



# RESIDENTIAL ENERGY ADDITIONAL MEASURE SELECTION

## RESIDENTIAL INFORMATION

Owner / Applicant Name:

Job Address:

Building Permit No:

Applicant Signature:

Date:

## INSTRUCTIONS

Please select type of construction below:

- New construction.** All conditioned spaces within residential buildings must comply with Table N1101.1(1) and **two additional measures** (one numbered and one lettered) from Table N1101.1(2) on page 2 of this form.
- Additions.** Additions to existing buildings or structures may be made without making the entire building or structure comply if the new additions comply with the requirements of ORSC Chapter 11.
- Large additions.** Additions that are equal to or more than 40 percent of the existing building heated floor area or 600 square feet (55m<sup>2</sup>) in area, whichever is less, must comply with Table N1101.1(2) on page 2 (N1101.3.1). *(Note: You must select one numbered **and** one lettered measure.)*
- Small additions.** Additions that are less than 40 percent of the existing building heated floor area or less than 600 square feet (55 m<sup>2</sup>) in area, whichever is less, must select one measure from Table N1101.1(2) on page 2 or comply with Table N1101.3 below (N1101.3.2).
- Exception:** Additions that are less than 15 percent of existing building heated floor area or 200 square feet (18.28 m<sup>2</sup>) in area, whichever is less, shall not be required to comply with Table N1101.1(2) or Table N1101.3.

## SELECT ONE (1) TABLE N1101.3 – SMALL ADDITION ADDITIONAL MEASURES

- |                            |  |
|----------------------------|--|
| <input type="checkbox"/> 1 | Increase the ceiling insulation of the existing portion of the home (Table N1101.2).   |
| <input type="checkbox"/> 2 | Replace all existing single-pane wood or aluminum windows to the U-factor (Table N1101.2).   |
| <input type="checkbox"/> 3 | Insulate the floor system as specified in Table N1101.2 & install 100 percent of permanently installed lighting fixtures as CFL, LED or linear fluorescent of a min. efficiency of 40 lumens per watt (Section N1107.2). |
| <input type="checkbox"/> 4 | Test the entire dwelling with a blower door and exhibit no more than 6.0 air changes per hour @ 50 Pascals.  |
| <input type="checkbox"/> 5 | Seal and performance test the duct system.   |
| <input type="checkbox"/> 6 | Replace existing 78 percent AFUE or less gas furnace with a 92 percent AFUE or greater system.   |
| <input type="checkbox"/> 7 | Replace existing electric radiant space heaters with a ductless mini-split system with a minimum HSPF of 10.0  |
| <input type="checkbox"/> 8 | Replace existing electric forced air furnace with an air source heat pump with a minimum HSPF of 9.5   |
| <input type="checkbox"/> 9 | Replace existing water heater with a water heater meeting Conservation Measure D [Table N1101.1(2)].   |

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**TABLE N1101.1(2) ADDITIONAL MEASURES**

|  |                            |   |
|--|----------------------------|---|
| <b>Envelope Enhancement Measures</b><br>(Select One) | <input type="checkbox"/> 1 | <b>High Efficiency Walls</b><br>Exterior walls – U-0.045/R-21 cavity insulation + R-5 continuous  |
|  | <input type="checkbox"/> 2 | <b>Upgraded Features</b><br>Exterior walls – U-0.057/R-23 intermediate or R-21 advanced,<br>Framed Floors – U-0.026/R-38 and<br>Windows – U-0.28 (average UA)   |
|  | <input type="checkbox"/> 3 | <b>Upgraded Features</b><br>Exterior walls – U.055/R-23 intermediate or R-21 advanced,<br>Flat ceiling <sup>e</sup> – U.0.17/R-60, and<br>Framed floors – U-0.026/R38   |
|  | <input type="checkbox"/> 4 | <b>Super Insulated Windows and Attic or Framed Floors</b><br>Windows – U-0.22 (Triple Pane Low-e), and<br>Flat Ceiling <sup>e</sup> - U-0.017/R-60, and<br>Framed Floors – U0.026/R-38  |
|  | <input type="checkbox"/> 5 | <b>Air Sealing Home Ducts</b><br>Mandatory air sealing of all wall coverings at top plate and air sealing checklist <sup>f</sup> , and<br>Mechanical whole-building ventilation system with rates meeting M1503 or ASHRAE 62.2, and<br>All ducts and air handlers contained with building envelope <sup>d</sup> or<br>All ducts sealed with mastic <sup>b</sup> |
|  | <input type="checkbox"/> 6 | <b>High Efficiency Thermal Envelope UA<sup>g</sup></b><br>Proposed UA is 8% lower than the code UA  |

|   |                            |   |
|---|----------------------------|---|
| <b>Conservation Measure</b><br>(Select One) | <input type="checkbox"/> A | <b>High Efficiency HVAC System<sup>a</sup></b>  |
|   |                            | Gas-fired furnace or boiler AFUE 94%, or  |
|   |                            | Air source heat pump HSPF 9.5/15.0 SEER cooling, or<br>Ground source heat pump COP 3.5 or Energy Star rated   |
|   | <input type="checkbox"/> B | <b>Ducted HVAC Systems within Conditional Space</b>   |
|   |                            | All ducts and air handlers contained within building envelope <sup>d</sup> Cannot be combined with measure 5) |
|   | <input type="checkbox"/> C | <b>Ductless Heat Pump</b>   |
|   |                            | Ductless heat pump HSPF 10.0 in primary zone of dwelling  |
|   | <input type="checkbox"/> D | <b>High Efficiency Water Heater<sup>c</sup></b>   |
|   |                            | Natural gas/propane water heater with UEF 0.85, or  |
|   |                            | Electric heat pump water heater Tier 1 Northern Climate Specification Product                                 |

For S1: 1 square foot = 0.093 m<sup>2</sup>, 1 watt per square foot = 10.8 W/m

- a. Appliances located within the building thermal envelope shall have sealed combustion air installed. Combustion air shall be ducted directly from the outdoors.
- b. All duct joints and seams sealed with listed mastic; tape is only allowed at appliance or equipment connections (for service and replacement).
- c. Meet sealing criteria of Performance Tested Comfort Systems program administered by the Bonneville Power Administration (BPA).
- d. Residential water heaters less than 55 gallon storage volume.
- e. A total of 5 percent of an HVAC system's ductwork shall be permitted to be located outside of the conditioned space. Ducts located outside the condition space shall have insulation installed as required in this code.
- f. The maximum vaulted ceiling surface area shall not be greater than 50 percent of the total heated space floor area unless vaulted area has a U-factor no greater than U-0.026.
- f. Continuous air barrier. Additional requirement for sealing of all interior vertical wall covering to top plate framing. Sealing with foam gasket, caulk or other approved sealant listed for sealing wall covering material (example: gypsum board to wood stud framing).
- g. Table N1104.1(1) Standard base case design, Code UA shall be at least 8 percent less than the Proposed UA. Buildings with fenestration less than 15 percent of the total vertical wall area may adjust the Code UA to have 15 percent of the wall area as fenestration.