

RESIDENTIAL PLAN REVIEW GUIDE

QUICK GUIDE

Plan review for compliance with the residential provisions of the International Energy Conservation Code can be conducted quickly and efficiently. The U.S. Department's REScheck Compliance Software is designed to be easily plan reviewed by enforcement personnel. The Quick Guide that follows will guide you, step-by-step, through a typical plan review of a REScheck submittal.

There are three basic steps for conducting a building energy code plan review:

- Step 1: Verify that the documentation has been correctly prepared.

- Step 2: Verify that the levels of efficiency shown on the plans meet or exceed that shown in the documentation.

- Step 3: Verify that all of the information that the inspector will need to conduct a field inspection is included in the plans or documentation.

Remember, your role is verification not preparing the documentation. The applicant is responsible for completing the documentation correctly and ensuring that the inputs are correct. The Quick Guide will guide you through the important elements of the plan review process.

REScheck Compliance Certificate

2000 IECC

Checked By/Date

REScheck Software Version 3.5 Release 1a

Data filename: C:\Projects\Idaho Energy Codes NEEA\Project Files\Northern Idaho House.rck

TITLE: Sample Idaho House

CITY: Boise
 STATE: Idaho
 HDD: 5861
 CONSTRUCTION TYPE: Single Family

DATE: 04/06/04
 DATE OF PLANS: October 22, 2003

PROJECT INFORMATION:
 1010 Friends Road
 Greenleaf, ID 83606

COMPANY INFORMATION:
 Questionable Construction
 15310 Farmway
 Notus, ID 83605

Step One: Verify that the project information matches the information on the building plans. The city, state, code year and construction type will impact energy code compliance.

Step Two: Verify that the project complies with the IECC. The Maximum UA must be greater than or equal to the Your Home to demonstrate compliance

Step Three: Verify that the Gross Area or Perimeter values represent the proposed house. Verify window area is correct by using rough opening as shown on the plans.

Step Four: Verify that the insulation R-values shown on the building plans meet or exceed the values in the Cavity R-value section. Verify that the insulation will fit uncompressed in the framing cavity. Continuous R-values are for insulation installed over the face of framing.

COMPLIANCE: Passes

Maximum UA = 481
 Your Home UA = 369
 23.3% Better Than Code (UA)

Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Glazing or Door U-Factor	UA
-------------------------	----------------	---------------	--------------------------	----

Ceiling 1: Flat Ceiling or Scissor Truss	1000	38.0	0.0	30
Wall 1: Wood Frame, 16" o.c.	2480	15.0	4.0	125
Window 1: Vinyl Frame:Double Pane with Low-E	479		0.340	163
Door 1: Solid	20		0.400	8
Wall 2: Wood Frame, 16" o.c.	180	19.0	0.0	10
Door 2: Solid	18		0.350	6
Crawl 1: Solid Concrete or Masonry	350	0.0	10.0	27

Wall height: 2.5'
 Depth below grade: 2.0'
 Insulation depth: 2.5'

Furnace 1: Forced Hot Air, 90 AFUE

COMPLIANCE STATEMENT: The proposed building design described here is consistent with the building plans, specifications, and other calculations submitted with the permit application. The proposed building has been designed to meet the 2000 IECC requirements in REScheck Version 3.5 Release 1a (formerly MECcheck) and to comply with the mandatory requirements listed in the REScheck Inspection Checklist.

Builder/Designer _____ Date _____

Step Five: Verify the window and door U-factors shown on the building plans meet or exceed what is shown in the documentation

Step Six: If a Furnace or Air Conditioner is called out in the documentation verify that the system is called out on the plans. This will only appear if the efficiencies are greater than minimum.

REScheck Inspection Checklist

2000 IECC

REScheck Software Version 3.5 Release 1a

DATE: 04/06/04

TITLE: Sample Idaho House

Step Seven: Verify that the R-values and U-factors and efficiencies listed on the inspection form match the values listed in the preceding section. Include any comments to the inspectors in this section. Check the comments on each of the sections to ensure that they apply to the project.

Bldg. |
Dept. |
Use |

Ceilings:

- [] 1. Ceiling 1: Flat Ceiling or Scissor Truss, R-38.0 cavity insulation

Comments: _____

Above-Grade Walls:

- [] 1. Wall 1: Wood Frame, 16" o.c., R-15.0 cavity + R-4.0 continuous insulation

Comments: _____

- [] 2. Wall 2: Wood Frame, 16" o.c., R-19.0 cavity insulation

Comments: _____

Windows:

- [] 1. Window 1: Vinyl Frame: Double Pane with Low-E, U-factor: 0.340

For windows without labeled U-factors, describe features:

Panes ____ Frame Type _____ Thermal Break? [] Yes [] No

Comments: _____

Doors:

- [] 1. Door 1: Solid, U-factor: 0.400

Comments: _____

- [] 2. Door 2: Solid, U-factor: 0.350

Comments: _____

Crawl Space Walls:

- [] 1. Crawl 1: Solid Concrete or Masonry, 2.5' ht/2.0' bg/2.5' insul, R-10.0 continuous insulation

Comments: _____

Applies to walls of unventilated crawl spaces.

Exterior insulation must have a rigid, opaque, weather-resistant protective covering that covers the exposed (above-grade) insulation and extends at least 6 in. below grade.

Heating and Cooling Equipment:

- [] 1. Furnace 1: Forced Hot Air, 90 AFUE or higher

Make and Model Number _____

Air Leakage:

- [] Joints, penetrations, and all other such openings in the building envelope that are sources of air leakage must be sealed.

- [] Recessed lights must be 1) Type IC rated, or 2) installed inside an appropriate air-tight assembly with a 0.5" clearance from combustible materials. If non-IC rated, the fixture must be installed with a 3" clearance from insulation.

Vapor Retarder:

- [] Required on the warm-in-winter side of all non-vented framed ceilings, walls, and floors.

Materials Identification:

- [] | Materials and equipment must be installed in accordance with the manufacturer's installation instructions.
- [] | Materials and equipment must be identified so that compliance can be determined.
- [] | Manufacturer manuals for all installed heating and cooling equipment and service water heating equipment must be provided.
- [] | Insulation R-values, glazing U-factors, and heating equipment efficiency must be clearly marked on the building plans or specifications.

Duct Insulation:

- [] | Ducts in unconditioned spaces must be insulated to R-5.
- [] | Ducts outside the building must be insulated to R-6.5.

Duct Construction:

- [] | All joints, seams, and connections must be securely fastened with welds, gaskets, mastics (adhesives), mastic-plus-embedded-fabric, or tapes. Duct tape is not permitted.
Exception: Continuously welded and locking-type longitudinal joints and seams on ducts operating at less than 2 in. w.g. (500 Pa).
- [] | Ducts shall be supported every 10 feet or in accordance with the manufacturer's instructions.
- [] | Cooling ducts with exterior insulation must be covered with a vapor retarder.
- [] | Air filters are required in the return air system.
- [] | The HVAC system must provide a means for balancing air and water systems.

Temperature Controls:

- [] | Thermostats are required for each separate HVAC system. A manual or automatic means to partially restrict or shut off the heating and/or cooling input to each zone or floor shall be provided.

Service Water Heating:

- [] | Water heaters with vertical pipe risers must have a heat trap on both the inlet and outlet unless the water heater has an integral heat trap or is part of a circulating system.
- [] | Insulate circulating hot water pipes to the levels in Table 1.

Circulating Hot Water Systems:

- [] | Insulate circulating hot water pipes to the levels in Table 1.

Swimming Pools:

- [] | All heated swimming pools must have an on/off heater switch and require a cover unless over 20% of the heating energy is from non-depletable sources. Pool pumps require a time clock.

Heating and Cooling Piping Insulation:

- [] | HVAC piping conveying fluids above 105 °F or chilled fluids below 55 °F must be insulated to the levels in Table 2.