RE2D-59-23 MOD2 (in blue)

Note: The following additional modifications to RE2D-59 are shown in blue and are technical but only affect the 6 electric water heater measure rows. This mod strikes the iHPWH row with UEF=3.75 since it does not have more savings than a UEF of 3.3. It also revises the points after a modeling issue was corrected by PNNL. This can be combined with MOD1 without conflict, but presented separately for discussion.

**IECC RE: TABLE R408.2**

2024 International Energy Code [RE] [RE Project] R3

**Revise as follows:**

 TABLE R408.2 CREDITS FOR ADDITIONAL ENERGY EFFICIENCY

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Measure Number | Measure Description | Credit Value |   |   |   |   |   |   |   |   |
|   |   | Climate Zone 0 & 1 | Climate Zone 2 | Climate Zone 3 | Climate Zone 4 except Marine | Climate Zone 4 Marine | Climate Zone 5 | Climate Zone 6 | Climate Zone 7 | Climate Zone 8 |
| R408.2.3(3)~~(a)~~d | Electric water heaters (option 1) | ~~12~~10 | ~~11~~9 | ~~11~~9 | ~~8~~7 | ~~8~~6 | ~~5~~4 | ~~4~~3 | ~~4~~3 | ~~3~~2 |
| ~~R408.2.3(3)(b)~~~~d~~ | ~~Electric water heaters (option 2)~~ | ~~12~~ | ~~11~~ | ~~11~~ | ~~8~~ | ~~8~~ | ~~5~~ | ~~4~~ | ~~4~~ | ~~3~~ |
| R408.2.3(4)d | Electric water heaters (option ~~3~~2) | ~~11~~8 | ~~11~~8 | ~~11~~8 | ~~8~~6 | ~~8~~5 | ~~5~~4 | ~~4~~3 | ~~4~~3 | ~~3~~2 |
| R408.2.3(5)(a)d | Electric water heaters (option ~~4~~3) | ~~8~~7 | ~~10~~8 | ~~11~~8 | ~~8~~6 | ~~11~~7 | ~~7~~5 | ~~5~~4 | ~~5~~3 | ~~4~~3 |
| R408.2.3(5)(b)d | Electric water heaters (option ~~5~~4) | ~~9~~8 | ~~11~~9 | ~~12~~10 | ~~8~~7 | ~~11~~8 | ~~7~~5 | ~~65~~5 | ~~5~~4 | ~~4~~3 |
| R408.2.3(~~5~~6)d | Electric water heaters (option ~~6~~5) | ~~12~~10 | ~~11~~9 | ~~11~~9 | ~~8~~7 | ~~8~~6 | ~~5~~4 | ~~4~~3 | ~~4~~3 | ~~3~~2 |

**Revise as follows:**

**Table 408.2.3**

 **Service water-heating efficiencies**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Measure Number** | **Water Heater** | **Size and Draw Pattern** | **Type** | **Efficiency** |
| R408.2.3(1)(a) | Gas-fired storage water heaters (option 1) | All storage volumes, all draw patterns |  | UEF ≥ 0.81 |
| R408.2.3(1)(b) | Gas-fired storage water heaters (option 2)  | ~~≤ 55 gallons, Medium~~ |  | ~~UEF ≥ 0.81~~ |
| ≤ 55 gallons, High |  | UEF ≥ 0.86 |
|  | >55 gallons, Medium or High |  | UEF ≥ 0.86 |
|  | Rated input capacity > 75,000 Btu/h |  | UEF ≥ 0.86orEt ≥ 94% |
| R408.2.3(2)(a) | Gas-fired instantaneous water heater (option 1) | All storage volumes,Medium or High |  | UEF ≥ 0.92~~5~~ |
| R408.2.3(2)(b) | Gas-fired instantaneous water heater (option 2) | All storage volumes, Medium or High |  | UEF ≥ 0.95 |
| R408.2.3(3)~~(a)~~ | Electric water heaters (option 1) | All storage volumes, Low, Medium, or High | Integrated HPWH | UEF ≥ 3.30 |
| ~~R408.2.3(3)(b)~~ | ~~Electric water heaters (option 2)~~ | ~~All storage volumes, Low, Medium, or High~~ | ~~Integrated HPWH~~ | ~~UEF ≥ 3.75~~ |
| R408.2.3(4) | Electric water heaters (option ~~3~~2) | All storage volumes, Low, Medium, or High | Integrated HPWH, 120 Volt/15 Amp Circuit | UEF ≥ 2.20 |
| R408.2.3(5)(a) | Electric water heaters (option ~~4~~3) | All storage volumes, Low, Medium, or High | Split-system HPWH | UEF ≥ 2.20 |
| R408.2.3(5)(b) | Electric water heaters (option ~~5~~4) | All storage volumes, Low, Medium, or High | Split-system HPWH | UEF ≥ 3.75 |
| R408.2.3(~~5~~6) | Electric water heaters (option ~~6~~5) | Rated input capacity > 12 kW |  | COP ≥ 3.00 |
| R408.2.3(~~6~~7)(a) | Solar water heaters (option 1) | All storage volumes, all draw patterns | Electric backup | SUEF ≥ 3.00 |
| R408.2.3(~~6~~7)(b) | Solar water heaters (option 2) | All storage volumes, all draw patterns | Gas backup | SUEF ≥ 1.80 |

UEF = Uniform Energy Factor, Et = Thermal Efficiency, COP = Coefficient of Performance