

PUBLIC UTILITY COMMISSION OF OREGON
STAFF REPORT
PUBLIC MEETING DATE: May 21, 2019

REGULAR _____ CONSENT X EFFECTIVE DATE June 1, 2019

DATE: May 14, 2019

TO: Public Utility Commission

FROM: George Compton and Nadine Hanhan

THROUGH: Jason Eisdorfer, John Crider, and JP Batmale

SUBJECT: IDAHO POWER COMPANY: (Docket No. ADV 901/ Advice No.18-12)
Implements Schedule 5 - Residential Service, Time-of-Day Pilot Plan
(Optional).

STAFF RECOMMENDATION:

Approve Idaho Power's Advice Filing No. 18-12, implementing Idaho Power's Schedule 5 – Residential Service, Time-of-Day (TOD) Pilot Plan (Optional), with an effective date of June 1, 2019.

DISCUSSION:

Issue

Whether the Commission should approve Idaho Power Company's (Idaho Power or "the Company") new Schedule 5, which introduces an optional Residential Service TOD Pilot.

Applicable Rule or Law

Idaho Power's filing is made under ORS 757.205 and OAR 860-022-0025.

- ORS 757.205 requires that public utilities file all rates, rules, and charges with the Commission.
- OAR 860-022-0025 requires that new tariff filings include statements showing the new rates, the number of customers affected, the impact on annual revenue, and the reasons supporting the proposed tariff.

Analysis

Background

As part of Idaho Power's 2015 *Smart Grid Report* process, the Company and Staff engaged in a series of conversations about potential benefits of a TOD rate,¹ particularly seasonal rates. By 2015, Idaho Power had already implemented a TOD pilot in its Idaho service territory. After reviewing Idaho Power's existing rates for Oregon customers, existing seasonal rates for Idaho customers, the TOD pilot available to Idaho customers, and TOD programs offered by other utilities, Staff believed that there are potential benefits from TOD rates for Idaho Power's Oregon customers.² Subsequently, Staff filed a Public Meeting Memorandum recommending that "Idaho Power work with Staff to investigate, design and implement a TOD pilot that may include behavioral components that can be offered to Idaho Power residential customers if determined feasible."³ On February 4, 2016, The Commission adopted Staff's recommendation and ordered Idaho Power to design a TOD pilot for its residential customers.⁴

Since then, the Company has been working with Staff and other stakeholders to design a TOD pilot. As part of the 2017 *Smart Grid Report* process, Staff recommended that Idaho Power finalize its pilot by December 31, 2018, and the Commission adopted Staff's recommendation.⁵

On December 28, 2018, Idaho Power filed Advice Filing No. 18-12 with its Optional TOD pilot with an effective date of June 1, 2019. Idaho Power proposes to offer its "TOD Pilot Plan" on an optional, voluntary basis to Oregon residential customers who currently have Advance Metering Infrastructure installed. Idaho Power proposes to cap the number of participants at approximately 2.5 percent of residential customers, or 375 participants.⁶ Idaho Power will solicit TOD Pilot Plan participation via postcard mailers. The postcards will explain the pricing structure and direct customers to the

¹ A TOD rate is a variant of a time-of-use (TOU) rate. The idea behind these rates is that the rates are higher during peak times and lower during off-peak times to encourage customers to shift usage patterns. The program Idaho Power has proposed is a voluntary pilot.

² UM 1675. January 13, 2016 Staff Report. Accessible at <https://edocs.puc.state.or.us/efdocs/HAU/um1675hau143813.pdf>.

³ UM 1675. January 13, 2016 Staff Report. Accessible at <https://edocs.puc.state.or.us/efdocs/HAU/um1675hau143813.pdf>.

⁴ See Order No. 16-045.

⁵ See Order No. 18-266.

⁶ Idaho Power Tariff Advice No. 18-12, p. 3.

Company's website for more information and a comparison tool that will estimate annual bill impacts resulting from participation.⁷

Proposed TOD Rate Design

Idaho Power's rate design maintains an \$8 a month service charge, equivalent to the service charge under the standard residential service offering, but introduces seasonal rates along with prices that vary based on the time of day. As stated in the application, the price "differentials between peak and off-peak periods [are] based on differences in net power supply expenses (NPSE) during those same periods...."⁸ Also, "in finalizing the program design of the TOD pilot, [the Company took] into consideration the suggestions made by Staff."⁹ The rate design is as follows:

Monthly Charge

Service Charge, per month	\$8.00
Energy Charge, per kWh	
Summer (June 1 through August 31)	
Peak	13.1739¢
Off-Peak	13.0403¢
Non-Summer	
Peak	8.0547¢
Off-Peak	7.9514¢

TOD Time Periods

Summer Season June 1 through August 31

Peak: 3 pm to 9 pm – Monday through Friday

Off-Peak: 9 pm to 3 pm – Monday through Friday and all weekend and holiday hours

Non-Summer Season September 1 through May 31

Peak: 7 am to 9 am and 3 pm to 9 pm – Monday through Friday

Off-Peak: 9 am to 3 pm and 9 pm to 7 am – Monday through Friday and all weekend and holiday hours

⁷ Idaho Power Tariff Advice No. 18-12, p. 4.

⁸ See paragraph 2 of page 2 of this Application.

⁹ See paragraph 3 of page 2 of this Application. The nature of Staff's participation, by telephone, was more a matter of concurrence than an independent affirmation of what may have been Staff's own preferences.

Staff has had concerns about the relatively small differential between the Peak and Off-Peak Rates. As an example of another rate, note the following hypothetical set of “smart [TOD] rates” for “smart technology.”¹⁰

<i>Energy Charge</i>	
Off-Peak	\$0.05/kWh
Mid-Peak	\$0.10/kWh
On-Peak	\$0.20/kWh
Critical-Peak	\$0.75/kWh

The example rate above takes into account all aspects of providing electric service, including the cost to provide capacity. Therein lies the main distinction between the Idaho Power NPSE cost-based rates and Staff's example above: the Company's price differential for this pilot is energy oriented while the hypothetical example includes a capacity element. The primary purpose of TOD rates, as a *demand-side* management tool, is to economize on a utility's prospective capacity/plant additions by promoting customer *load shifts* away from capacity-sensitive times/intervals, i.e., seasonal and daytime load/demand peaks.

Staff does not anticipate that Idaho Power's TOD proposal will shift loads from daytime peaks because the differential is so small. To that extent, this is inconsistent with the proposed purpose of the pilot, which is to incent behavioral change. The Company acknowledges that “[t]he [ideal] intent of the TOD Pilot Plan is to introduce an optional pricing offering for Oregon residential customers that includes a time-differentiated rate design reflective of the cost to serve, which will motivate behavioral changes and encourage efficient utilization of Idaho Power's system.”¹¹ Nevertheless, Staff appreciates that what is proposed is time-differentiated by season, if not by the time of day, and as such, should produce behavioral changes—notably by sending a strong price signal regarding summertime usage, as described below.

The underlying purpose of having such small intra-day price differentials is to accommodate revenue sufficiency. As discussed below, that objective is difficult to achieve with an optional plan absent the context of a general rate case.

Dominant Cost Driver – Summertime Loads

Idaho is very hot in the summer, with high air conditioning loads in the Company's high-growth service territory, where new housing construction is dominated by natural gas

¹⁰ See page 2 of *The Electricity Journal*, Volume 31, Issue 8, October 2018.

¹¹ See paragraph 5 of page 2 of this Application. As discussed later, higher bills produced by the greater summer rates will have a tendency to foster energy conservation, which will have the secondary effect of reducing the summer peak from where it would have been absent the seasonal rate differentiation.

winter-time heating and refrigerated summer-time cooling. Idaho Power also has a large agricultural summer irrigating load. For many years, the seasonality cost factor has led to Idaho Power's seasonally differentiated rates for all of its customer classes in Idaho and for all its customer classes in Oregon *except* the residential class. It is understandable that the Company's first priority with this rate design "reform" is to introduce a seasonal rate for its residential customers in Oregon, and Staff supports this priority.

The greater summer prices and commensurately lower winter prices accomplish two ratemaking objectives: 1) Customers with "energy-guzzling" refrigerated air conditioners will be encouraged to elevate their thermostat levels, thereby reducing loads throughout the summer season; and 2) Oregon customers with higher winter-time usage (particularly those with older electricity-heated homes with, at most, high-efficiency evaporative room air-cooling) would no longer be required to subsidize high summer-use customers.¹² In other words, the seasonally-differentiated cost-based rates foster both economic efficiency¹³ and intra-class customer equity. Accordingly, Staff endorses the proposed optional plan as a means by which a residential seasonal rate can be introduced into the Idaho Power *Oregon* tariff.

Preserving Revenue Sufficiency

When TOD rates are constructed, a common pattern is for them to be designed such that if *all* the customers of the chosen group (e.g., residential class) participated in the TOD rates and *none* of the customers altered their behavior, then the TOD rate design would be neutral in the sense that the utility would obtain the same revenues from the group with or without the TOD rate design. By combining the full enrollment feature with the no behavioral change assumption, those bills that will increase in aggregate should offset the revenues lost to other bills going down. One problem when TOD participation is *optional* is that only those whose bills are lowered will consider participation. In the context of a general rate case such revenue losses can be "managed" by an appropriate increase in the basic rates that will be paid by the non-TOD participants.¹⁴

Idaho Power seeks to "minimize the financial impact to the Company resulting from implementation of an optional TOD Pilot Plan during a time when standard rates cannot be reset closer to the cost to serve—i.e., when the optional pilot is not being introduced as part of a general rate case. Staff sympathizes with that objective, but does not

¹² The percentage share of electricity-heated homes in Oregon is greater than in Idaho because Oregon's homes are older, small, and more rural—thereby less likely to be heated with natural gas.

¹³ Economic efficiency can come from *increased* usage when costs had been below prices (as in the winter) as well as reduced usage when costs had been in excess of prices (as in the Idaho summers).

¹⁴ That increase will be cost-based in the sense that the usage of the self-selected, non-TOD participants will tend to be more concentrated in the higher-cost time periods.

necessarily like how it is achieved – by having virtually no daylight between the peak- and off-peak rates and by limiting the Pilot participation to 375 Oregon residential customers (2.5 percent).¹⁵ Accordingly, for future pilots or iterations of this TOD pilot, Staff intends to work with the Company to achieve revenue neutrality through other means than the pilot design itself, such as a deferral and associated cost-recovery mechanism as other utilities have done. By doing so, revenue impacts can be limited and learning maximized.

TOD Pilot Plan Results Reporting Commitments

As is appropriate with a pilot, "Idaho Power will notify the Commission of efforts to solicit participation, enrollment counts, changes in energy consumption of pilot program participants, and any other pertinent information as part of future grid reports...[notably] the 2021 Smart Grid Report."¹⁶ For IRP purposes, Idaho Power relies primarily on existing demand response programs (390 MW—system-wide, with agricultural load controls dominating) to achieve cost-effective peak-shaving. To supplement those measures, Staff recommends that the Company work with Staff to update the TOD/TOU design once the 2021 *Smart Grid Report* is completed.¹⁷

Conclusion

Idaho Power should implement its Schedule 5 – Residential Service, Time-of-Day Pilot Plan (Optional) as an important step towards having solid cost-based rates on both sides of the Oregon-Idaho border and report back on the pilot learnings in the 2021 *Smart Grid Report*.

PROPOSED COMMISSION MOTION:

Approve Idaho Power's Advice Filing No. 18-12, implementing Idaho Power's Schedule 5 – Residential Service, Time-of-Day (TOD) Pilot Plan (Optional), with an effective date of June 1, 2019.

Idaho's Schedule 5

¹⁵ The Oregon PUC Staff advocated early in the discussion for a more conventional TOD rate structure such as what was implemented as a pilot for the Company's Idaho residential customers. But Idaho Power had experienced such an unhappy outcome there with regard to lost revenues that the Company was adamant that such an outcome not be repeated with its Oregon pilot.

¹⁶ See paragraph 2 of page 4 of this Application.

¹⁷ PGE is presently expected to file a residential TOD tariff where the on-peak rate is *three times* the off-peak rate.