New Hampshire
Residential Energy Code Application
for Certification of Compliance for New Construction, Additions or Renovations
(EC-1 Form)
Minimum Provisions Effective August 2007

A. Owner/Owner Builder: Company Name: (if applicable)			**B. General Contractor:** Company Name		
Name:			Name:		
Mail Address:			Mail Address:		
City:	State:	Zip:	City:	State:	Zip:
Phone: E-Mail:			Phone: E-Mail:		

C. Proposed Structure:	**D. Official Use Only**
Tax Map #: Lot #:	**Date Complete Application Received:**
Street:	**Approved by:** **Date:**
City:	**Approval Number:**

E. Type of Construction:
○ **Residential** ○ **Small Commercial**

○ New Construction ○ Renovation ○ Addition
○ Thermally Isolated Sunroom ○ Modular Home: the site contractor must submit this form detailing supplementary rooms and Floor and/or Basement insulation unless the floor insulation is installed or provided by the manufacturer and no heated space is added.

Stamp:

H. Additional Information:

Total Conditioned Floor Area

_____ ft^2

Highest Window U Value: 0._____
(May not exceed 0.35)

Window Type:
○ Low-e ○ Low-e Argon

G. Structure is EXEMPT because:
☐ Mobile Home ☐ On an historic register
☐ Contains no provision for fossil derived or electric heat
☐ Greenhouse for agricultural use only
☐ Low energy use (less than 1 watt/ ft^2)

Heating System (if new system is being installed)**:**
Annual Fuel Use Efficiency (AFUE): _____ %
Fuel Type(s): ☐ Oil ☐ Natural Gas ☐ Propane (LP) ☐ Electric ☐ Wood ☐ Other
Heating System Type: ☐ Hot Water ☐ Hot Air ☐ Stove ☐ Resistance ☐ Heat Pump

Form Submitted by:
☐ Owner ☐ Builder
☐ Architect ☐ Designer
☐ Other _____ (explain)

Basement or Crawl Space
Heated? ○ Yes ○ No ☐ Full Basement ☐ Walk Out Basement ☐ Slab on Grade ☐ Other _____

2/08

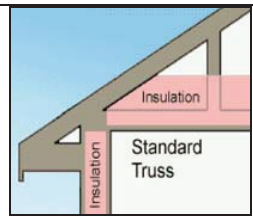
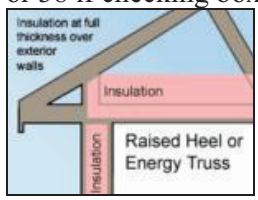
I hereby certify that all the information contained in this application is true and correct, and construction shall comply in all respects with the terms and specifications of the approval given by the Public Utilities Commission and with the New Hampshire Code for Energy Conservation in New Building Construction.

Signature_____ Print Name_____ Date_____

New Hampshire Energy Code

Effective August, 2007

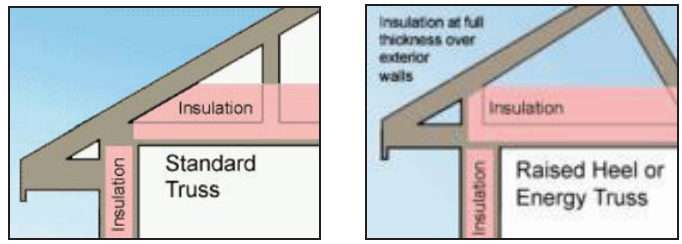
Directions: Complete the "Your Proposed Structure" columns. No measurements or calculations are needed. If you at least meet the New Hampshire Energy Code requirements, your project will be approved. Write N/A in any section that does not apply to your project. **Submit pages 1 and 2 only.** If your planned structure cannot meet these requirements, consider downloading REScheck from http://www.energycodes.gov/register.php?software=REScheck&type=NH&osversion=windows and use trade offs to prove compliance.

Building Section	Required R or U Values	YOUR PROPOSED STRUCTURE	
		Planned R or U Values	Brands / Models / insulation type and thickness (if known)
Window U Factor (smaller U is better)	**U .35** (maximum) **U .50** (Thermally Isolated Sunrooms only)		☐ Check if Sunroom
Skylights U Factor	**U .60**		
Flat Ceiling[i] R Value *or* Flat Ceiling with Raised/Energy Trusses	 **R-49** or 38 if checking box opposite  **R-38**		☐ By checking this box, I certify that this structure is being built with a raised energy truss or that the full R-value of the ceiling insulation will be maintained over the outside plates. NOTE: R-38 will be deemed to satisfy the requirement for R-49 if the full R-38 insulation value is maintained over the outside plates. **You must certify the R-38 value over the plates by checking the box above if using only R-38.**
Sloped or Cathedral Ceiling	**R-30** or **38** if more than 500 ft sq **R-24** (Thermally Isolated Sunrooms only)		☐ Check if Sunroom
Above Grade Wall R Value[ii]	**R-19** Cavity Insulation only *or* **R-13** *plus* **R-5** Cavity *plus* Continuous Insulation **R-13** (Thermally Isolated Sunrooms only		☐ Check if Sunroom
Mass Wall[iii] R Value	**R-15**		
Door U-Value	**U .35** (maximum)		
Floor R Value (Basement ceiling)	**R-30** *or* Insulation sufficient to fill joist cavity		Insulate either **Floor** or **Basement Wall** and or **Slab**
Basement or Crawl Space Wall R Value	**R-13** Cavity Insulation *or* **R-10** Continuous Insulation		
Slab Edge[iv] R Value	**R-10** 4' down, out or under *or* **R-15** Heated Slabs as above		

Submit your application to: **New Hampshire Public Utilities Commission, 21 South Fruit Street, Suite 10, Concord NH 03301**

Footnotes to Residential Energy Code Application for Certification of Compliance

[i] Ceilings with attic spaces: R-38 will be deemed to satisfy the requirement for R-49 wherever the full height of uncompressed R-38 insulation extends over the wall top plate at the eaves or the full R-value is maintained. This is accomplished using a raised heel or energy truss as shown in the diagram below or by using higher R-value insulation over the plates.



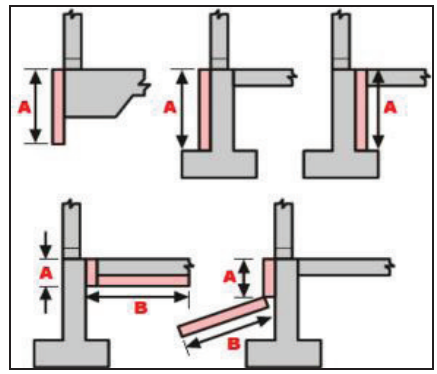
[ii] R-13 + R-5 means R-13 cavity insulation plus R-5 insulated sheathing. If structural sheathing covers 25 percent or less of the exterior, R-5 sheathing is not required where the structural sheathing is placed. If structural sheathing covers more than 25 percent of exterior, the structural sheathing must be supplemented with insulated sheathing of at least R-2.

[iii] Mass walls are walls made of concrete block, concrete, insulated concrete form (ICF), masonry cavity, brick (other than brick veneer), earth (adobe, compressed earth block, rammed earth) and solid timber/logs. The provisions for mass walls are only applicable when at least 50 percent of the required insulation R-value is on the exterior of, or integral to the wall. Walls that do not meet this criterion for insulation placement must meet the above grade (wood framed) wall insulation requirements.

[iv] Slab edge insulation must start at the top of the slab edge and extend a total of four feet. Insulation may go straight down, out at an angle away from the building, or along the slab edge and then under the slab. See diagram below.

The top edge of insulation installed between the exterior wall and the interior slab may be mitered at a 45 degree angle away from the exterior wall.

Allowable Slab Insulation Configurations



A+ B must equal four feet

MODULAR HOMES must be certified by the NH Department of Safety. Unless the floor insulation is provided by the manufacturer this form must be submitted. This form must also be submitted if the basement is to be insulated or supplementary heated space is added to the home upon or after it is set.

NEW HAMPSHIRE ENERGY CODE

Summary of Basic Requirements

(Retain for reference during construction.)

Air Leakage Code section 402.4 The building thermal envelope must be durably sealed to limit infiltration	All joints, seams, penetrations and openings in the thermal envelope including those around window and door assemblies, utility penetrations, dropped ceilings or chases, knee walls, behind tubs and showers, separating unheated garages from the thermal envelope, common walls between dwelling units and all other openings in the building envelope that are sources of air leakage must be caulked, gasketed, weather-stripped or otherwise sealed.
Recessed Lighting Code section 402.4.3	Recessed lights must be type IC rated and installed with no penetrations ***or*** installed in appropriate air-tight assemblies with a half inch clearance from combustible materials and 3 inches from insulation.
Moisture Control Code section 402.5	The building design must not create conditions of accelerated deterioration from condensation. Vapor retarders must be installed on the warm-in-winter side of all non-vented framed ceilings, walls and floors. This requirement does not apply where moisture or its freezing will not damage building materials.
Materials and Insulation Information Code section 102.1	Materials and equipment must be identified so that code compliance can be determined. Manufacturer manuals for all installed heating, cooling and service water heating equipment must be provided. Insulation R-values, glazing and door U-values and heating and cooling equipment efficiency must be clearly marked on the building plans, drawings or specifications.
Pull-Down Attic Stairs, Attic Hatch, and Knee Wall Doors	Should be insulated with a minimum 4 inch thick rigid foam cover and be boxed so that the opening is tightly sealed and weather-stripped.
Full size Attic or Basement Entry Doors	All doors leading from a conditioned space into an unconditioned attic or enclosed attic or basement stairwell should be insulated and weather-stripped exterior rated door units. One door is exempt.
Duct Insulation Code section 403.2	**Supply and return** ducts for heating and cooling systems must be insulated to at least R-8. Ducts in floor trusses must be insulated to at least R-6. Exception: Ducts or portions thereof located completely inside the building thermal envelope.
Duct Construction Code section 403.2.2 &.3	Ducts, air handlers, filter boxes, and building cavities used as ducts must be sealed. Joints and seams must comply with Section M1601.3.1 of the *International Residential Code*. Building framing cavities must not be used as supply ducts.

Temperature Controls Code section 403.1 & .1.1	At least one thermostat must be provided for each separate heating and cooling system. Heat pumps having supplementary electric-resistance heat must have controls that, except during defrost, prevent supplemental heat operation when the heat pump compressor can meet the heating load.
Mechanical System Piping Insulation Code section 403.3	Mechanical system piping conveying fluids at temperatures above 105°F or below 55°F must be insulated to R-2.
Circulating Hot Water Systems & Non-Circulating Hot Water Systems Code section 403.4 & NH amendments	Circulating service water systems must include an automatic or readily accessible manual switch that can turn off the hot water circulating pump when the system is not in use. ALL DOMESTIC HOT WATER SYSTEM PIPING running through unconditioned space shall be insulated to a minimum of R-4. Circulating domestic hot water system piping shall be insulated to R-4 even within conditioned spaces.
Mechanical Ventilation Code section 403.5	Outdoor air intakes and exhausts must have automatic or gravity dampers that close when the ventilation system is not operating.
Equipment Sizing Code section 403.6	Heating and cooling equipment must be sized in accordance with Section M1401.3 of the *International Residential Code*.
Certificate Code section 401.3	A permanent certificate, completed by the builder or registered design professional, must be posted on or in the electrical distribution panel. It must list the R-values of insulation installed in or on the ceiling, walls, foundation, and ducts outside the conditioned spaces; U-factors and SHGC for fenestration. The certificate must also list the type and efficiency of heating, cooling and service water heating equipment.