

August 11, 2020

VIA ELECTRONIC FILING

Mark L. Johnson
Executive Director and Secretary
Washington Utilities and Transportation Commission
621 Woodland Square Loop SE
Lacey, WA 98503

Received
Records Management
08/11/20 15:50
State Of WASH.
UTIL. AND TRANSP.
COMMISSION

RE: Advice 20-01—Revision of Rule 3 to allow for Single-phase 240/480 volt service as a standard service voltage

PacifiCorp dba Pacific Power & Light Company (PacifiCorp), submits this proposed modification to rules applicable to Pacific Power’s electric service in the state of Washington in compliance with RCW 80.28.050, WAC Chapter 480-80, and the Washington Utilities and Transportation Commission’s (Commission) Rules and Regulations. PacifiCorp respectfully requests an effective date of October 1, 2020.

First Revision of Sheet No. R3.1 Rule 3 General Rules and Regulations—Description of Service

Filing Overview

The purpose of this filing is to modify the company’s rules to allow PacifiCorp to offer single-phase 240/480 volt (V) service as a standard service voltage. The Company proposes this change to match the customer uses on the system.

Approximately 40 percent of distribution lines in PacifiCorp’s system are constructed as single phase. The lack of a three phase supply creates challenges for customers with equipment that requires three phase power. Electric motors in particular have limited commercial availability in single phase ratings above 7.5HP. Costs to extend three phase primary lines range from \$60k to \$150k per mile.

If capacity is available on an existing single phase line, a three phase supply can be derived from a variable frequency drive (VFD) or rotary phase converter. Providing single phase 240/480V service reduces the three phase customer’s costs when only single phase is available. On average, 480V class phase converters and motors are 10 to 25 percent cheaper than 240V class phase converters and motors, and additional savings are realized in wiring and conduit costs.

Long Service Runs & Voltage Drop – Single phase 240/480V service is the typical voltage for a number of transportation agencies for roadway lighting. As lighting circuits may extend for several miles, single phase 240/480V service is used to reduce wiring costs and voltage drop. Providing 240/480V service will reduce transportation agency costs by eliminating the need to

install 2:1 step-up transformers to obtain 240/480V service from currently available 120/240V services.

Electric Vehicle Charging – Direct Current (DC) fast charging (50kW->150kW) is an emerging use case for 240/480V service. At this time all commercially available options require three phase power. The company has had discussions with several vendors with single phase solutions under development to enable DC fast charging in areas where only single phase is available. 240/480V service will reduce service entrance, wiring and Alternating Current (AC) rectification stage costs, over that required if only 120/240V service were available.

Construction Standards and Impact to Operations – Accommodating single phase 240/480V service will have very little impact to the company's current construction standards, practices and inventory requirements. Additional stock item numbers and inventory will be required to support pad-mount installations, but no impact to overhead transformer stocking levels is anticipated. Current standards and equipment support metering of 240/480V single phase services, and no impact to system planning is anticipated with the introduction of single phase 240/480V service.

Please direct all formal correspondence and data requests regarding this filing to:

By e-mail (preferred): datarequest@pacificorp.com

By regular mail: Data Request Response Center
PacifiCorp
825 NE Multnomah Street, Suite 2000
Portland, Oregon, 97232

Please direct any informal inquiries regarding this filing to Ariel Son at (503) 813-5410.

Sincerely,

 /s/
Etta Lockey
Vice President, Regulation
Pacific Power & Light Company
825 NE Multnomah Street, Suite 2000
Portland, OR 97232
(503) 813-5701
etta.lockey@pacificorp.com

Enclosures

Washington Utilities and Transportation Commission

August 11, 2020

Page 3

Attachments

Attachment A: Summary Page of Tariffs

Attachment B: Proposed Tariffs