

**PUBLIC UTILITY COMMISSION OF OREGON
STAFF REPORT--CORRECTED
PUBLIC MEETING DATE: March 31, 2020**

REGULAR X CONSENT _____ EFFECTIVE DATE April 1, 2020

DATE: March 23, 2020

TO: Public Utility Commission

FROM: Anna Kim

THROUGH: Bryan Conway, Michael Dougherty, JP Batmale, and Sarah Hall

SUBJECT: OREGON PUBLIC UTILITY COMMISSION STAFF:
(Docket No. UM 1696)
Energy Trust of Oregon Cost Effectiveness Exception Requests for DHPs.

STAFF RECOMMENDATION:

Grant exceptions to cost effectiveness guidelines for select ductless heat pump (DHP) measures, as requested by Energy Trust of Oregon (Energy Trust).

DISCUSSION:

Issue

Whether the Commission should grant cost effectiveness exception requests for DHP measures, as recommended by Staff.

Applicable Law

Order No. 94-590 in Docket No. UM 551 establishes guidelines for cost effectiveness of energy efficiency measures. Section 13 of the Order details seven conditions under which exceptions to Oregon's two cost effectiveness tests may be granted by the Commission.¹ The exceptions are as follows:

¹ The cost effectiveness test required under Order No. 94-590 is the Total Resource Cost Test (TRC). *In The Matter Of An Investigation Into The Calculation And Use Of Conservation Cost-effectiveness Levels*, Docket No. UM 551, Order No. 94-590 (April 6, 1994). Energy Trust has used this test since its inception to guide what measures can be offered by Energy Trust programs. Orders entered in Docket No. UM 551 also allow for the use of other cost effectiveness tests. Energy Trust uses the Utility Cost Test (UCT) to set the maximum allowable incentive amount that can be offered to participants.

- a) The measure produces significant non-quantifiable non-energy benefits. In this case, the incentive payment should be set at no greater than the cost effective limit (defined as present value of avoided costs plus 10 percent) 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 demand side management (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.

The current process to consider cost-effectiveness exceptions was reaffirmed in Docket No. UM 1622 and is as follows;²

- For minor exception requests, where the size and scope are limited, Energy Trust provides details to PUC Staff who review and if appropriate, provide approval through an email. A copy of the email is kept on file by the PUC Staff.
- For major exception requests, Energy Trust provides an official filing and requests an exception. PUC Staff makes formal recommendations to the Commission at a public meeting. Commissioners then make a decision on the exception request at the public meeting.

The minimum threshold by which Staff can consider minor exceptions was officially established in Docket No. UM 1696.³ These orders codified a previous working arrangement in Docket No. UM 1622, whereby Staff could consider measure level cost-effectiveness exceptions under the following circumstances:

- The measure's TRC score is below 1 and above 0.8;

² *In the Matter of Energy Trust of Oregon, Request for Approval of Exceptions to Cost Effectiveness Guidelines*, Docket No. UM 1622, Order No. 14-332 (October 1, 2014).

³ *In the Matter of Energy Trust of Oregon, Cost Effectiveness Exception Request for Electric Measures*, Docket No. UM 1696, Order Numbers 17-395 and 17-457.

- The measure's savings do not comprise more than 5 percent of a program's annual savings; and,
- The measure's cost does not represent more than 5 percent of the program's annual budget.

If a measure does not meet all of the minor exception criteria, or otherwise warrant additional review, the request goes through the Commission's major exception request process.

Energy Trust has had major measure exceptions for DHPs since 2014.⁴ The most recent exception was granted in September 2019 in Order No. 19-301 for multiple DHP measures based on exception criteria B, C, and G.

Analysis

This analysis will cover some background on DHPs, the exception request, and Staff's assessment of each exception criteria.

Background

Energy Trust provides incentives for DHPs across its service territory to electrically heated homes. Energy Trust supports and coordinates with Northwest Energy Efficiency Alliance (NEEA) on the development of the DHP market.

Cost-effectiveness is calculated based on housing type (single family, multifamily, manufactured), the equipment being replaced, and the amount of heating needed based on location, or "heating zones" Heating Zone 1 represents areas that require less heating and Heating Zone 2 represents areas that require more.

DHPs account for 17 percent of savings for Energy Trust's Home Retrofit program and 9 percent of savings for the Multifamily program. Nearly three quarters of expected DHP installs will already require the cost-effectiveness exceptions granted in Order No. 19-301. Under these exceptions, Energy Trust outlined a plan to reduce costs for DHPs by implementing a number of different strategies, including enhanced incentives for a fixed-price offering, and a promotion working with community partners. Energy Trust planned to offer up to \$2,000 in incentives. As Energy Trust worked towards implementing these strategies to improve the overall cost-effectiveness of DHPs and refined estimates, Energy Trust discovered niche cases where these enhanced incentive offers would fail the Utility Cost test (UCT) based on where the DHP is installed.

⁴ Docket No. UM 1696, Order No. 14-266 (July 22, 2014).

Exception Request

Energy Trust requests cost-effectiveness exceptions for additional DHP measures installed in multifamily units and displacing supplemental fuels in order to provide more unified offerings where these niche cases will not be excluded, particularly in residences using “supplemental fuels” for heating. Supplemental fuels have been primarily wood, but also includes propane and fuel oil.

Staff received the initial request for these exceptions on February 21, 2020, citing Criteria A, C, and G.

- A) The measure produces significant non-quantifiable non-energy benefits.
- C) The measure is included for consistency with other demand side management (DSM) programs in the region.
- G) The measure is required by law or is consistent with Commission policy and/or direction.

These exceptions are for five measures. The first two measures address DHPs in single family homes across all heating zones where the supplemental fuels are in use:

Measure	UCT BCR at \$500 - \$800 (Standard incentives)	UCT BCR at \$2000	TRC BCR
Single family DHP in heating zone 1 w/ supplemental fuel	3.8	0.9	1.6
Single family DHP in heating zone 2/3 w/ supplemental fuel	1.1	0.3	1.3

One of these measures is estimated to have a UCT of 0.3 which is very low, leading Staff to request Commission approval through the Major Measure Exception process.

Three additional measures address situations where increasing the incentive to \$2,000 would lead to the UCT to fall below the cost-effectiveness level (1.0) on measures that are already under exception for failing the TRC:

Measure	UCT BCR at \$500 - \$800 (Standard incentives)	UCT BCR at \$2000	TRC BCR
Multifamily DHP in heating zone 1	2.3	0.9	0.6
Multifamily DHP in heating zone 1 w/ supplemental fuel	2	0.8	0.7

Multifamily DHP in heating zone 2/3 w/ supplemental fuel	2.2	0.9	0.7
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Energy Trust sees about 1,500 installations of DHPs a year. Energy Trust estimates that these measures will account for up to 2 percent of total DHP installations, which would be around 30. Energy Trust would like to gather information on prevalence. In 2020, Energy Trust was targeting 2,000 installations, and estimates around 40 will fall into these measure types.

Staff Assessment

The first criteria addresses the benefits of reducing the use of supplemental fuels:

- A) The measure produces significant non-quantifiable non-energy benefits.

Reducing the use of supplemental fuels leads to improved air quality both indoors and outdoors. The benefit of improved air quality is difficult to quantify. Staff agrees that this benefit qualifies as significant, non-quantifiable, and non-energy.

The second criteria was presented in the last DHP exception request for DHPs as a whole:

- C) The measure is included for consistency with other demand side management (DSM) programs in the region.

Staff agrees that these measures also fall under this criteria, based on the analysis presented in Order No. 19-301.

The third criteria addresses the impacts on Energy Trust's Diversity, Equity, & Inclusion (DEI) initiative.

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

As discussed in Order No. 19-301, the Commission approved DEI-specific performance metrics for Energy Trust at the August 27, 2019 Public Meeting.⁵ DHPs are an offering that has the potential to have a disproportionately positive impact on rural and low income housing and likely overlap with minority communities. Amid the broad range of opportunities for DHPs, the multifamily measures are especially likely to impact lower income customers and the homes with supplemental heat are more likely to be rural residences. Staff agrees that these measures align with newly established policy and direction around the DEI initiative.

⁵ See *In the Matter of Energy Trust of Oregon: Recommendations for Performance Measures*, Docket No. UM 1158, Staff Report for the August 27, 2019 Public Meeting.

Additionally, in Executive Order No. 20-04 item 5B(3), the Commission is directed to:

Prioritize proceedings and activities, to the extent consistent with other legal requirements, that advance decarbonization in the utility sector, and exercise its broad statutory authority to reduce GHG emissions, mitigate energy burden experience by utility customers, and ensure system reliability and resource adequacy.⁶

Staff believes that granting cost-effectiveness exceptions for supplemental fuels addresses this Executive Order by reducing GHG emissions and mitigating energy burden, while at the same time enhancing system reliability and resource adequacy.

At Energy Trust's February 19, 2020, Conservation Advisory Committee (CAC) meeting, Energy Trust discussed their plans to discuss a measure exception for these measures. Stakeholders were overall supportive. One stakeholder suggested placing a limit to check back in case the prevalence was much higher than expected. Staff agrees with this suggestion and proposes that Energy Trust alert OPUC Staff and CAC if installs under these exceptions exceeds 50 in a calendar year—2.5 percent of expected annual installs.

Staff remains concerned about how low the UCT score is for "Single family DHP in heating zone 2/3 w/ supplemental fuel". At 0.3, the score indicates this measure is currently not at all cost-effective. Staff recommends that this measure exception be temporary unless its cost-effectiveness improves by the end of the initial exception period.

Based on this analysis, Staff recommends granting cost-effectiveness exceptions for these five measures for two years. Granting these exceptions will allow Energy Trust to provide a consistent offering and have a better chance at reducing costs through the strategies discussed in Order No. 19-301.

Conclusion

Based on the benefits to air quality, (Criteria A), and consistency with other programs in the region (Criteria C), and the potential DEI impacts, (Criteria G), Staff recommends granting exceptions through March 31, 2022, for the identified DHP measures. Staff recommends these measures be included with other DHPs under exception in the Q1

⁶ Executive Order No. 20-04 found at: https://www.oregon.gov/gov/Documents/executive_orders/eo_20-04.pdf.

reports during this exception period (2020, 2021, and 2022) and to alert Staff if measures under these exceptions exceed 50 installs in a calendar year, or if cost-effectiveness is expected to decline.

PROPOSED COMMISSION MOTION:

Adopt Staff's recommendation to grant exceptions to cost effectiveness guidelines for DHP measures, as detailed in this memo.