or Company) filing that revises its Tariff P.U.C. Or. 36 to allow PacifiCorp to offer single-phase 240/480 volt (V) service as a standard service voltage, with an effective date of August 12, 2020.

**DISCUSSION:**

Issue

Whether the Commission should approve PacifiCorp's proposed revision to its Tariff P.U.C. Or. 36, updating the Company's service offerings to add single-phase 240/480 V service, with an effective date of August 12, 2020.

Applicable Law

The Commission may approve tariff changes if they are deemed to be fair, just and reasonable. ORS 757.210. Tariff revisions may be made by filing revised sheets with the information required under the Commission's administrative rules, including OAR 860-022-0025. Filings that propose any change in rates, tolls, charges, rules, or regulations must be filed with the Commission at least 30 days before the effective date of the change. See ORS 757.220; OAR 860-022-0020.

### Analysis

On July 10, 2020, PacifiCorp filed Advice No. 20-008, requesting an update to its P.U.C. Tariff Or. 36, Rule 3 – Description of Service. The purpose of the filing is to allow PacifiCorp to offer single-phase 240/480 volt (V) service as a standard service voltage.

According to the Company filing, approximately 40 percent of distribution lines on PacifiCorp's system are constructed single phase. The lack of a three-phase supply creates challenges for customers with equipment that requires three-phase power.

For example, electric motors have limited commercial -availability in single-phase ratings above 7.5 horsepower. Costs to extend three-phase primary lines range from \$60,000 to \$150,000 per mile. If capacity is available on an existing single-phase line, a three-phase supply can be derived from a variable frequency drive or rotary phase converter.

Providing single phase 240/480 V service reduces the three-phase customer's costs when only single phase service is available. On average, 480 V class phase converters and motors are 10 percent to 25 percent cheaper than 240 V class phase converters and motors, and additional savings are realized in wiring and conduit costs.

According to the filing, potential uses of the service include long service runs such as street lighting. Single-phase 240/480 V service is the typical voltage for a number of transportation agencies for lighting circuits that may extend for several miles. Single-phase 240/480 V service is used to reduce wiring costs and voltage drop.

In addition, electric vehicle charging is an emerging use case for 240/480 V service, according to the filing. Currently, all commercially available options require three-phase power. The Company has had discussions with several vendors with single-phase solutions under development, in order to enable DC Fast charging in areas where only single phase is available. Allowing for single-phase, 240/480V service will reduce service entrance, wiring, and alternate current rectification stage costs, over that required if only 120/240 V service were available.

The tariff changes proposed in this filing will have no impact on customer rates.

### Conclusion

Staff is satisfied that the changes are appropriate and reasonable, and recommends the update to Tariff P.U.C. Or. 36, Rule 3 be approved.

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**PROPOSED COMMISSION MOTION:**

Approve PacifiCorp's proposed revision to its Tariff P.U.C. Or. 36, updating the Company's service offerings to add single-phase 240/480 V service, with an effective date of August 12, 2020.

PAC ADV 1147 Phase Service

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**Description of Service**

Electric service furnished under this tariff will be alternating current, 60 hertz, single or three-phase, at one of the nominal standard voltages given below. (T)

**Secondary Voltages**

a. Standard Voltages:

Single-phase, 120 volt, two-wire, grounded

Single-phase, 120/240 volt, three-wire, grounded

Single-phase, 240/480 volt, three-wire, grounded (N)

Three-phase, 120/208 volt, four-wire grounded, wye (C)

Three-phase, 277/480 volt, four-wire, grounded, wye (C)

b. Alternate Voltages:

Under certain conditions and at the option of Company three-phase, 120/240 volt, four-wire, grounded, delta, will be provided. Existing services of other voltages will be (C)

maintained to the extent deemed practical by the Company; and, when changes are (N)

required, service will be provided at one of the standard voltages. (N)

c. Secondary delivery limitations:

Company, at its option, may limit the maximum or minimum load served at any of the above secondary voltages through a single point of delivery to a size commensurate with the capacities of transformers of that voltage designated as a Company Standard.

**Primary Voltages**

a. Standard Primary Voltages are 7,200/12,470, 12,000/20,800, and 19,900/34,500 volt, four-wire, grounded. Three-phase or single-phase metering points can be provided.

b. There are other primary voltages in use by Company, including 2,400/4,160 volt, wye. All primary voltages are limited to the voltages on the Company's local distribution lines and are subject to future conversion to the standard voltages listed in "a." above.

c. Primary or greater voltage delivery is subject to local availability of those voltages, any special conditions and restrictions that Company may determine to be necessary, and the Consumer signing a written contract.