

VIA EMAIL

Technical Model Code Review Committee  
Oregon Building Codes Division  
1535 Edgewater Street NW  
Salem, Oregon 97304

August 21, 2020

**RE: Brief RECA Comments on Proposed Revisions to Chapter 11, Energy Efficiency, of the *Oregon Residential Specialty Code***

Members of the Technical Model Code Review Committee:

The Responsible Energy Codes Alliance<sup>1</sup> submits the following comments on proposed revisions to the *Oregon Residential Specialty Code (ORSC)* in response to a request for public comments issued August 11, 2020. **Specifically, RECA urges the Committee to adopt changes that meet or exceed the requirements of the 2018 IECC and to reject any changes that would weaken the efficiency of the current 2017 Residential Specialty Code.**

The *ORSC* has historically included a handful of measures that go beyond the *IECC*, and Oregon has long been a leader in building efficiency in the Northwest. However, Oregon has also left significant and cost-effective energy savings on the table by not adopting some provisions of the most recently published *IECC* as a baseline for improvements. In order to meet the aggressive efficiency targets set in Governor Brown's Executive Orders 17-20 and 20-04, we believe the Division should eliminate all current weakening amendments and reject any new amendments that would roll back efficiency. The following are brief comments on a few concerns we identified in the draft 2021 *ORSC*, which comments we may supplement going forward.

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<sup>1</sup> RECA is a broad coalition of product and equipment manufacturers, trade associations, building science experts, and energy efficiency advocates. Our mission is to promote the adoption of the latest model energy codes without substantive weakening amendments, and to help states and cities achieve the benefits their citizens have come to expect from modern building energy codes, such as ensuring occupant comfort and welfare through all weather conditions, saving energy and energy costs and reducing harm to the environment. Information about RECA's mission can be found on our website, [www.reca-codes.com](http://www.reca-codes.com).

## 1. The 2021 *ORSC* Should Meet or Exceed the Requirements of the 2018 *IECC*

For several years, Oregon has adopted a considerable number of changes to the *IECC*, some of which are improvements. For example, the requirement to select measures from a table of additional efficiency measures has allowed Oregon to boost efficiency while preserving maximum flexibility for builders. This approach has proven effective overall and has been mirrored in other states in recent years. We also note that several of the proposed changes in the draft 2021 *ORSC* would provide additional energy savings, such as the requirement to locate ducts inside conditioned space, the requirement to incorporate a heat recovery ventilator, more efficient lighting, and a performance path that requires annual energy use to be 8% less than the code baseline. RECA generally supports these and other reasonable changes that meet or exceed the requirements of the 2018 *IECC*.

However, one area in which the *ORSC* lags behind the *IECC* is the lack of an air leakage test requirement. The *IECC* has required each new home to be objectively tested for air leakage since the 2012 edition. Nearly every state that has adopted the *IECC* since 2012 requires all new homes to be tested to a low level of air leakage, providing both long-term energy savings and an important safety disclosure for homeowners, for a relatively low cost. The benefits of blower door testing are well-documented:

- Increased energy savings, by keeping the conditioned air inside the thermal envelope;
- Improved comfort, through reduced drafts; and
- Improved air quality, by keeping out dust, car exhaust, insects, and other pollutants out of the home.

Without an objective test for air leakage, the efficiency and air quality of the home could vary substantially. A visual inspection simply does not create the degree of certainty and accuracy that blower door testing provides. A recent U.S. DOE Field Study in Oregon showed that actual air leakage in new homes sampled for the study ranged from 1.7 ACH50 to 8.2 ACH50.<sup>2</sup> Obviously, a home with air leakage of 8.1 will waste enormous amounts of energy, reduce occupant comfort, and create other problems. However, a home with an air leakage rate of 1.7, without proper mechanical ventilation, could lead to indoor air quality issues. With an actual blower door test, problems can be identified and properly addressed before occupancy, benefitting homeowners and avoiding problems that can lead to expensive callbacks.

We believe Oregon is well-positioned to begin requiring blower door tests. In addition to the national model code requirement, there is already strong precedent in place in Oregon

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<sup>2</sup> See U.S. Dep't of Energy, *Oregon Residential Energy Code Field Study*, at 3.2 (Aug. 2020), available at <https://www.energycodes.gov/oregon-residential-energy-code-field-study>.

for blower door testing in voluntary programs. All homes rated to the Energy Trust of Oregon's Energy Performance Scoring (EPS), which account for a substantial number of new homes built in Oregon, are already required to be tested for air leakage. Likewise, homes built to Energy Star<sup>3</sup> (which uses 3 ACH50 as the baseline) and the U.S. DOE Zero Energy Ready Homes Program<sup>4</sup> (which uses 2-2.5 ACH50 as the baseline for Oregon's climate zones) are also required to be tested for air leakage. Moreover, because Executive Order No. 17-20 uses the DOE Zero Energy Ready Homes Program as the target level of efficiency by 2023,<sup>5</sup> we believe it is critically important to begin requiring blower door testing in the 2021 update, rather than wait until 2023.

## **2. The 2021 ORSC Should Not Be Less Stringent Than the 2017 ORSC in Any Aspect**

In addition to making the 2018 *IECC* the baseline for improvements to the code, RECA also urges the Division not to weaken any requirements in the current *ORSC*. The most significant weakening amendments in the draft 2020 *ORSC* appear to be changes associated with Table N1101.1(2), Additional Measures. The proposed amendments collapse the two categories of improvements in Table N1101.1(2) into a single category and reduce the number of required measures from two to one. For the most part, the additional measures are not substantially improved as compared to the 2017 *ORSC*, so we believe this would result in a net loss in energy efficiency as compared to the current code. We urge the Division to maintain the two-category structure of Table N1101.1(2) and to maintain the number of required measures.

The two-category structure of Table N1101.1(2) in the 2017 *ORSC* provides long-term benefits for homeowners and should be continued in the 2021 *ORSC*. Table N1101(2) is currently divided into two categories: Envelope Enhancement Measures and Conservation Measures. Builders must select one measure from each category, which helps ensure that new homes will have improved thermal envelopes and at least one form of improved

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<sup>3</sup> See Oregon and Washington Program Requirements for ENERGY STAR Certified Homes, Version 3.2 (Rev. 10), available at

[https://www.energystar.gov/sites/default/files/asset/document/Oregon%20and%20Washington%20Program%20Requirements%20ENERGY%20STAR%20Certified%20Homes%20Version%203.2\\_Rev10.pdf](https://www.energystar.gov/sites/default/files/asset/document/Oregon%20and%20Washington%20Program%20Requirements%20ENERGY%20STAR%20Certified%20Homes%20Version%203.2_Rev10.pdf)

<sup>4</sup> See DOE Zero Energy Ready Home National Program Requirements (Rev. 07), available at

<https://www.energy.gov/sites/prod/files/2019/04/f62/DOE%20ZERH%20Specs%20Rev07.pdf>

<sup>5</sup> See Executive Order No. 17-20, *Accelerating Efficiency in Oregon's Built Environment to Reduce Greenhouse Gas Emissions and Address Climate Change*, Section 4C (Nov. 6, 2017) available at

[https://www.oregon.gov/gov/Documents/executive\\_orders/eo\\_17-20.pdf](https://www.oregon.gov/gov/Documents/executive_orders/eo_17-20.pdf) ("Zero-Energy Ready Homes. The appropriate advisory board(s) and BCD are directed to conduct code amendment of the state building code to require newly constructed residential buildings to achieve at least equivalent performance levels with the 2017 U.S. Department of Energy Zero Energy Ready Standard by October 1, 2023.").

equipment efficiency. By collapsing these two categories into a single category, the draft 2021 *ORSC* would pit long-term improvements from building envelope upgrades against short-term equipment improvements, likely creating an incentive to select shorter-term improvements that may be lower in upfront cost. The 2017 *ORSC* correctly recognizes that there is no direct one-for-one trade-off between equipment efficiency and thermal envelope efficiency, because the two categories are regulated differently and provide different benefits to homeowners. We urge the Division to preserve the two categories in Table N1101.1(2) in the 2021 *ORSC*.

The draft code also reduces the number of required Additional Measures from two to one, even though five of the six individual measures are unchanged from the current code. This will clearly reduce overall efficiency in the code, at a time when Oregon should be looking for substantial improvements. We urge the Department to require new buildings to incorporate at least two measures from Table N1101.1(2) in the 2021 *ORSC* and going forward.

### **Conclusion**

RECA supports Oregon's efforts to improve the efficiency of residential buildings through regular code updates. We offer our assistance and experience in energy code adoption and implementation as you work to maximize building energy efficiency in this and future updates. We hope that you will not hesitate to draw on RECA's support and willingness to help. Please contact me at (202) 339-6366 if you have any questions or would like to discuss how RECA can be of assistance.

Sincerely,

Eric Lacey  
RECA Chairman

*RECA is a broad coalition of energy efficiency professionals, regional organizations, product and equipment manufacturers, trade associations, and environmental organizations with expertise in the adoption, implementation and enforcement of building energy codes nationwide. RECA is dedicated to improving the energy efficiency of homes throughout the U.S. through greater use of energy efficient practices and building products. It is administered by the Alliance to Save Energy, a non-profit coalition of business, government, environmental and consumer leaders that supports energy efficiency as a cost-effective energy resource under existing market conditions and advocates energy-efficiency policies that minimize costs to society and individual consumers. Below is a list of RECA Members that endorse these comments.*

Air Barrier Association of America

Alliance to Save Energy

American Chemistry Council

American Council for an Energy-Efficient Economy

CertainTeed LLC

EPS Industry Alliance

Extruded Polystyrene Foam Association

Institute for Market Transformation

Johns Manville Corporation

Knauf Insulation

National Fenestration Rating Council

Natural Resources Defense Council

North American Insulation Manufacturers Association

Owens Corning

Polyisocyanurate Insulation Manufacturers Association