



**State of Vermont**  
**Department of Public Service**  
112 State Street  
Montpelier, VT 05620-2601  
[www.publicservice.vermont.gov](http://www.publicservice.vermont.gov)

[phone] 802-828-2811  
[fax] 802-828-2342

Sen. Christopher Bray  
Legislative Committee on Administrative Rules  
115 State Street  
Montpelier, VT 05633

June 2, 2023

**Re: Additional Information, 2023 Residential Building Energy Standards (RBES)**

Dear Senator Bray,

Thank you for the opportunity to provide additional information regarding the final proposed rule for the 2023 Vermont Residential Building Energy Standards (RBES). This letter includes responses to the questions you noted were of particular interest, along with two clarifications relevant to the testimony presented at the last LCAR meeting. The Department of Public Service (Department) appreciates the Committee's continued consideration of the 2023 RBES and hopes the information below will prove helpful.

*Could you please re-introduce the rule and include the sort of high-level background information that is often presented — e.g. what statute/process/etc. caused this rulemaking, when, the timeline for it, and the rationale for it.*

In accordance with 30 V.S.A. § 51(c), the Department amends and updates the RBES through administrative rules. Under the statute, the Department is directed to revise the RBES promptly after the issuance of updated standards in the International Energy Conservation Code (IECC), which itself is revised every three years. The last RBES amendments were adopted in December 2019 and became effective in 2020, after the publication of the 2018 IECC. The 2023 RBES amendments have been prepared following the publication of the 2021 IECC.

Broadly speaking, the 2023 RBES seek to ensure the effective and efficient use of energy in residential buildings, in accordance with state energy and housing policy, by providing a minimum standard for energy efficiency in residential new construction and renovation. For Vermonters, the anticipated benefits of the updated standards are both economic and environmental: homes built to the 2023 RBES would be expected to have lower energy costs, reduced environmental impacts, and improved indoor air quality.

To achieve these results, the 2023 RBES regulate the design and construction of residential buildings to require adequate thermal insulation, low air leakage, and effective and efficient mechanical, electrical, ventilation, service water-heating, and illumination systems. Among the more significant changes from the 2020 RBES are:





- Increased insulation R-values for basements;
- tighter air sealing requirements;
- Requirements for efficient and balanced whole-house ventilation systems with heat recovery; and
- Electric Vehicle (EV) Capable requirements.

The Department’s current filing with LCAR represents the final proposed rule for the 2023 RBES. It is the final product of an extensive and iterative process which began long before the rule was formally proposed. After initial preparation work, the Department undertook broad-based public engagement efforts to develop the rule. Between April and May of 2022, the Department hosted two public meetings to present proposed language and gather input for modifications to the draft. These meetings included builders, architects, multi-family housing developers, low-income housing advocates, electric and gas utilities, energy efficiency utilities, staff from other state agencies, modular home manufacturers, and log home industry representatives.

The Department also convened an RBES Advisory Committee to delve deeper into the technical aspects of the energy standards. The full Advisory Committee met in March and June of 2022. The Department then modified the draft 2023 RBES to incorporate changes recommended by stakeholders and the Advisory Committee. Before filing a proposed rule, the Department encouraged public meeting participants, Advisory Committee members, and other stakeholders to comment on the latest draft. The Department accepted comments for over a month before presenting a proposed rule to the Interagency Committee on Administrative Rules, as the first step in the formal rulemaking process.

During rulemaking, the Department continued to scrutinize its proposal for the 2023 RBES and make modifications as it evaluated public comments and feedback. Perhaps most significantly, the Department recognized certain concerns as to the cost of meeting the new requirements, and the stringency of the requirements themselves. The final proposal presented to LCAR includes changes which, among other things (1) reduce the estimated additional upfront cost (over the existing 2020 RBES), from \$12,081 to \$1,018; (2) roll back proposed requirements for wall insulation and window values, leaving the existing standards in place; and (3) recognize the importance of building science principles in all design and construction. The Department plans to provide further technical guidance in the handbook which will accompany the 2023 RBES, and additional builder trainings following adoption.

Ms. Dexter-Cooper cited a requirement to develop this rule “promptly.” Can you help us understand what event started the “shot clock” on developing the rule so that we better understand this promptness concept?

The Department is required to update the RBES “promptly after the issuance of updated standards for residential construction under the IECC,” 30 V.S.A. § 51(c), and the IECC is updated every three years. The Department





typically starts the update process shortly after the International Code Council (ICC) publishes the new IECC and the U.S. Department of Energy (DOE) has issued their determination that the new IECC will improve energy efficiency in buildings subject to the code. The Department's process starts with issuing an RFP for a contractor to assist with the update, and one of the first tasks is to review the new provisions in the most recent IECC. From there the development proceeds as described above, with a robust public engagement and advisory process followed by administrative rulemaking.

The Department's experience in amending the RBES has shown that an overall update cycle of approximately three years is appropriate. First, the update process from beginning to end can take over two years, with variability based on timing and substance of the new IECC standards and DOE determination, the need for additional evaluation and stakeholder engagement, and the timing of the rulemaking process among other things. Following adoption, and before rule goes into effect, the Department must take time to develop all the accompanying materials including codebooks, RBES handbook, and the REScheck and COMcheck compliance software which is updated by the Pacific Northwest National Laboratory (PNNL). Second, the RBES update should be coordinated with the development of the Vermont Commercial Building Energy Standards (CBES), which are updated on a three-year cycle. RBES and CBES both address multi-family buildings, with RBES governing buildings three stories or below and CBES governing buildings above three stories. Certain requirements are aligned between the two sets of standards, and coordination is essential to ensure that the rules work together and include appropriate cross-references. Finally, given that the IECC is also updated every three years, it is prudent to finish updating the RBES before the next IECC cycle begins. As relevant here, the next IECC update will be published sometime in 2024.

*Can you explain the Department's desire to delay the effective date to 12/1/23? And if this is your formal plan, might you consider putting that in writing so that it could be considered as part of LCAR's evaluation?*

Pursuant to 30 V.S.A. § 51(c)(2), the effective date for RBES amendments must be at least three months after the date of adoption. Assuming adoption is completed in June, 2023, the earliest effective date allowed by statute would be in September. The Department is planning for an effective date of December 1, 2023, to ensure that there is enough time to develop the accompanying materials for the RBES, including codebooks, the RBES handbook, and the REScheck and COMcheck software, before the rule goes into effect.

*There was some discussion about moving the effective date into 2024; can you explain the consequences of such a delay?*

The next version of the IECC will be issued sometime in 2024, which will statutorily trigger the start of the Vermont update process shortly thereafter. One consequence of moving the effective date for the 2023 RBES into 2024 is the potential to encroach on the next update cycle, which in turn could delay future updates and move the timing out of sync with the IECC's cycle.





The timing of a December 2023 effective date (outside of the busiest building time of year) may be preferable to spring or summer of 2024, as it would better allow for builders, contractors and architects to attend trainings. Finally, moving the effective date into 2024 may mean lost opportunities with each home built, as the anticipated additional energy savings and greenhouse gas reductions from an improved energy code will not be realized.

### **Supplemental information and clarifications:**

#### Wall assembly requirements

At the last LCAR meeting, the Committee heard about the potential for negative consequences from poorly constructed wall assemblies, with one builder going so far as to say these problematic assemblies were required by the proposed 2023 RBES. The 2023 RBES do not require any particular wall assembly, nor do the standards require specific materials (such as spray foam) to be used in an assembly. Instead, there is a requirement for certain R-values which can be met in a variety of ways. It is important to note that any wall assembly, regardless of whether it meets RBES requirements, can be built incorrectly resulting in negative consequences. With that said, the Department has heard these concerns during the rulemaking process and does not take them lightly. Along with changes that have been made in the final proposed rule, including reduced wall insulation requirements, the Department plans to include a new building science chapter in the RBES Handbook as well as additional builder trainings following the RBES update. The following language is also part of the final proposed rule:

#### R402.2.16 Building Science

Consider building science principles in all design and construction. Buildings should be designed and constructed recognizing principles behind moisture vapor control approaches for cold climates. Maintain the envelope assembly's ability to adequately dry in at least one direction by not installing low-perm vapor retarder materials (e.g., vapor barrier) on both sides of an assembly, seek to optimize the assembly's ability to dry, and limit the potential for wetting. (From Applied Building Technologies Group, LLC).

#### Training and Technical Assistance

At the last LCAR meeting, the Committee heard testimony describing a lack of available training and technical assistance. As part of the RBES update process, both the Department and Efficiency Vermont (EVT) conduct trainings following the adoption of the new standards. After the last update, both the Department and EVT also posted these trainings on their websites for later viewing by those who could not attend in person. Additionally, as mentioned at the last LCAR meeting, the Department has designated \$875,000 of our SEP IJJA funding for builder/contractor training, including BPI certification. It is the Department's understanding that further training opportunities may follow from the proposal that was submitted to the DOE for code compliance work.





Beyond specific trainings, the Department is available as a resource and regularly assists with questions about the energy standards, interpretation of the standards, and other technical considerations. The Energy Code Assistance Center, housed at Efficiency Vermont, also answers questions and provides basic technical assistance.

Thank you for your consideration, and please feel free to contact me with any questions about this letter.

Sincerely,

/s/ Ben Civiletti

Ben Civiletti, Special Counsel  
Vermont Department of Public Service  
112 State Street  
Montpelier VT 05620  
802-622-4388  
[benjamin.civiletti@vermont.gov](mailto:benjamin.civiletti@vermont.gov)

