State of Vermont
Department of Public Service
112 State Street
Montpelier, VT 05620-2601
www.publicservice.vermont.gov

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

March 23, 2026

Legislative Committee on Administrative Rules
115 State Street
Montpelier, VT 05633

Re: Additional Information, RBES and CBES Final Proposed Rules

Dear Committee Members,

Thank you for the opportunity to provide additional information regarding the final proposed rules for the Vermont Residential and Commercial Building Energy Standards (RBES and CBES). This letter includes responses to the questions you noted were of particular interest. The Department of Public Service (Department) appreciates the Committee's continued consideration and hopes the information below will prove helpful.

What is the estimated up-front cost difference between the 2020 and 2024 RBES requirements?

The proposed RBES rule offers a choice between two previously adopted sets of standards: 2020 and 2024. The rule does not replace the 2024 standards and does not suggest that the 2024 requirements are uneconomic under all circumstances. Rather, one option under the rule results in lower upfront costs with slightly lower long-term energy savings (2020 standards) and one option results in higher upfront costs with higher long-term energy savings (2024 standards). The proposed rule will allow homeowners and builders to determine which pathway is more cost effective for them.

Though there is considerable variability in building types, the average home size in Vermont is roughly 2000 square feet. Examples submitted by builders in 2025 estimate upfront cost differences between the 2020 and 2024 RBES ranging from approximately $12,000 to approximately $25,000, for homes between 1600 and 2200 square feet. The cost analyses are attached here for the Committee's reference. The RBES is a performance-based code, meaning that it does not prescribe specific building practices: there are many potential ways to meet the required standards. It is important to note that costs can vary considerably depending on the size of the home and how designers and builders choose to meet the code.

VERMONT

Will the proposed rules create additional confusion for builders and designers, architects, etc?

The proposed rules will provide two clear compliance pathways, adding much-needed flexibility for residential and commercial construction in Vermont. The last update to the RBES and CBES was a full revision of the rules to adopt the 2024 standards. Those standards have been in effect since July of 2024. The Department has received feedback from some stakeholders that it has been a heavy lift for some builders and designers to gain familiarity with the new requirements. The RBES and CBES are inherently complex, and implementing new iterations can be a challenge. At this stage, however, there have been trainings across the state (and online) and the supporting materials for the 2024 standards are widely available. The proposed rules leave the 2024 standards unmodified while adding the option to follow the 2020 standards, which are also unmodified from their original format.

The 2020 standards were in effect for 4 years from 2020 to 2024, and all of the associated trainings, publications, and software tools are already available. In short: builders and designers are already familiar with both the 2020 and 2024 standards, and both sets of standards are accompanied by distinct resources and tools. To further minimize any confusion and ensure that the building community has access to all the necessary information, the Department will engage with stakeholders directly and work with partners – including the Energy Efficiency Utilities, the Vermont Builders and Remodelers Association, American Institute of Architect Vermont, and Associated General Contractors Vermont – to provide guidance and 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

Analysis #1

HUNTINGTON HOMES SINCE 1978

			PROPOSED
Client: Benson. 1872sf. 3 bed. 2 1/2 bath Location: Vermont Quote Date: July 8 2025	2015 Code Package 4	2020 Code Package 4	2024 Code Package 1
Modules: Base Price	$268,348	$268,348	$268,348
Delivery	$5,200	$5,200	$5,200
Crane	$4,500	$4,500	$4,500
2x8 EPS Walls	N/A	N/A	$5,456
Add Heatlock Glass - for 1 point	N/A	N/A	$1,276
Option Tax - If Needed			
Module Total:	**$278,048**	**$278,048**	**$284,780**
ONSITE WORK			
Site Improvements / Utilities	TBD	TBD	TBD
Secondary Wire Allowance	TBD	TBD	TBD
Foundation	$21,900	$21,900	$21,900
Add Foundation Wall Insulation. R15 Continuous	$4,680	N/A	N/A
Add Foundation Wall Insulation. R13+10. Includes Drywall Walls	N/A	$10,800	$10,800
Add R10 Underslab Insulation. - For 1 Point	N/A	$3,190	N/A
Add R20 Underslab Insulation - For 2 Points	N/A	N/A	$4,205
R60 Attic - for 1 point	N/A	N/A	Inc
1.5 ACH50. for 1 point	N/A	N/A	Inc
Onsite Carpentry, Materials, and General Conditions	$55,300	$55,300	$55,300
Propane Fired Boiler / Side Arm Hot Water - for 2 Points	$16,900	$16,900	N/A
Propane Fired Boiler / Hybrid Electric Water Heater - for 3 Points	N/A	N/A	$19,400
Change HBWW to low temp units. SlantFIn Series 80 - for 1 Point	N/A	N/A	$1,200
Onsite Plumbing	$6,800	$6,800	$6,800
Onsite HRV Unit. Blower Door Test under 2.0ACH50 - 3 Points	N/A	$4,800	N/A
Onsite HRV Unit.	N/A	N/A	$5,200
Onsite Electrical	$9,500	$9,500	$9,500
Solar Ready - for 1 Point	N/A	Inc	N/A
Appliance. Allowance	$10,000	$10,000	$10,000
Porch	$8,500	$8,500	$8,500
Contract Total	**$411,628**	**$425,738**	**$437,585**
	$220	$227	$234 $/sf
Net over 2015 Code		$14,110	$25,957
Net over 2020 Code			$11,847
% increase over 2015 Code		3.43%	6.31%
% increase over 2020 Code			**2.78%**

BOURBEAU CUSTOM HOMES INC
Making your dream home a reality

4657 Lower Newton Road
Swanton,VT 05488
(802) 527-0244 Office
(802) 527-0225 Fax
www.bhomes.org
sales@bhomes.org

Added Cost to comply to 2024 RBES Code compared to 2020 RBES Code

Pricing for average 1600 Sq ft house

Upgraded Features needed to comply to 2024 RBES	Required Feature to meet 2020 RBES	Added Cost to comply to 2024 RBES
R21 cavity wall plus R5 Continuos insulation, Includes added labor and material costs	R21 Cavity wall Insulation	$ 6,375.00
70% SRE Air to Air exchanger ducted and tested	Bath fans with automated timers	$ 6,000.00
Exterior Door jambs extenisions to accomadated thicker walls. Custom sized. Average 3 doors per house	Standard size sills	$ 600.00
Exterior wall Air sealed Electical Boxes	Standard electrical boxes	$ 85.00
Air sealing to meet minumum 2 air exchanges per hour, Materials and Labor	Minumum 3 air exchanges per hour	$ 650.00
Wider window custom jambs for thicker walls	Standard 2x6 wall depth jambs	$ 200.00
	Total Added cost to consumer including Builder Margin	$ 16,963.41

Analysis #3

Jim Bradley, Project Manager & Energy Professional

HERS Rater • BPI Auditor • PHIUS Certified Builder • EEN Professional

221 Cambridge Glen Road, Cambridge VT 05444

Cost to Install Rigid Insulation

July 2025

Rigid Wall Insulation Installation Calculator | Zip Code: 05403 | Square Feet*: 2200 | Update

Item details	Qty	Low	High
☑ **Rigid Insulation Cost** Non-discounted retail pricing for popular: 1" x 4' x 8' rigid foam insulated panels with foil facing. R6 rating per inch thickness. Calculated purchase quantity includes overage for typical waste and small future repairs.	2349 SF	$2,804	$3,871
☑ **Rigid Wall Insulation Installation Labor, Basic** Basic labor to install rigid insulation with favorable site conditions. Layout, fit, secure and edge seal rigid insulation boards. Includes planning, equipment and material acquisition, area preparation and protection, setup and cleanup.	31.9 h	$1,656	$3,512
☑ **Rigid Wall Insulation Installation Job Supplies** Cost of related materials and supplies typically required to install rigid insulation including: fasteners, vent flow baffles and sealing tape.	2349 SF	$124	$141
Totals - Cost To Install Rigid Insulation	2200 SF	$4,584	$7,524
Average Cost per Square Foot		$2.08	$3.42
Assume extension jambs for 20 openings @ $250-450 each		5,000	9,000
		$ 9, 584	**$16,524**

This analysis does not include the extra 1” of continuous rigid insulation that is recommended for Climate Zone 6 (+ $2,500).

It also does not include cost for seven (7) points.

Actual Costs for Prescriptive Path Points (2024 RBES)
Compiled July 15, 2025

Costs for "Points"

The analysis submitted to LCAR 4/24/23 was for the "average house size." No size stated.
RBES includes the area of unfinished basements, attics, storage, and utility areas. We are therefore using the category "Single family homes 2500 - 4000 sf" which is required to meet seven points.

Component		Description	Points	Incremental Cost above Base Code
Envelope	Slab	R-20 @perimeter and below all	2	$4,205
		R-25 @perimeter and below all	3	(more)
	Walls	R-28 (U-0.036)	1	$1,276
		R-35 (U-0.028)	2	(more)
		R-40 (U-0.025)	3	(more)
		R-48 SIPs (U-0.021)	4	(more)
	Ceiling	R-60 flat/R-49 slope (U-0.021)	1	
		R-80 flat/R-60 slopes (U-0.018)	2	
	Cold floors	R-49 (U-0.021)	1	
	Windows	Triple Pane U-0.27 or better	1	$1,200
		Triple Pane U-0.25 or better	2	(more)
		Triple Pane U-0.21 or better	3	Avg 20 windows @ $360 each = $7200
		Triple Pane U-0.18 or better	4	(more)
	Ext. doors	U-0.26	1	
Air leakage	Tight	0.11 CFM50/sf or better	1	
	Tigher	0.07 CFM50/sf or better	2	
	Tightest	0.03 CFM50/sf or better	3	
Mechanical ventilation	Testing	Testing as specified	1	
Heating & Cooling	Equipment	Energy Star AFUEs: gas furnace >95, oil furnace>85, …	1	Most contractors meet this standard already. $0 cost.
	Cold Climate Pump	Whole building - Energy Star v.6	5	$2,500
	Ground Source Heat Pump	Whole building - Energy Star	10	$53,500 above propane system if one can find a designer/installer
	Air to water Heat Pump	Whole building - COP > 2.5	5	Are these even available in Vermont?
	Advanced Wood Heat	Comply w REREVT.org eligible equipment	5	$44,500 above propane system
	Low Temp Hydronic system	Designed to meet peak heat demand w 120 deg water	1	$1,200
	Demand Responsive Thermostats	All thermostats equipped with demant responsive controls	1	$1,500 just for subpanel.
Water	Basic Heat Pump	Elec H20 heater UEF>2.20	3	
	Advanced Heat Pump	Elec H20 heater UEF>3.3	5	
	Low Flow	Shwrs <1.75 gpm, Lavs <1.0 gpm, toilets < 1.28gpf	1	
	Certified	WERS, Watersense, HERS	2	
	Drain Heat Recovery	on primary showers and tubs	1	
	Recirculation	System w push button for remote fixtures	1	
	Pipe insulation	R-4 throughout building	1	
	Demand Responsive Controls	Elec storage H2O heater w on-demand controls	1	
	Point of Use	Remote fixtures have local source of heat	1	
	Solar Ready Zone	R402.7 compliant	2	
	Solar Hot Water	System meets 50% of annual hot water load or better	2	
Renewables	On site generation	PV or other system: 1 point per 1.5 kw, max 4	varies	
Other	Monitoring	Whole building, min 5 circuits	1	
	Radon system	to EPA standards	1	
	Energy Model	Modeled and followed	1	$5,000 + outside Chittenden County
	Battery	Min 6kWh grid connected	1	
	Adv. Lighting Controls	50% of building is controlled continuously/automatically	2	