



From: Sara Davie [mailto:sdavie@veic.org]
Sent: Tuesdav. April 06. 2010 4:21 PM
To:
Subject: preliminary reports

Hi

As promised, I input the blower door score we got this morning into the computer model I had created, and the result was even better than expected!

In the initial model to see if you would be able to meet Energy Star, I had assumed a conservative air leakage rate of .50 ACH (air changes per hour), which works out to be over 2400 cfm (cubic feet per minute). Your air leakage of 306 cfm works out to be **.06** ACH. Fantastic job of air sealing!

I attached a couple of reports for you to compare if you wish. One is for that conservative model, and the other is with the actual blower door number. There are still some defaults in there, which are the same for both models-- they both assume an 88% AFUE heating system, they both have a default ventilation rate of 110 cfm (a typical bath fan), and I haven't yet replaced the default window data with the U-values on the stickers I saw this morning. The windows in particular are going to make the HERS Index number even better (lower) than it is now.

These reports will give you an idea of the heat loads, energy costs, etc. If there's anything in particular you would like to know, or if you have any questions on what I sent you, let me know.

Thanks
Sara Davie
860-4095 x1048
Vermont Energy Investment Corp.
255 South Champlain St.
Burlington, VT 05401
1-800-639-6069

Home Energy Rating Certificate



**5 Stars Plus
Verified Condition**

Uniform Energy Rating System

Energy Efficient									
1 Star	1 Star Plus	2 Stars	2 Stars Plus	3 Stars	3 Stars Plus	4 Stars	4 Stars Plus	5 Stars	5 Stars Plus
500-401	400-301	300-251	250-201	200-151	150-101	100-91	90-86	85-71	70 or Less

HERS Index: 56

General Information

Conditioned Area: 1824 sq. ft. HouseType: Single-family detached
 Conditioned Volume: 19200 cubic ft. Foundation: Conditioned basement
 Bedrooms: 2

Mechanical Systems Features

Heating: Fuel-fired hydronic distribution, Propane, 85.2 AFUE.
 Water Heating: Integrated, Propane, 0.78 EF, 40.0 Gal.

Duct Leakage to Outside: NA
 Ventilation System: Exhaust Only: 65 cfm, 33.0 watts.
 Programmable Thermostat: Heating: Yes Cooling: No

Building Shell Features

Ceiling Flat: NA Exposed Floor: NA
 Vaulted Ceiling: R-45 Window Type: U:0.28, SHGC:0.32
 Above Grade Walls: R-20, U-0.110 **Infiltration:**
 Foundation Walls: R-22.0 Rate: Htg: 350 Clg: 350 CFM50
 Slab: R-20.0 Edge, R-10.0 Under Method: Blower door test

Lights and Appliance Features

Percent Fluorescent Pin-Based: 34.80 Clothes Dryer Fuel: Propane
 Percent Fluorescent CFL: 43.50 Range/Oven Fuel: Propane
 Refrigerator (kWh/yr): 353.00 Ceiling Fan (cfm/Watt): 70.40
 Dishwasher Energy Factor: 0.79

The Home Energy Rating Standard Disclosure for this home is available from the rating provider.

REM/Rate - Residential Energy Analysis and Rating Software v12.71 Vermont

This information does not constitute any warranty of energy cost or savings.
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Rating Number: 6038K473

Export Build Run No: 15263

Certified Energy Rater: Sara Davie

Rating Date: May 10, 2010

Rating Ordered For:

Estimated Annual Energy Cost

Use	Verified Condition		
	MMBtu	Cost	Percent
Heating	47.9	\$1832	55%
Cooling	0	\$0	0%
Hot Water	13.5	\$519	15%
Lights/Appliances	20.6	\$857	26%
Photovoltaics	-0.0	\$-0	-0%
Service Charges		\$142	4%
Total		\$3351	100%

This home meets or exceeds the minimum criteria for all of the following:

- Federal Energy Policy Act, 2005*
- Vermont Energy Star Homes Criteria*
- Vermont Residential Energy Code*

* Compliance with criteria for this program is determined by the rater.

Vermont Energy Investment Corp.

255 South Champlain St.

Burlington, VT 05401

800-639-6069

Fax 802-658-1643

www.veic.org



VT RESIDENTIAL BUILDING ENERGY STANDARDS (RBES) CERTIFICATE

Site: _____

Electric Utility: VEC 3/09

Construction Start/Completion Date: _____ / _____

Project Type: Single Family Finished Conditioned Floor Area: 1824 Sq Ft

Number of units: 1 # Stories: Multi # Bedrooms: 2 Cond SqFt 1824

Foundation: Conditioned basement, Directly Conditioned Insulation Depth: full 8-Ft
 Crawlpace: NA Basement: R-22 Under Slab: R-10 Perimeter Slab Edge: R-20

Floors: Over Unheated spaces: R-0

Walls: Above Grade: R-20

Ceilings: Flat: NA Sloped: R-45

Doors: U- 0.23 Deflt Glass Door: U-0.29 NFRC

Windows: U-0.28 NFRC
Skylight NA U-0.28 NFRC basement

Net window glazing (rough opening) area as percent of gross exterior wall area: 10%

Heating System: Hydronic Boiler, 85.2% AFUE, Propane

Central Cooling System: None

Hot Water System: Indirect-fired storage tank, 0.78 EF, Propane

Ventilation System: Exhaust Only, 65 cfm, Performance Compliance Path

Code Compliance Path: Energy Rating

Home Energy Rating Index (85 or less = VT Residential Energy Code): 56

Accredited HERS Provider: VEIC Date: May 10, 2010

Other Energy Features: Energy Rating Number: 6038K473

Blower Door Test: 350 cfm50

Insulation performance is impacted by installation quality, thermal bridging and air barrier integrity

THE 1997 VERMONT RBES MEETS OR EXCEEDS IECC 2000 (EXCEPT LOG HOMES)

I certify to _____ (owner) the premises listed above have
 been constructed in accordance with the Vermont Residential Building Standards (RBES)
 created under 21 V.S.A.-266

Signature

Company

Print Name

Phone

Date

21 V.S.A. -266 requires that this certification label be permanently affixed to inside electrical service panel/heating or cooling equipment/nearby in a visible location, and a copy be provided to the Department of Public Service Energy Efficiency Division, 112 State Street, Drawer 20, Montpelier, VT 05620-2601, and filed in the town land records.

NOTE: Non-compliance with RBES may result in action for damages created under 21 V.S.A. -266.

This label does not specify all 1997 Vermont RBES requirements.

Questions? Call VT Dept of Public Service: 1-800-642-3281 (in-state) or 1-802-828-4056

**IN ORDER FOR YOUR HOME TO MEET THE VT ENERGY CODE
 THE BUILDER OR GENERAL CONTRACTOR IS REQUIRED TO:**

1. Verify the home complies with the appropriate Basic Requirements
(see enclosed green sheet)
2. Review and Sign the RBES certificate and then make 3 paper copies.
3. File one copy with the Town Clerk for the town in which the property is loca
4. Send one copy to: **Vermont Department of Public Service**
112 State Street, Drawer 20, Montpelier, VT 05620
5. The Builder or General Contractor keeps a copy of the RBES certificate.
6. Affix the original RBES certificate on or near the home's electrical panel.