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| <p>3.9- (change as shown)</p> <p>Gas-fired heat pump(s) <del>meeting ANSI Z21.40.2 and Z21.40.4 or CSA, with a minimum UEF of 1.15 with efficiency(ies) not less than 115% AFUE as tested and rated in accordance with CSA/ANSI Z21.40.4-CSA 2.94.</del> For R-2 Occupancy, <del>the gas-fired heat pump(s) meeting ANSI Z21.40.2 and Z21.40.4 or CSA, with a minimum UEF of 1.15,</del> shall serve all units.</p> <p>To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall specify the heating equipment type and the minimum equipment efficiency.</p> | <p><b>Heikkinen, Gary:</b></p> <p><i>UEF is not the correct metric for space heating. It is a water heating metric. Residential gas heat pumps are tested and rated to the CSA / ANSI standard and given an AFUE rating. I kept the requirement at 115% which should be equivalent to the UEF of 1.15.</i></p> |
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| <p>3.10</p> <p>Combination water heating and space heating system shall include one of the following:</p> <p>Gas-fired heat pump water heater(s) meeting Tier 2 of the NEEA Advanced Water Heating Specification for Gas-Fueled Residential Storage Water Heaters Version 1.0.</p> <p>or</p> <p>For R-2 Occupancy, gas-fired heat pump water heater(s) meeting Tier 2 of the NEEA Advanced Water Heating Specification for Gas-Fueled Residential Storage Water Heaters Version 1.0., shall serve all units.</p> <p>or</p> <p>For R-2 Occupancy, gas-fired heat pump(s) <del>meeting with a minimum AFUE of 115% or COP of 1.15 at 17°F outdoor air temperature as tested and rated in accordance with CSA/ANSI Z21.40.4-CSA 2.94 ANSI Z21.40.2 and Z21.40.4 or CSA, with a minimum UEF of 1.15,</del> shall serve all units.</p> <p>To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall specify the water heater equipment type and the minimum equipment efficiency and, for solar water heating systems, the calculation of the minimum energy savings.</p> | <p><b>Heikkinen, Gary:</b></p> <p><i>Basically the same reasoning as above. Reference the correct testing standard and metric of AFUE rather than UEF.</i></p> |
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## 5.5

Water heating system shall include one of the following: Gas-fired heat pump water heater(s) meeting Tier 2 of the NEEA Advanced Water Heating Specification for Gas-Fueled Residential Storage Water Heaters Version 1.0 or a minimum COP of 1.15 at 50°F outdoor air temperature when tested and rated in accordance with ANSI/ASHRAE Standard 118.1.

or

For R-2 Occupancy, gas-fired heat pump water heater(s) meeting Tier 2 of the NEEA Advanced Water Heating Specification for Gas-Fueled Residential Storage Water Heaters Version 1.0. shall supply domestic hot water to all units.

or

For R-2 Occupancy, gas-fired heat pump water heater(s) meeting with a minimum COP of 1.15 at 50°F outdoor air temperature when tested and rated in accordance with ANSI/ASHRAE Standard 118.1. ~~ANSI Z21.40.2 and Z21.40.4 or CSA, with a minimum UEF of 1.15,~~ shall supply domestic hot water to all units.

To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall specify the water heater equipment type and the minimum equipment efficiency and, for solar water heating systems, the calculation of the minimum energy savings.

**Heikkinen, Gary:**

*This is an option I added and should get some review by the TAG. It is the same testing standard now referenced in the IECC for water heating. That proposal passed the IECC-Residential Consensus Committee.*