*HORIZON-**Residential Energy Services NH LLC***
75 South Main St., Unit 7 PMB 185 Concord, NH 03301
tel: 603-369-4833 * E-mail: kevin@horizon-res.com
www.horizon-res.com

EPA Energy Star® Homes
Certification Report

For the property located at:

3 Sophie Lane

Durham, NH 03824

CHANGE FOR THE BETTER WITH ENERGY STAR

HORIZON - Residential Energy Services

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EPA *Energy Star*® Homes Certification Report

Date: August 25, 2010

To: Smithfield Construction Company, Inc.

Plans ID: HRES-G0-1742

-
3 Sophie Lane
Durham, NH 03824

Dear Smithfield Construction Company, Inc.:

Congratulations . . . I have completed the energy performance review of this new home and have determined that it meets the standards required to be labeled as an *EPA Energy Star® Home*.

This home was evaluated using the REM/Rate computer program developed by *Architectural Energy Corporation* of Boulder, Colorado. This program is the state of the art software in its field and has become the standard medium for determining a home's energy performance using the nationally recognized *Home Energy Ratings System (HERS)* program. This software is also used as the basis for determining if a home meets the required standards to be labeled as an *EPA Energy Star® Home*.

As you review this report, please remember that the results are not a precise prediction of overall energy consumption or utility bills, but rather a guide to compare energy costs between a number of house configurations, similar to the "miles per gallon" guide for automobiles. The program includes "average" values for numerous factors that can affect home energy usage such as weather patterns, number and living habits of the occupants, hot water usage, lights and appliance usage, thermostat settings, and certain details of construction. In a particular house, any of these factors can vary significantly from the assumptions made.

This report is based on the first and second floors, and partial basement as finished, insulated space.

Important Comments & Suggestions:

- A Blower Door test was performed on this home to calculate the number of times it naturally expels and replaces its internal air volume. Over the past 10 years the Blower Door has become the national and international standard method of evaluating and calculating the infiltration characteristics of a dwelling.

The Blower Door test I performed on this home calculated an estimated natural air change per hour rate at .11 ACHn.

- It is Critically Important that you develop a strategy to properly ventilate this home for both Indoor-Air-Quality and long term Building Durability (moisture) reasons. Current ASHRE 62.2 national ventilation standards recommend that you operate the bathroom exhaust fan (s) at a minimum continuous rate of 71 cubic feet per minute (cfm) 24 hours per day. (See attached Air Leakage Report)

- Important – If you have, or will install combustion appliances in this home, hard wired or plug-in Carbon Monoxide Alarms should be installed on each floor as per manufacturers instructions.

- The HVAC equipment specifications used in the REM/Rate model are based on the designed performance factors of that equipment. Any deviations in actual performance from those design specifications in your home are Warranty issues that are the sole responsibility of your Heating/Cooling design, and installation contractors.

- It is strongly suggested that as the homeowners you install one or two layers of simple window coverings to the full height of the window units and the patio doors. A strategy of covering as much of the window glazing as possible on cold winter nights and hot summer days will significantly increase both winter and summer comfort and reduce energy usage.

- Develop a strategy to install compact fluorescent light bulbs, starting with the light fixtures that are used the most hours per day.

- Install low flow aerators and shower heads.

- Develop a strategy to purchase Energy Star Rated appliances and electronic devices.

Enclosed please find your official *Energy Star® Labeled Home* certificate that can be framed or filed with your other important documents. Also enclosed is an *Energy Star® Labeled Home* sticker that should be attached in a permanent location of the home such as the electrical entrance box.

Thank you for using *Horizon-RES* as your *EPA - Energy Star® Homes* Ratings Partner. Please feel free to contact me at any time if you should have questions.

Best Regards,

Kevin Hanlon
Residential Energy Consultant

ATTACHMENTS:

- Home Energy Ratings System (HERS)

- REM/Rate - Energy Star Homes Report

- REM/Rate - Energy Star Homes Verification Summary

- REM/Rate - Fuel Summary Report

- REM/Rate - Air Leakage Report

- RESNET Home Energy Rating - Standard Disclosure

- EPA Energy Star Homes Certificate

- EPA Energy Star Homes Label (to be attached to electrical box)

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Home Energy Ratings System (HERS) Report

In 1992, Congress instructed the US Department of Energy (DOE) to work with the US Department of Housing and Urban Development (HUD), and the lending industry to develop a nationally recognized uniform system to measure and rate the energy performance of new and existing dwellings. In 1995 DOE published these guidelines and they have been gradually taking hold around the country. Starting in 2006, the revised method rates a home on a scale of 0 to 100 with 0 being a highly efficient home and 100 being a house that is built to the energy code minimum. The system is based on comparing the house being rated, referred to as the design house, to a computer model of the exact same house if it were built to minimum current energy use standards, referred to as the reference house. A score of 100 would be a house which meets current energy consumption standards. For ease of understanding, the scale can also be converted to a "star" system as follows:

* * *

An index of 100 is a house built approx to the IECC 2004 National Energy Code.

In this region:

An index of 80 or LESS, along with other requirements, is necessary to achieve the Energy Star label.

HERS Index, Star and Efficiency Scales for Rated Homes

HERS Index Range	Stars	Relative Energy Efficiency (With respect to Reference Home)			
250 - 201	**+	250%	to	201%	Less Efficient
200 - 151	***	200%	to	151%	Less Efficient
150 - 101	***+	150%	to	1%	Less Efficient
100 - 91	****	1%	to	9%	More Efficient
90 - 86	****+	10%	to	14%	More Efficient
85 - 71	*****	15%	to	29%	More Efficient
70 - 0	*****+	30%	to	100%	More Efficient

AIR LEAKAGE REPORT

Date:	August 24, 2010	Rating No.:	HRES-G0-1742
Building Name:	HRES-G0-1742	Rating Org.:	Horizon RES NH. LLC
Owner's Name:	TBD	Phone No.:	603-369-4833
Property:	3 Sophie Lane	Rater's Name:	Kevin Hanlon
Address:	Durham, NH 03824	Rater's No.:	HRES-02
Builder's Name:	Smithfield Constrution Co Inc.		
Weather Site:	Concord, NH	Rating Type:	Confirmed Rating
File Name:	HRES-G0-1742._w_GEO option.blg	Rating Date:	Aug 4, 2010

Whole House Infiltration

	Blower door test	
	Heating	*Cooling*
Natural ACH:	0.11	0.08
ACH @ 50 Pascals:	1.90	1.90
CFM @ 25 Pascals:	903	903
CFM @ 50 Pascals:	1417	1417
Eff. Leakage Area:	77.8	77.8
Specific Leakage Area:	0.00013	0.00013
ELA/100 sf shell:	0.83	0.83

Total Duct Leakage to Outside

CFM @ 25 Pascals:	N/A
CFM25 / CFMfan:	N/A
CFM25 / CFA:	N/A
CFM per Std 152:	N/A
CFM per Std 152 / CFA:	N/A
CFM @ 50 Pascals:	N/A
Eff. Leakage Area:	N/A
Thermal Efficiency:	88.00

Ventilation

Mechanical:	Exhaust Only
Sensible Recovery Eff. (%):	0.0
Total Recovery Eff. (%):	0.0
Rate (cfm):	72
Hours/Day:	24.0
Fan Watts:	14.0
Cooling Ventilation:	Natural Ventilation

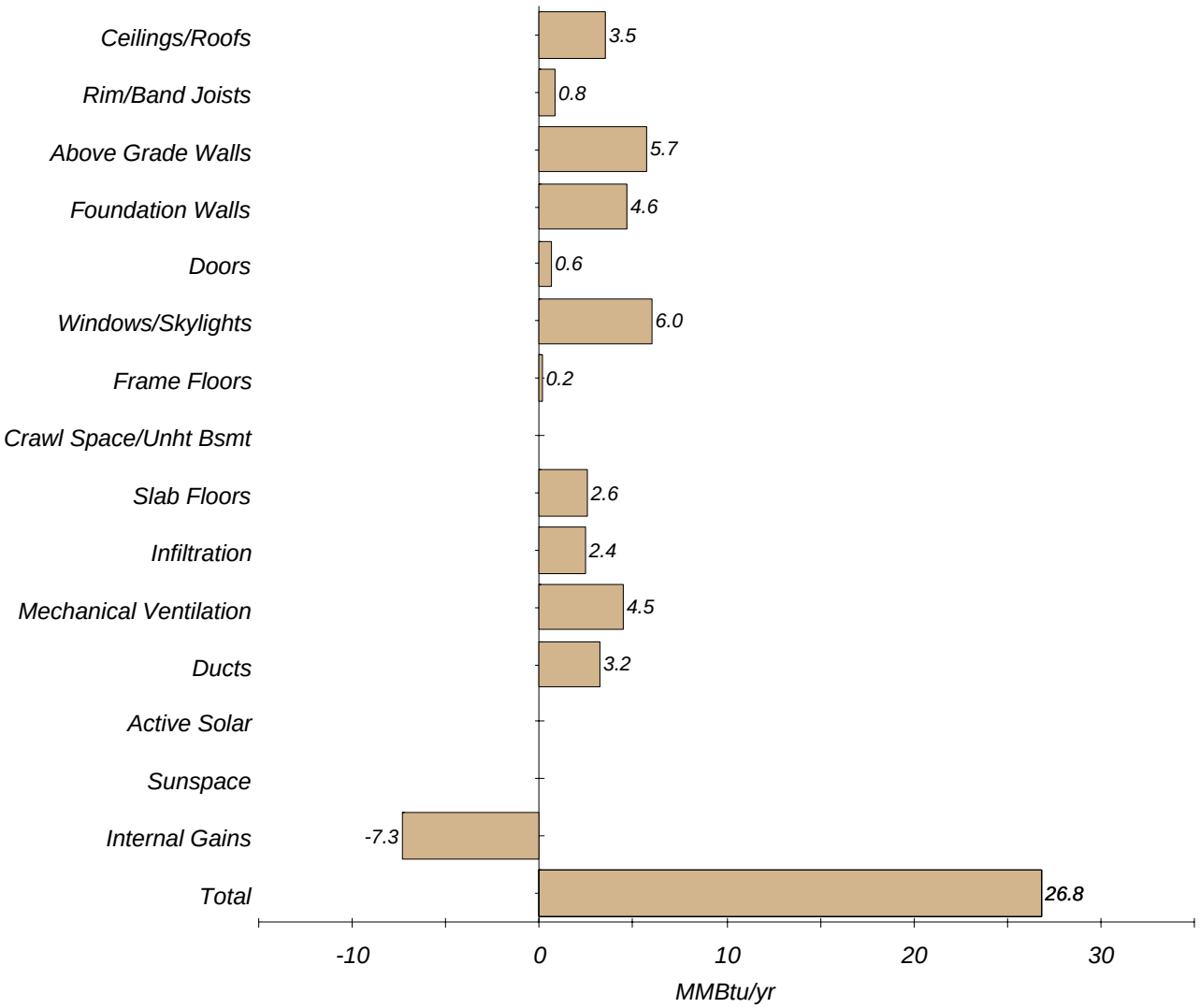
ASHRAE 62.2 - 2003 Ventilation Requirements

For this home to comply with ASHRAE Standard 62.2 - 2003 Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings, a minimum of 71 cfm of mechanical ventilation must be provided continuously, 24 hours per day. Alternatively, an intermittently operating mechanical ventilation system may be used if the ventilation rate is adjusted accordingly. For example, a 142 cfm mechanical ventilation system would need to operate 12 hours per day, as long as the system operates to provide required average ventilation once each hour.

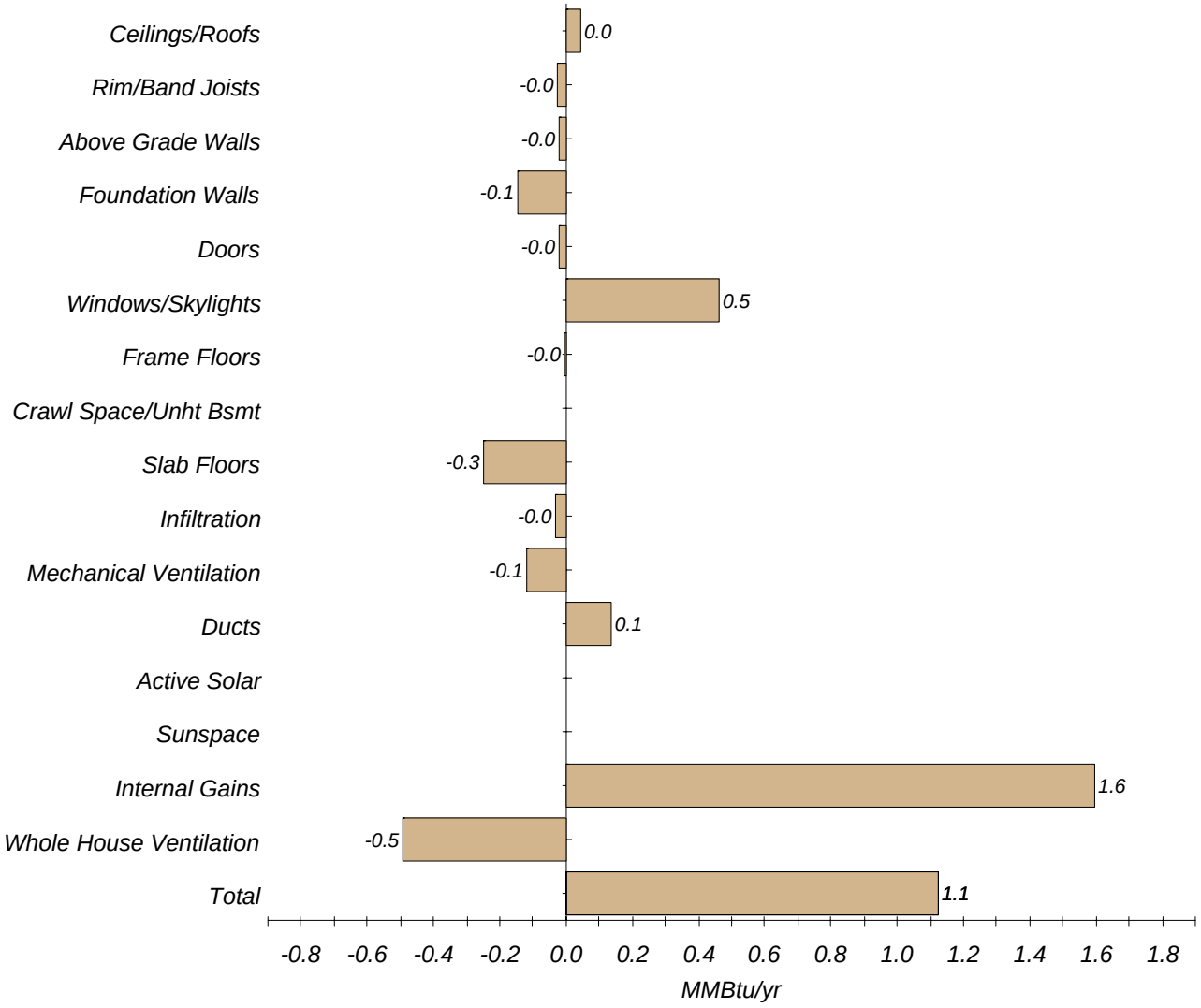
COMPONENT CONSUMPTION SUMMARY

Date:	August 24, 2010	Rating No.:	HRES-G0-1742
Building Name:	HRES-G0-1742	Rating Org.:	Horizon RES NH. LLC
Owner's Name:	TBD	Phone No.:	603-369-4833
Property:	3 Sophie Lane	Rater's Name:	Kevin Hanlon
Address:	Durham, NH 03824	Rater's No.:	HRES-02
Builder's Name:	Smithfield Constrution Co Inc.		
Weather Site:	Concord, NH	Rating Type:	Confirmed Rating
File Name:	HRES-G0-1742._w_GEO option.blg	Rating Date:	Aug 4, 2010

Heating Season



Cooling Season



FUEL SUMMARY

Date:	August 24, 2010	Rating No.:	HRES-G0-1742
Building Name:	HRES-G0-1742	Rating Org.:	Horizon RES NH. LLC
Owner's Name:	TBD	Phone No.:	603-369-4833
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Address:	Durham, NH 03824	Rater's No.:	HRES-02
Builder's Name:	Smithfield Constrution Co Inc.		
Weather Site:	Concord, NH	Rating Type:	Confirmed Rating
File Name:	HRES-G0-1742._w_GEO option.blg	Rating Date:	Aug 4, 2010

		HRES-G0-1742
Annual Energy Cost ($/yr)		
Propane	$	545
Electric	$	3161
Annual End-Use Cost ($/yr)		
Heating	$	1255
Cooling	$	53
Water Heating	$	545
Lights & Appliances	$	1853
Photovoltaics	$	-0
Service Charges	$	102
Total	$	3808
Annual End-Use Consumption		
Heating (kWh)		7862
Cooling (kWh)		330
Water Heating (Gallons)		182
Lights & Appliances (kWh)		11580
Annual Energy Demands (kW)		
Heating		12.3
Cooling		1.3
Water Heating (Winter Peak)		0.0
Water Heating (Summer Peak)		0.0
Lights & Appliances (Winter Peak)		1.0
Lights & Appliances (Summer Peak)		2.3
Total Winter Peak		13.3
Total Summer Peak		3.6

Utility Rates:

Electricity:	El,Kwh,.160,PSNH
Propane:	PR,Gal.$3.00

2005 EPACT ENERGY EFFICIENT HOME TAX CREDIT

Date:	August 24, 2010	Rating No.:	HRES-G0-1742
Building Name:	HRES-G0-1742	Rating Org.:	Horizon RES NH. LLC
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File Name:	HRES-G0-1742._w_GEO option.blg	Rating Date:	Aug 4, 2010

Normalized, Modified End-Use Loads (MMBtu/year)

	2004 IECC 50% Target	*As Designed*
Heating:	57.7	44.1
Cooling:	12.6	5.6
Total:	70.2	49.6

Envelope Loads (MMBtu/year)

	2004 IECC 90% Target	*As Designed*
Heating:	103.8	69.9
Cooling:	22.6	7.7
Total:	126.4	77.7

This home MEETS the requirements for the residential energy efficiency tax credits under Section 1332, Credit for Construction of New Energy Efficient Homes, of the Energy Policy Act of 2005.

As demonstrated above, this dwelling unit has a projected level of annual heating and cooling energy consumption that is at least 50% below the annual level of heating cooling energy consumption of a reference dwelling in the same climate zone, and the building envelope components improvements alone account for at least 10% of those savings. The projected heating and cooling energy savings above have been calculated in the manner prescribed in Section 2.02 of Notice 2006-27 of the Internal Revenue Service. Field inspections of the dwelling unit performed by the undersigned eligible certifier during and after the completion of construction have confirmed that all features of the home affecting such heating and cooling energy consumption comply with the design specifications provided to the undersigned certifier.

Building Features

Ceiling Flat:	R-52	Slab:	R-10.0 Edge, R-0.0 Under
Vaulted Ceiling:	R-37	Duct:	R-5.0
Above Grade Walls:	R-23	Window:	U-Value = 0.260, SHGC = 0.170
Foundation Walls:	R-10.0	Heating:	Ground-source heat pump, Electric, 3.5 COP.
Exposed Floor:	R-42	Cooling:	Ground-source heat pump, Electric, 18.0 EER, w/DSH.

Under penalties of perjury, I declare that I have examined this certification, including accompanying documents, and to the best of my knowledge and belief, the facts presented in support of this certification are true, correct, and complete.

Name:	Kevin Hanlon	Signature:	
Company:	Horizon RES NH. LLC	Date:	August 24, 2010
Address:	75 S. Main St.,Unit 7, PMB 185, Concord, NH 03301		

ENERGY STAR HOME VERIFICATION SUMMARY

Date:	August 24, 2010	Rating No.:	HRES-G0-1742
Building Name:	HRES-G0-1742	Rating Org.:	Horizon RES NH. LLC
Owner's Name:	TBD	Phone No.:	603-369-4833
Property:	3 Sophie Lane	Rater's Name:	Kevin Hanlon
Address:	Durham, NH 03824	Rater's No.:	HRES-02
Builder's Name:	Smithfield Constrution Co Inc.		
Weather Site:	Concord, NH	Rating Type:	Confirmed Rating
File Name:	HRES-G0-1742._w_GEO option.blg	Rating Date:	Aug 4, 2010

Building Information

Conditioned Area (sq ft):	4107	Housing Type:	Single-family detached
Conditioned Volume (cubic ft):	44822	Foundation Type:	Conditioned basement
Insulated Shell Area (sq ft):	9403	HERS Index:	50 *****+
Number of Bedrooms:	3		

Building Shell

Ceiling w/Attic:	A,R25,R27,CE,1,16,8 U=0.020	Window/Wall Ratio:	0.13
Vaulted Ceiling:	V,R0,R37,Ce,1,16,12 U=0.031	Window Type:	.26 / .17
Above Grade Walls:	R10,R13,1,16,4 U=0.043	Window U-Value:	0.260
Found. Walls (Cond):	I,R10,R0, R=10.0	Window SHGC:	0.170
Found. Walls (Uncond):	None	Infiltration:	Htg: 1417 Clg: 1417 CFM50
Frame Floors:	H,R42,BlCe,1,12,16 U=0.026	Measured Duct Leakage:	RESNET/HERS default
Slab Floors:	R10,4,R0,99,1,NR U=0.079	Leakage to Outside:	RESNET/HERS default

Mechanical Systems

Heating:	Ground-source heat pump, 48.0 kBtuh, 3.5 COP.
Cooling:	Ground-source heat pump, 42.0 kBtuh, 18.0 EER, with Desuperheater.
Water Heating:	Conventional, Prop, 0.65 EF.
Programmable Thermostat:	Heat=Yes; Cool=Yes

Note: Where feature level varies in home, the dominant value is shown.

This home MEETS OR EXCEEDS the EPA's requirements for an ENERGY STAR Home.

An ENERGY STAR® Qualified Home

This home built at

3 Sophie Lane, Durham, NH

by Smithfield Constrution Co Inc.
has been verified by Horizon RES NH. LLC, an independent professional or organization,
to meet or exceed strict energy efficiency guidelines
set by the U.S. Environmental Protection Agency.

HERS Index: 50

Aug 4, 2010

David Lee
Chief
ENERGY STAR Residential Branch

Sam Rashkin
National Director
ENERGY STAR for Homes

www.energystar.gov

REM/Rate - Residential Energy Analysis and Rating Software v12.83

RESNET HOME ENERGY RATING
Standard Disclosure

For home located at: 3 Sophie Lane

City: Durham **State:** NH

1. [X] The Rater or the Rater's employer is receiving a fee for providing the rating on this home.

2. [ ] In addition to the rating, the Rater or Rater's employer has also provided the following consulting services for this home:

- [ ] A. Mechanical system design
- [ ] B. Moisture control or indoor air quality consulting
- [ ] C. Performance testing and/or commissioning other than required for the rating itself
- [ ] D. Training for sales or construction personnel
- [ ] E. Other (specify below)

3. [X] The Rater or Rater's employer is:

- [ ] A. The seller of this home or their agent
- [ ] B. The mortgagor for some portion of the financed payments on this home
- [X] C. An employee, contractor or consultant of the electric and/or natural gas utility serving this home

4. [ ] The Rater or Rater's employer is a supplier or installer of products, which may include:

	Installed in this home by:		**OR**	**Is in the business of:**	
HVAC systems	[ ] Rater	[ ] Employer		[ ] Rater	[ ] Employer
Thermal insulation systems	[ ] Rater	[ ] Employer		[ ] Rater	[ ] Employer
Air sealing of envelope or duct systems	[ ] Rater	[ ] Employer		[ ] Rater	[ ] Employer
Windows or window shading systems	[ ] Rater	[ ] Employer		[ ] Rater	[ ] Employer
Energy efficient appliances	[ ] Rater	[ ] Employer		[ ] Rater	[ ] Employer
Construction (builder, developer, construction contractor, etc.)	[ ] Rater	[ ] Employer		[ ] Rater	[ ] Employer
Other (specify below):	[ ] Rater	[ ] Employer		[ ] Rater	[ ] Employer

I attest that the above information is true and correct to the best of my knowledge. As a Rater or Rating Provider I abide by the rating quality control provisions of the Mortgage Industry National Home Energy Rating Standard as set forth by the Residential Energy Services Network (RESNET). The national rating quality control provisions of the rating standard are contained in Chapter One 4.C.8 of the standard and are posted at http://www.natresnet.org/accred/standards.pdf. This home may have been verified under the provisions of Chapter Six, Section 603, "Technical Requirements for Sampling" of the Standard.

Kevin Hanlon — Rater's Printed Name

HRES-02 — Certification #

Rater's Signature

August 24, 2010 — Date

RESNET Form 0300-2