ITEM NO. CA11

PUBLIC UTILITY COMMISSION OF OREGON
STAFF REPORT
PUBLIC MEETING DATE: December 18, 2017

REGULAR ____ **CONSENT** X **EFFECTIVE DATE** January 1, 2018

DATE: November 22, 2017

TO: Public Utility Commission

FROM: Paul Rossow PR

THROUGH: Jason Eisdorfer JE for and JP Batmale JPB

SUBJECT: IDAHO POWER COMPANY: (Docket No. ADV 645/Advice No. 17-09) Modifies Schedule 72 Heating and Cooling Efficiency Program and requests approval of a new cost-effectiveness exception.

STAFF RECOMMENDATION:

Staff recommends the Commission allow Idaho Power Company's (Idaho Power or Company) requested modifications to Schedule 72 Heating and Cooling Efficiency Program tariff, and the new cost-effectiveness exception for the specific electric program measure described below, to go into effect January 1, 2018.

DISCUSSION:

Issue

Whether the Commission should allow Idaho Power to modify its Schedule 72 Heating and Cooling Efficiency Program to offer one new energy efficiency measure (heat pump water heaters) and reduce the contractor incentive for heat pump installations, and find that Idaho Power's smart thermostat measure and the overall Program satisfy exemptions to the requirement that efficiency measures be cost-effective.

Applicable Law

Under ORS 757.205, every public utility must file tariffs for services provided to retail customers.

Order No. 94-590 issued in Docket No. UM 551 provides for the inclusion of non-cost-effective measures in utility Demand-Side management (DSM) programs if those

measures meet specific conditions. The available conditions to qualify for an exception are:[1]

A. The measure produces significant non-quantifiable non-energy benefits. In this case, the incentive payment should be set no greater than the cost-effectiveness limit less the perceived value of bill savings, e.g., two years of bill savings;

B. Inclusion of the measure will increase market acceptance and is expected to lead to reduced cost of the measure;

C. The measure is included for consistency with other DSM programs in the region;

D. Inclusion of the measure helps to increase participation in a cost-effective program;

E. The package of measures cannot be changed frequently, and the measure will be cost-effective during the period the program is offered;

F. The measure or package of measures is included in a pilot or research project intended to be offered to a limited number of customers;

G. The measure is required by law or is consistent with Commission policy and/or direction.

Analysis

On October 27, 2017, the Company filed Advice No. 17-09 to be effective January 1, 2018. On October 27, 2017, the Company filed replacement sheets to Advice 17-09 with corrected revisions to Sheet Nos. 72-1 and 72-2.

With this filing Idaho Power proposes to add a heat pump water heater (HPWH) measure, reduce the contractor incentive for heat pump installation measures and continue to offer Ductless Heat Pumps and smart thermostats as part of the Heating and Cooling Efficiency Program (HCE Program). Idaho Power asks the Commission to find that the HCE satisfies the criteria for an exemption to the cost-effectiveness requirement under Order No. 94-590, and asks for a new cost-effectiveness exception for its smart thermostat measure.

[1] For the remainder of these comments reference to a specific condition from Order No. 94-590 will be cited by its letter, for example, "Condition A." The conditions are set forth in full in Order No. 94-590 at page 18.

The Company states that it continues to experience an increase in the number of projects for which the Company pays an incentive each year. The Company processed 12 Oregon projects in 2015 and 17 Oregon projects in 2016.

Incentive
The Company's HCE Program provides cash incentives to customers and contractors who install energy efficient heating and cooling equipment. In an attempt to continue offering a cost-effective program of interest to all qualified homeowners, Idaho Power is proposing to add a new measure to the HCR Program that provides an incentive of $300 for installing a heat pump water heater (HPWH).

A HPWH works like a refrigerator but in reverse. While a refrigerator removes heat from an enclosed box and releases it to the surrounding air, a HPWH captures heat from the surrounding air and then transfers it to water in an enclosed tank. It then moves the cooler air out.

Idaho Power proposes that the HPWH be available to all qualified homeowners and rental property owners served by the Company. To qualify, the customer must be replacing an existing electric resistance water heater in an existing home. Therefore, new construction does not qualify for the HPWH incentive.

To determine cost-effectiveness for residential programs, the Company relies on the Regional Technical Forum (RTF) as the primary resource. Because the location of the installation within a home can vary by participant, Idaho Power used the "any location" values from the RTF for Tier 2 and Tier 3 HPWH efficiency levels.[2] The Company used the following assumptions and cost-effectiveness ratios;

- Measure life: 13 years
- Incremental Participant Cost: $985
- Incentive: $300
- Average Savings: 1,563 annual kWh
- Cost-Effectiveness Ratios (not including administration costs):
    - Utility Cost Test ("UCT") = 3.04
    - Total Resource Cost Test ("TRC") = 1.02

The Company will track the location of each HPWH installation and calculate annual cost-effectiveness based on the weighted average of savings from that year's installations.

[2] The tier levels are defined by the Northwest Energy Efficiency Alliance Advanced Water Heater Specification and can be found at: http://neea.org/advancedwaterheaterspec.

Reduced Contractor Incentives
In an effort to reduce overall administration costs, the Company is proposing to reduce one of the contractor incentives associated with the heat pump installation measures in the HCE Program from $150 to $50. At first, the incentive was to offset the additional costs associated with heat pump installation and paperwork. In the Company's current review of contractor practices in Idaho Power's service area, it was determined that such quality installations are common practice even absent a contractor incentive. The Company states that it does not anticipate the change will significantly lower contractor participation and plans to disseminate the rationale for the reduction in the incentive in advance of the change to ensure continued support of HCE Program measures.

Ductless Heat Pump Cost-Effectiveness
The Company is seeking approval from the PUC to continue its DHP measure and HCE Program that do not pass the TRC test. Idaho Power explains that ductless heat pumps (DHP) are primarily responsible for lowering the cost-effectiveness of the HCE Program. In an effort to improve the cost-effectiveness for the DHPs, the Company has joined other regional utilities to offer DHP pilots in partnership with Northwest Energy Efficiency Alliance (NEEA). The Company's results after analyzing the HCE Program with the DHPs included in the overall cost-effectiveness of the program, as well as excluding DHP measures are as follows:

Program Name	UCT	TRC
Heating and Cooling Efficiency Program	1.62	0.94
Non-DHP measures	1.77	1.03
DHP measures only	1.29	0.79

Idaho Power proposes to continue to offer the DHP incentives as part of the HCE Program. It is the Company's belief that the addition of the proposed measure and the reduction of the contractor fees will have a positive effect on cost-effectiveness and are within the current cost-effectiveness Conditions A (non-quantifiable benefits) and C (program consistency) authorized in Order No. 17-060.

Request for New Cost-Effectiveness Exception
Finally, Idaho Power asks the Commission to find that its smart thermostat measure satisfies three of the exemptions to the cost effectiveness requirement. In January 2016, Idaho Power filed a revision to Schedule 72 to include Smart Thermostat Measure in the HCE Program. Idaho Power stated that it would conduct an impact evaluation using a third party after the smart thermostat program had run approximately two years, which would further inform a cost-effectiveness analysis. The Commission allowed Idaho Power's tariff revision to become effective in March 2016.

Currently, the smart thermostat's utility cost test ratio is 1.95 and its total resource cost ratio is 0.51. The main driver that is lowering the cost-effectiveness of the smart thermostat is that the RTF assumes a measure life of only five years instead of the Company's original assumption of 10 years.

Idaho Power states that other utilities in the region include smart thermostats in their energy efficiency offerings. In the near future, Idaho Power will be participating in a workshop with NEEA, BPA, and other utilities from the region to discuss the challenges around the smart thermostats, while the Company continues its investigation in this technology.

Findings and Conclusion

Staff conducted a review of the Company's filing by reviewing the data submitted by Idaho Power and issuing information requests. Staff's review finds the proposed tariff modifications to add the HPWH measure and to reduce contractor incentives to be reasonable.

Staff also concludes that the Idaho Power continues to meet requirements for exceptions to the cost-effectiveness criteria for the ductless heat pump (DHP) and the HCE Program. The HCE Program provides significant non-energy benefits. And, the Program is consistent with other Programs provided by Idaho Power and other utilities throughout the region.

Further, Idaho Power has taken steps to improve the cost-effectiveness of DHP measure by joining other utilities in the region to offer DHP pilots in partnership with NEEA. And, the modifications to the Program that Idaho Power proposes in this advice filing (HPWH and reduced contractor incentives) are intended to improve the cost-effectiveness of the HCE Program overall.

Finally, Staff has reviewed Idaho Power's explanation in support of the requested exception for the smart thermostat measure and agrees with the Company that this measure meets Conditions A (non-quantifiable benefits), C (program consistency), and F (pilot or research project) of Order No. 94-590. Staff also agrees with the Company that smart thermostats should remain in the HCE Program. The smart thermostat is an emerging programmable technology that can automatically adjust heating and cooling loads based on where the occupant is located within the home or proximity to the home.

PROPOSED COMMISSION MOTION:

Allow Idaho Power's revised Schedule 72 Heating and Cooling Efficiency Program tariff and the new Cost-Effectiveness Exception as described in Advice No. 17-09 to go into effect on January 1, 2018.