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	**Stamp:**

H. Additional Information:	**Highest Window U Value:** 0._____ (May not exceed 0.35)	**G. Structure is EXEMPT because:**
Total Conditioned Floor Area _____ ft^2	**Window Type:** ☐ Low-e ☐ Low-e Argon	☐ NH Modular Home Program ☐ Mobile Home ☐ On a historic register ☐ Addition less than 150 ft^2 ☐ Contains no provision for fossil fuel heat ☐ Greenhouse for agricultural use only ☐ Low energy use (less than 1 watt/ ft^2)

Heating System (if new system being installed)**:**	**Form Submitted by:**
Annual Fuel Use Efficiency (AFUE): _____ % **Fuel Type(s):** ☐ Oil ☐ Gas ☐ Propane (LP) ☐ Electric ☐ Wood ☐ Other **Heating System Type:** ☐ Hot Water ☐ Hot Air ☐ Stove ☐ Resistance ☐ Heat Pump	☐ Owner ☐ Builder ☐ Architect ☐ Designer ☐ Other _____ (explain)

Basement

Heated? ☐ Yes ☐ No ☐ Full Basement ☐ Walk Out Basement ☐ Slab on Grade ☐ Other _____

8/07

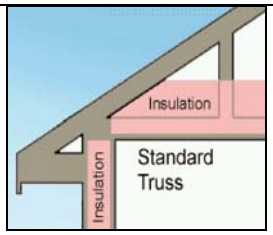
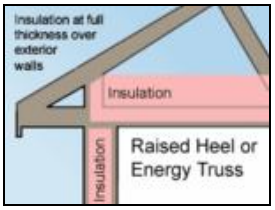
I hereby certify that all the information contained in this application is true and correct, and construction shall comply in all respects with the terms and specifications of the approval given by the Public Utilities Commission and with the New Hampshire Code for Energy Conservation in New Building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

Signature_____ Print Name_____ Date_____

New Hampshire Energy Code

Effective August, 2007

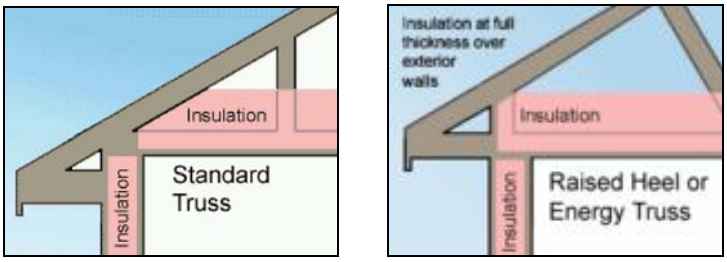
Directions: Complete the "Your Proposed Structure" columns. No measurements or calculations are needed. If you meet the New Hampshire Energy Code requirements, you will be certified to meet the NH Energy Code. Write N/A in any section that does not apply to your project. **Submit pages 1 and 2 only.** If your planned structure cannot meet these requirements, consider downloading REScheck for IECC2006, set it for Concord, NH and use trade offs against other insulation 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 **(Choose one)**	 **R-49** ----------  **R-38**	----------	---------- ☐ By checking this box, I certify that this structure is being built with a raised / energy truss or that the full thickness of the ceiling insulation will be maintained over the plates.
Sloped or Cathedral Ceiling No more than 500 Square Feet[ii]	**R-30** **R-24** (Thermally Isolated Sunrooms only		☐ Check if Sunroom
Above Grade Wall R Value[iii]	**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[iv] 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 **Slab**
Basement or Crawl Space Wall R Value	**R-13** Cavity Insulation *or* **R-10** Continuous Insulation		
Slab Edge[v] 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-30 must be deemed to satisfy the requirement for R-38 wherever the full height of uncompressed R-30 insulation extends over the wall top plate at the eaves. This is accomplished using a raised heel or energy truss as shown in the diagram below.



[ii] Ceilings without attic spaces: Where the design of the roof/ceiling assembly does not allow sufficient space for the required insulation, the minimum required insulation for such roof/ceiling assemblies is R-30. **This reduction of insulation from the requirements is limited to 500 ft² of ceiling area.**

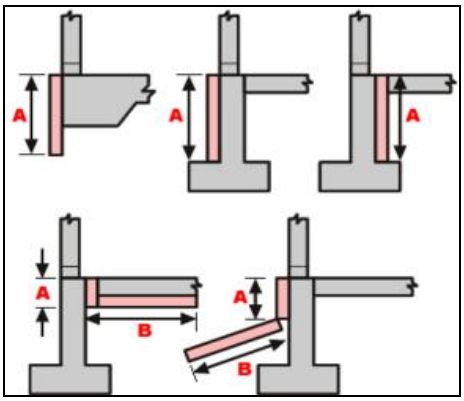
[iii] R-13 + R-5 means R-13 cavity insulation plus R-5 insulated sheathing. If structural sheathing covers 25 percent or less of the exterior, R-5 sheathing is not required where structural sheathing is used. If structural sheathing covers more than 25 percent of exterior, structural sheathing must be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

[iv] 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.

[v] 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 over 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 cut at a 45 degree angle away from the exterior wall.

Allowable Slab Insulation Configurations



A = Four Feet or A+ B = Four Feet

NEW HAMPSHIRE ENERGY CODE

Summary of Basic Requirements

Retain for planning and 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, 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 including 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 0.5 in clearance from combustible materials and 3” 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 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, specifications or Area Calculation Worksheet.
Pull-Down Attic Stairs, Attic Hatch, and Knee Wall Doors	Should be insulated with a minimum 4" thick rigid foam cover and have box that 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 also in 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.