

PUBLIC UTILITY COMMISSION OF OREGON
STAFF REPORT
PUBLIC MEETING DATE: January 14, 2020

REGULAR _____ CONSENT X EFFECTIVE DATE January 15, 2020

DATE: January 3, 2020

TO: Public Utility Commission

FROM: Anna Kim *ak*

THROUGH: Michael Dougherty *m* and JP Batmale *JP*

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

STAFF RECOMMENDATION:

The Oregon Public Utility Commission (Commission or OPUC) grant exceptions to the cost effectiveness guidelines for portions of the New Buildings Program, as requested by Energy Trust of Oregon (Energy Trust).

DISCUSSION:

Issue

Whether the Commission should grant cost effectiveness exception requests for portions of Energy Trust's New Buildings Program, 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:

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

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.

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).

recommendation presentation and the decision may occur on different meetings to allow more time for comments.

The 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;
- 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, the request goes through the Commission's major exception request process.

Analysis

In August 2019, Energy Trust requested an exception to the custom track and market solutions track of the New Buildings Program under Category B:

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

This request falls under the major exception category as these tracks account for roughly 44 percent of electric savings and 57 percent of gas savings. The two tracks also account for roughly half the cost of the entire New Buildings Program.

Staff analyzed Energy Trust's requests for cost effectiveness exceptions and presented initial recommendations at the December 17, 2019, Public Meeting. (Please see Attachment A for a copy of Staff's memo.) Staff proposed granting an exception to these tracks of the New Buildings Program for two years while the current program offerings continue to operate and collect information. During this time, Energy Trust would engage with its Conservation Advisory Council, Oregon Department of Energy, and Oregon Building Codes Division to consider the options for program modification. This process may include third-party analysis. Energy Trust would report back to Staff in Q3 of 2020 and 2021 with updates and progress towards new offerings.

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.

In response to Energy Trust's requests and Staff's memo, the Commission issued Order No. 19-448 on December 20, 2019, directing Staff to present final recommendations at the January 14, 2020, Public Meeting. This provided time for stakeholder comment in response to Staff's initial recommendations.

Since this Order, Staff has not received any comments from stakeholders on Staff's recommendations for granting an exception to portions of Energy Trust's New Buildings Program. Staff maintains its initial recommendations to grant an exception as described in Attachment A.

Conclusion

At the December 17, 2019, Public Meeting, Staff presented its initial cost effectiveness recommendations to the Commission for review. Staff proposed that the New Buildings Program custom and market solutions tracks be granted exceptions through December 31, 2021, to cost effectiveness requirements so that the program can continue to provide a range of offerings to builders and designers while taking the time to make modifications to the program. Staff was ordered to return with final recommendations at the January 14, 2020, Public Meeting. To date, no stakeholders raised objections to Staff's proposed exceptions. Based on this, Staff believes that its initial recommendations for cost effectiveness exceptions needing Commission approval (found in Attachment A) should be adopted by the Commission.

PROPOSED COMMISSION MOTION:

Adopt Staff's recommendation to grant exceptions to cost effectiveness guidelines for portions of Energy Trust's New Buildings Program, as detailed in this memo.

ITEM NO. RA3

**PUBLIC UTILITY COMMISSION OF OREGON
STAFF REPORT
PUBLIC MEETING DATE: December 17, 2019**

REGULAR CONSENT EFFECTIVE DATE January 15, 2020

DATE: December 9, 2019

TO: Public Utility Commission

FROM: Anna Kim

THROUGH: Michael Dougherty and JP Batmale

SUBJECT: OREGON PUBLIC UTILITY COMMISSION STAFF:
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STAFF RECOMMENDATION:

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Applicable Law

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Commission.⁴ The exceptions are as follows:

- H. 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.
- I. Inclusion of the measure will increase market acceptance and is expected to lead to reduced cost of the measure.
- J. The measure is included for consistency with other demand side management (DSM) programs in the region.
- K. Inclusion of the measure helps to increase participation in a cost effective program.
- L. The package of measures cannot be changed frequently and the measure will be cost effective during the period the program is offered.
- M. The measure or package of measures is included in a pilot or research project intended to be offered to a limited number of customers.
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- For major exception requests, Energy Trust provides an official filing and requests an exception. OPUC Staff makes formal recommendations to the Commission at a public meeting. Commissioners then make a decision on the exception request at the public meeting. For more significant requests, the recommendation presentation and the decision may occur on different meetings to allow more time for comments.

⁴ 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.

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The threshold by which Staff can consider minor exceptions was officially established in Docket No. UM 1696.⁶ 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;
- The measure's savings do not comprise more than 5 percent of a program's annual savings; and,
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If a measure does not meet all of the minor exception criteria, the request goes through the Commission's major exception request process.

Analysis

This analysis will a) introduce the program, b) describe the code change, c) describe the impact on the program, d) review the exception request, and e) present a proposal for further action.

Program

The Energy Trust's New Buildings Program works with building owners and developers of projects for new construction buildings and significant retrofits in the commercial and industrial sectors. By getting involved with customers early during the design phase, Energy Trust is able to provide energy-saving recommendations before key design decisions are made that may limit additional opportunities to invest in energy efficiency. Projects may work with the program for 18 months or more, and choose between three different tracks offered by the program:

- **Prescriptive:** Energy efficiency measure-level incentives for choosing one specific piece of equipment over another. (56 percent of program electric savings, 43 percent of program gas savings)
- **Market solutions:** Sets of recommendations based on models that had been established based on specific building types (ex: low-rise multifamily, or a school building). (21 percent of program electric savings, 23 percent of program gas savings)
- **Custom:** Recommendations based on modeling an individual building. (22 percent of program electric savings, 35 percent of program gas savings)

⁶ *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.

In 2018, Energy Trust completed 462 projects across the three tracks, saving over 47 million kWh and 860,000 therms on a budget of \$6 million. The New Buildings program may work with as much as half the newly constructed buildings in their service territory or more. Overall, the program scored a 2.5 UCT and 1.6 TRC in 2018.

Code Changes

In February 2019, Oregon adopted the 2019 Oregon Zero Energy Ready Commercial Code ("2019 Code") as part of the 2019 Oregon Structural Specialty Code effective October 2019 and replacing the previous 2014 Oregon Energy Efficiency Specialty Code ("2014 Code").⁷ This update in code was driven by Executive Order 17-20⁸ and results in a significantly higher baseline of efficiency for new construction and major retrofits. This will have lasting benefits in improved energy use going forward for buildings permitted January 1, 2020 and later.⁹ Another update to Oregon's code, including for energy efficiency, is anticipated to take effect within a year.¹⁰

While codes are expected to be updated periodically and often incrementally, this particular update resulted in more significant changes than usual between versions. The 2014 Code was based off of the 2012 International Building Code and the 2019 Code is based off of American Society of Heating, Refrigerating and Air-Conditioning Engineers ("ASHRAE") 90.1-2016.

The 2014 Code offered two pathways to meet code: the prescriptive path, which specified minimum requirements for various components of a building. The second was the custom compliance path, which allowed buildings flexibility to demonstrate that the simulated energy consumption cost for the proposed design would be equal to or less than that of a similar minimum code-compliant building. The 2019 Code continues to offer these two pathways, as well as a third pathway referred to as "Appendix G". Appendix G is a well-known national industry standard, with a method of modeling that the design and architecture communities are familiar with and have experience complying with.

New Code's Impact on the Program

The overall impact of the advances in codes due to the adoption of ASHRAE 90.1-2016 standards is an improvement of the baseline for energy usage in newly designed buildings going forward. For Energy Trust, a higher baseline results in all three tracks of the New Building Program having reduced savings to claim against. Energy Trust predicts that savings will decline 5-10% across all tracks based on the improvement to

⁷ See BCD comments at <https://www.oregon.gov/bcd/codes-stand/Pages/adopted-codes.aspx>

⁸ Executive Order 17-20 https://www.oregon.gov/gov/Documents/executive_orders/eo_17-20.pdf

⁹ 2019 Oregon Structural Specialty Code Adoption documentation is available here:

<https://www.oregon.gov/bcd/codes-stand/code-adoption/Pages/2019-osscc-adoption.aspx>

¹⁰ See BCD comments at <https://www.oregon.gov/bcd/codes-stand/code-adoption/Pages/adoption-update.aspx>

baseline alone. The prescriptive track will continue to operate as before, but with reduced overall savings. Some prescriptive measures will be removed because they have, in effect, become the new baseline. The other programmatic changes from the state's switch to ASHRAE standards will be found in the other two New Building Program tracks, custom and market solutions.

Under the current design of the custom track, two models must be produced and submitted: the building as it is to be built, and a proxy that represents the building if it were meeting minimum code requirements. Under the 2019 Code, Energy Trust anticipates that participants who choose the custom track of the program will wish to pursue the new ASHRE Appendix G Path in their planning because ASHRAE is a more widely recognized standard. Similarly, Energy Trust staff anticipates that participants interested in the Energy Trust's market solutions track would seek to establish their savings and incremental costs using documents submitted under ASHRAE's Appendix G Path as well.

As currently designed, the custom and market solutions tracks will have difficulty adapting to these code changes. Energy Trust believes that modifying the program to address the market shift to the Appendix G Path will be challenging as the Appendix G Path provides more flexibility in how the baseline model should be constructed, resulting in more challenge in calculating measure-level savings and costs than how the program is currently run. However, in conducting independent research and interviews, Staff could not verify this claim and believes time and data are necessary to establish if this is the case and how the Energy Trust New Building Program could be adapted.

The Exception Request

Energy Trust requests an exception to the custom track and market solutions track of the New Buildings Program. This request falls under the major exception category as these tracks account for roughly 44 percent of electric savings and 57 percent of gas savings. The two tracks also account for roughly half the cost of the entire New Buildings Program. While this is not the first time that an exception has been granted for a program, rather than on a measure-by-measure basis, it is not common.

Energy Trust requests the exception under Category B:

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

While these exception categories are written from the measure-level perspective, this category is still relevant to the exception requested. An exception to these tracks of the program is expected to lead to increased market acceptance of the range of energy efficiency measures that Energy Trust would recommend through these tracks and is also expected to lead to reduced costs of those recommended measures, as well as reduced costs over time in terms of modeling and estimating impacts. The alternative to

granting an exception is to shut down these tracks until Energy Trust is able to redesign their offerings for customers pursuing higher levels of energy efficiency in commercial building design.

In August 2019, Energy Trust originally requested a change to the OPUC's use of one of the two cost-effectiveness tests for the New Buildings Program. Energy Trust sought changes in the OPUC's measure-level application of the Total Resource Cost Test. Energy Trust gave three overall reasons for this request. The first was timing: Energy Trust was not prepared for the timing and speed of Oregon's February 2019 adoption of ASHRAE standards, per the Governor's 2017 Executive Order, and did not have enough time to develop the necessary program changes for the full implementation of code changes in 2020. Second, Energy Trust could not cost-effectively establish both the savings and the incremental cost differential between the two models submitted under ASHRAE's new Appendix G Path based on the current structure of the program. Lastly, the application of measure-level cost-effectiveness screening would be a significant burden on participants.

After working with both Energy Trust and other experts, Staff came to the conclusion that rather than consider making adjustments to the application of the well-established cost effectiveness tests on a rushed basis, Energy Trust should instead be afforded more space and time, under a broad, two-year program exception, to do three things:

1. Gather data and test cost effective re-design approaches for the custom track and market solutions track.
2. Dialogue with experts in the field and with Energy Trust's Conservation Advisory Council (CAC) in considering program track changes based on field observations.
3. Propose to the CAC and OPUC design changes to the program and/or changes to OPUC's cost effectiveness test(s) for the custom track and market solutions track.

Thus OPUC Staff requests an exception for the custom track and market solutions track of the New Buildings Program. Energy Trust will have time to study and test ways to modify or redesign these tracks to comply with measure-level testing of savings and costs.

Staff believes that a temporary exception for these program tracks is reasonable and important for the long-term growth of energy efficiency achievements in Oregon. Given the long-term duration of these projects, the program's goal of influencing early design decisions, and the lasting effects once a building is constructed, it is important to remain in the market and offer support to building owners and designers. It is also necessary to spend time to rethink how the program offerings should evolve to meet the needs of the

market and accommodate the new codes, particularly with another code change expected within a year.

Energy Trust has engaged with CAC at the September 2019 meeting to bring the topic to their attention, and again in November 2019 to update the CAC on the request for exception. At this meeting, CAC members expressed interest in being involved in the review and potential redesign of the program.

Proposed Action Plan for the Exception

Staff proposes granting an exception for the custom track and market solution track of the New Buildings Program for two years. The current program offerings will continue to operate and collect information on how customers will respond to the code changes, measures costs, and measures savings under the new codes.

During this time, Energy Trust will engage with CAC, Oregon Department of Energy, and Oregon Building Codes Division to consider the options for program modification. This process may include third-party analysis. Energy Trust will report back to Staff in Q3 of 2020 and 2021 with updates and progress towards new offerings.

Since this request constitutes a major decision affecting a large portion of a program, Staff recommends providing an additional period for public comment. Staff proposes the following:

- All stakeholders be given until January 2, 2020 to file comments or contact Staff regarding these recommendations.
- At the January 14, 2020 Public Meeting Staff will return to the Commission to summarize stakeholder positions and present its final recommendations on the exception request for Commission approval.

Conclusion

Staff concludes that the New Buildings Program custom and market solutions tracks should be granted exceptions through December 31, 2021, to cost effectiveness requirements so that the program can continue to provide a range of offerings to builders and designers while taking the time to make modifications to the program. Staff proposes that stakeholders be given ten business days to file comments or contact Staff regarding the recommended major cost effectiveness exceptions. Staff will present stakeholder comments and its final recommendations at the January 14, 2020, Public Meeting.

PROPOSED COMMISSION MOTION:

Adopt Staff's recommendation to grant exceptions to cost effectiveness guidelines for portions of Energy Trust's New Buildings Program, as detailed in this memo.

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