New Hampshire Energy Code Application for Certification of Compliance

Addition – Sunroom Addition – Renovation Data page

A. Owner/Owner Builder:
(Company Name if applicable)

Name:

Mail Address:

City: State: Zip:

Phone:

E-Mail:

B. General Contractor (Company Name)

Name:

Mail Address:

City: State: Zip:

Phone:

E-Mail:

C. Proposed Structure: Map Lot

Street:

City:

D. Official Use Only: Date Rec'd:

Approved by: Date:

Approval Number:

E. Type of Construction:

☐ Addition
☐ Conditioned Sunroom-Addition
☐ Renovation

Stamp:

F. Compliance Method:

☐ Performance Package
☐ NH Architect or Engineer Certification
☐ Rescheck Software
☐ Other
☐ Exempt (if exempt complete box I)

G. Who is Submitting this Application?

☐ Owner
☐ Designer
☐ Builder
☐ Other (explain)
☐ Architect

H. Additional Information:

Total Floor Area (heated space) _____ ft^2

Heating System AFUE % _____%

Basement heated?
☐ Yes ☐ No
☐ Full Basement
☐ Walk Out Basement
☐ Slab on grade
☐ Other_____

Highest Window U Value 0 ._____

Is a new heating system being installed ☐ Yes ☐ No

Primary Fuel Type: ☐ Oil ☐ Gas ☐ Propane ☐ Electric ☐ Wood ☐ Other

Heating System Type ☐ Hot Water ☐ Hot Air ☐ Stove ☐ Resistance ☐ Heat Pump

I. Structure is EXEMPT because:

☐ On a historic register
☐ Addition less than 150 ft^2
☐ Contains no provision for fossil fuel heat.
☐ Low energy use (less than 1 watt/ ft^2)

Signature_____ Print Name_____ Date_____

J. Drawing of Structure (you may attach a plan in lieu of this page) include side view if sloped ceilings are planned. Note window and door locations & identify to correspond with window list.)

Scale: One square equals _____ feet

Use This form for Addition - Conditioned Sunroom - Renovation ONLY	ADDITION or RENOVATION TAKE OFF WORKSHEET	Use this form for Addition - Conditioned Sunroom - Renovation ONLY

U. Window Area Including: Windows, Basement windows in conditioned basements, Glazed Doors Skylights

	Width (in inches)	X Height	X number=	R.O. Area	u-value	Model	Manufacturer
A		x	x =	in^2			
B		x	x =	in^2			
C		x	x =	in^2			
D		x	x =	in^2			
E		x	x =	in^2			
F		x	x =	in^2			
G		x	x =	in^2			
H		x	x =	in^2			
I		x	x =	in^2			
Total Inches^2 Glass (Glazing) =				in^2	÷ 144 =		**Ft^2 Enter this number in Box X page 6 Glazing Area**

V. Above Grade Walls Surrounding By Heated Space

Add lengths of walls (including basement walls more than 50% above grade if Floor (basement ceiling) is not insulated) in feet.

Floor	Front	Side 1	Back	Side 2	Total	Wall Height	Gross Wall Area
1st		+	+	+	=	x	=
2nd		+	+	+	=	x	=
other		+	+	+	=	x	=
						Total	Ft^2 (Enter this Number in Box X Page 6 gross wall area.)

Ceilings Over Heated Space

W.	Length X	Width =	Surface Area
Flat	x		
Sloped	x		+
Total (Enter this Number in Box X page 6 gross Ceiling area.)			

Use this form for Additions, Conditioned Sunrooms and Renovations Only	**Addition Performance Package Worksheet**	Use this form for Additions, Conditioned Sunrooms and Renovations Only

X. YOUR PLANNED GLAZING PERCENTAGE	Y. ENTER CHOSEN PERFORMANCE PACKAGE HERE --→
100 x_____ / (_____ + _____) = _____ Glazing Area (from Box U) (Gross Wall Area (From Box V + Ceiling Area) = From Box W) Glazing Percentage	_____

Z.	PACKAGE REQUIREMENTS		YOUR PROPOSED STRUCTURE	
	Copy selected performance package requirements from below.		Planned R or U Values	Brands / Models / insulation type and thickness
Window U Value (smaller U is better)				
Ceiling R Value				
Above Grade Wall R Value				
Floor R Value				
Door U-Value				
% AFUE Efficiency				
Basement Wall				
Slab				

Choose an appropriate performance package from the chart below.

	Addition pkgs. Up to 40% Glass *			Sunroom over 40% Glass**	Renovation ***
Package ->	A-1	A-2	A-3	Sunroom	Renovation
Window U Value (Maximum)	.35	.35	.35	.35	.35
Ceiling R Value	49	30	38	24	49
Above Grade Wall R	21	21	19	13	21
Floor R Value	21	30	30	21	21
Door U-Value Maximum	.35	.35	.35	.35	.35
Basement Wall	11	21	19	11	11
Slab	13	11	11	13	13

* For **Addition and Conditioned Sunroom Additions** Glazing Percentages refer to **Window Area / (Wall + Ceiling** Area) ***Renovations:** Enter efficiency values for those components which are altered as part of renovations.	**Conditioned Sunroom Additions** must meet the above specifications as well as the following criteria: a. Maximum of 500 Square feet floor area. b. Must maintain thermal isolation from the rest of the house. c Must have a separate heating system or zone with the thermostat in the conditioned sunroom. d. May not be used for kitchen or sleeping room.

Directions for showing compliance with the New Hampshire Residential Energy Code
Additions - Sunroom Additions - Renovations

This Booklet contains the *Application for Certificate of Compliance* for the New Hampshire Energy Code for additions, sunroom additions and renovations to residential and small commercial structures. ***Please read these directions!*** If you still need further help please call us for assistance.

You Must obtain Certification if you plan to:

- Building an addition to a structure
- Constructint an addition to a commercial structure under 4000 square feet. (You may use commercial code instead)
- Alter (Renovate) a structure.
- Winterize a seasonal home or part of an existing structure, such as finishing a room over a garage

Construct an addition with more than 150 square feet of total floor space

You May be exempt .if you are:

- Renovating or adding to a certified historic building

In municipalities with a building code, deal directly with your building inspector; otherwise submit this completed application to the Public Utilities Commission.

Express Instructions - How to prepare this application

Addition	Complete page 1 Addition-Sunroom Addition – Renovation Data Page Boxes A- H Complete page 2 Drawing of Structure Box J or attach a plan. Complete page 3 take off work sheet Boxes U-W Complete page 4. Addition performance Package Worksheet Boxes X-Z
Sunroom addition	Complete page 1 Boxes A, B, C, D, E, G, H, and I Complete page 2 Box J Complete page 3 Boxes U, V, W Complete page 4 Boxes X,Y,Z
Renovation	Complete page 1 Boxes A, B, C, D, E, G, H, and I Complete page 4 Box Z*

* If you renovate a component of the structure which relates to the energy efficiency of that structure, you must bring the effected component(s)up to code. For example if you are renovating one wall and in the process will replace sheet rock (open up a wall) and replace a window, must insulate the wall to code and install a window which meets the code.

Exceptions :

Installation of storm windows over existing windows and doors.
Glass only replacements in an existing window sash and frame.
Existing ceiling, wall or floor cavities exposed during construction, provided these cavities are filled with insulation.
Construction where the existing roof, wall or floor cavity is not exposed.

On A Historic Register If the structure you are adding to or renovating is on a historical register, you are exempt from the energy code.

Contains No Provision for Fossil Fuel Heat. If you will have no provision for fossil fuel heat including oil, gas, propane, LP, or Electric Heat both central and space heat systems, then you are exempt from the code. Most exemptions of this type are granted for people with wood heat only, though solar exemptions have also been approved. Since geothermal heat pumps require electricity, they are not exempt from the energy code.

Mobile Home. All Mobile Homes are regulated by federal standards, and are therefore not required to be approved as meeting the NH Energy Code.

Greenhouses for Agricultural Use Only. A greenhouse which will be used exclusively for agricultural purposes is exempt from the code.

Additions Less than 150 Square Feet This exemption is designed to allow mudrooms and breezeways to be exempt from the code.

Low Energy Usage If you can show that you will use less than 1 watt per ft^2 You are exempt from the code. This is a VERY RARE exemption, as virtually all buildings use more energy than 1 watt per ft^{-2}.

Signature Please sign and date the application.

Page 2

Box J **DRAWING OF STRUCTURE** Please make a scale drawing of the structure. If there are only flat ceilings you need only show a floor plan, if there are sloped ceilings please show an elevation showing those sloped ceilings. Please identify the locations of all doors and windows to correspond with window schedule on page 3.

Page 3

Box U **WINDOW AREA** In this box you will calculate the rough openings for all the windows in your structure. For each size window enter and multiply the **Width x Height** (in inches) **x number of windows of that size.** Enter that number under **R.O Area** (Rough Opening). Then enter the NFRC rated U-Value of the window and the model and manufacturer. Do that for each size window, glass door and skylight. Add the Rough Openings for each size window to find the Total Rough Opening.. Divide that number by 144 to find total rough openings of windows in square feet. **Enter the total rough opening(s) of all windows in square feet onto *Page 6 Box X GlazingArea*** You can look up the U-Value of any rated window at www.NFRC.org by clicking on product directory.

Box V **ABOVE GRADE WALLS SURROUNDING HEATED SPACE** With this box you will calculate the area of all vertical walls separating heated from unheated space. Remember this includes both walls separating heated space from outside space as well as heated space from unheated attic space. If your basement is heated you will include as above grade walls, the basement walls that are 50% or greater above grade. Enter the length, width and height of each above grade wall and multiply them out to find total wall area. If the wall is odd shaped, you may figure the area by dividing the wall into rectangles and triangular areas and adding them together. **Enter the total area of all above grade walls in square feet onto *Page 6 Box x gross wall area.***

Box W **AREA OF CEILINGS OVER HEATED SPACE** In this section you will find the area of flat ceilings and of sloped ceilings. Enter the length and width of each ceiling area and multiply Length x Width. You will calculate both the area of flat ceiling and the area of sloped ceiling. DO NOT add these two numbers together. **Enter the total area of all above grade walls in square feet onto *Page 6 Box x ceiling area.***

Page 4

BOX X **PLANNED GLAZING PERCENTAGE** In this section you will determine the Glazing Percentage of your structure. This is the percentage of walls and ceilings that will be glass. Enter the Glazing area from Box U and the Gross Wall area from Box V and the Ceiling Area from box w and divide window area by wall + Ceiling area and multiply by 100. Round this to the nearest percent. This is your Planned Glazing Percentage.

BOX S **CHOSEN PERFORMANCE PACKAGE** In this section you will choose a performance package from the chart at the bottom of page 4. You must pick a package that is greater than or equal to the Glazing Percentage you figured in Box R. Select a package where you can meet or beat all of the listed efficiencies for that package. If you are building a log home select one of the log packages, if you are building a stick built home pick one of the non log packages. For example, if you have a 2 x 6 stick built structure, and 14% Glazing Percentage then you could choose any of the 15%,18% or 25% packages. When considering R-Values and % AFUE Efficiency, a higher number is more efficient, when considering windows and door U-Values, lower is better. Enter your chosen performance package in Box Y.

BOX T **PACKAGE REQUIREMENTS AND YOUR PROPOSED STRUCTURE** In this chart you will enter the package requirements from the package you chose in Box S into the column marked Package Requirements. Under Your Proposed Structure, in the column marked Planned R or U Values, you will enter the efficiency for the component in question. For example if you chose package 15-2 You would enter .36 under the Window U- value required by the package. Under the Planned R or U value column you would enter the U-value of the window you plan to install. That U-value must be less than or equal to .36.

SUBMIT APPLICATION. Send application to the Public Utilities Commission, 8 Old Suncook Road, Concord NH 03301
Still Have Questions on the application or on the code? Call 603 271-6306 or e-mail us at Eergycodes@puc.nh.gov.

Directions for completing
ADDITION –SUNROOM ADDITION OR RENOVATION
Application for compliance with the
NH ENERY CODE

Page 1 Must be completed for all applications.

Box A. **OWNER/OWNER BUILDER** All applicants must include this information

Box B **GENERAL CONTRACTOR** If a general contractor is involved with the project, Complete this box..

Box C **PROPOSED** STRUCTURE Must be completed for all structures. The Map and Lot number must be included.

Box D **OFFICIAL USE ONLY** Skip this box.

Box E **TYPE OF CONSTRUCTION**.

New Residence Means any residential building under 4 stories, or a commercial building less than 4000 square feet.

CHOOSING THE CORRECT TYPE OF PACKAGE

ADDITION Up to 150 square feet in area. An addition may have a glazing percentage of up to 40% window to wall + Ceiling area.

SUNROOM ADDITION Up to 150 square feet in area, with a Glazing Percentage greater than 40% and meet the following criteria:

- Must be 'thermally isolated' Which means there must be a door and insulated wall between conditioned sunroom and house.
- Must have separate zone or heating system and a thermostat to control that heating system within the conditioned sunroom addition
- May not be used as a sleeping room or kitchen.

RENOVATION means a change of any to an already built structure. This includes replacing windows, making heated space from an attic, basement or over an attached garage. In a renovation if you touch a component covered by the energy code, you must bring it up to code. So for example if you replace a window, you must use a window that is up to code. Meaning less than or equal to a U Value

Box F **COMPLIANCE METHOD** Enter how you are showing compliance with the energy code.

Performance Package To show compliance using this method, you only need to determine Wall Area) and Window Area. Once these are known, a ratio called **glazing percentage** can be determined. You then choose a package consisting of insulation, window and heating values, based on your design. This option will work with most structures. Follow the Instructions in the Table below labeled 'How to prepare application.'

Rescheck Software. This ***free, user friendly software*** can be downloaded by going to the Energy Codes page at the NHPUC Website. This software option allows for greater flexibility in design of the energy components. If you can't fit into a performance package, you may be able to get your structure to comply using **Rescheck**. When building an addition, the Rescheck software may be used in two different ways. You may enter just the envelope and heating components for the addition, or you may include all the envelope and heating components for the whole building including the new addition. Either way if the software shows a passing figure, the addition complies with the code.

NH Architect or Engineer Certification If your structure has been designed by a NH architect or engineer, he or she has the responsibility of certifying your construction plans and submitting a letter to the PUC and the town stating that the structure meets the code requirements. And stating the method he used to determine that the structure complied. If this is the case, you do not need to submit an application.

Exempt If the structure is exempt check and fill out box I

Box G **WHO IS SUBMITTING THIS APPLICATION** Check the Appropriate box.

Box H **ADDITIONAL INFORMATION**

Total Floor Area (heated space) The footprint of each floor of heated space.

Heating system AFUE % This is a rating for heating equipment. This information is available from the manufacturer or is available through GAMA a third party rating organization.

Window U-Value All Windows must be NFRC Rated, or you must use the default table. (If you use the default table your windows will NOT pass the performance package method for complying .) Enter the Highest U-value for any planned window.

Heating fuel type Check the box for each fuel type you will be using. Place the letter P next to your primary fuel source.

Heating System Type. Check they type(s) of heating system you will be using.

Box I **STRUCTURE IS EXEMPT** Complete this box ONLY if your structure is exempt. The following are valid reasons for Exemptions