



STATE OF WASHINGTON

STATE BUILDING CODE COUNCIL

Washington State Energy Code Development Standard Energy Code Proposal Form

Log No. 19-WSEC-R07
TAG Revisions 5/31/19

Code being amended: Commercial Provisions Residential Provisions

Code Section # 403.1.1 Programmable Thermostat _____

Brief Description: This change adds smart thermostats and then changes language to be consistent with the 2018 IECC.

Proposed code change text: (Copy the existing text from the Integrated Draft, linked above, and then use underline for new text and ~~strikeout~~ for text to be deleted.)

R202 Definition:

Connected Thermostat. An internet enabled device that automatically adjusts heating and cooling temperature settings.

R403.1.1 Programmable or smart-connected thermostat. The thermostat controlling the primary heating or cooling system of the dwelling unit shall be Energy Star certified and capable of controlling the heating and cooling system on a daily schedule to maintain different temperature setpoints at different times of the day. ~~Where the primary heating system is a forced-air furnace, at least one thermostat per dwelling unit shall be capable of controlling the heating and cooling system on a daily schedule to maintain different temperature set points at different times of the day.~~ The thermostat shall allow for, at a minimum, a 5-2 programmable schedule (weekdays/weekends) and be capable of providing at least two programmable setback/setup periods per day. This thermostat shall include the capability to set back, set up or temporarily operate the system to maintain zone temperatures down to 55°F (13°C) or up to 85°F (29°C). The thermostat shall initially be programmed by the manufacturer or installer with a heating temperature set point no higher than 70°F (21°C) and a cooling temperature set point no lower than 78°F (26°C). The thermostat and/or control system shall have an adjustable deadband of not less than 10°F.

Exceptions:

1. Systems controlled by an occupant sensor that is capable of shutting the system off when no occupant is sensed for a period of up to 30 minutes.
2. Systems controlled solely by a manually operated timer capable of operating the system for no more than two hours.
- 2-3. Ductless mini-split heat pump systems that have an integral proprietary thermostat.

Purpose of code change:

Adds specific reference to smart thermostats because of their unique capabilities. Changes requirement to include all heating and cooling systems and not just forced air furnaces to make it consistent with language in 2018 IECC. Programmable heat pump thermostats are available for use specifically with heat pumps. In addition to modest savings possible in the heating mode, savings can also be achieved in the cooling mode with the programmable or smart thermostat.

Your amendment must meet one of the following criteria. Select at least one:

- | | |
|--|---|
| <input type="checkbox"/> Addresses a critical life/safety need. | <input type="checkbox"/> Consistency with state or federal regulations. |
| <input checked="" type="checkbox"/> The amendment clarifies the intent or application of the code. | <input type="checkbox"/> Addresses a unique character of the state. |
| <input checked="" type="checkbox"/> Addresses a specific state policy or statute.
(Note that energy conservation is a state policy) | <input type="checkbox"/> Corrects errors and omissions. |

Check the building types that would be impacted by your code change:

- | | | |
|---|--|--|
| <input checked="" type="checkbox"/> Single family/duplex/townhome | <input checked="" type="checkbox"/> Multi-family 4 + stories | <input type="checkbox"/> Institutional |
| <input checked="" type="checkbox"/> Multi-family 1 – 3 stories | <input type="checkbox"/> Commercial / Retail | <input type="checkbox"/> Industrial |

Your name Gary Heikkinen, PE Email address gary.heikkinen@nwnatural.com

Your organization NW Natural Phone number 503-721-2471

Other contact name [Click here to enter text.](#)

Instructions: Send this form as an email attachment, along with any other documentation available, to: sbcc@des.wa.gov. For further information, call the State Building Code Council at 360-407-9278.

Economic Impact Data Sheet

Briefly summarize your proposal's primary economic impacts and benefits to building owners, tenants and businesses.

Zero to modest first cost increase to install programmable thermostat on systems other than forced air furnaces.
Potential for modest heating energy savings and measureable cooling energy savings.

Provide your best estimate of the construction cost (or cost savings) of your code change proposal? (See OFM Life Cycle Cost [Analysis tool](#) and [Instructions](#); use these [Inputs](#). **Webinars on the tool can be found [Here](#) and [Here](#)**)

[Click here to enter text.](#)/square foot (For residential projects, also provide \$100-\$200/ dwelling unit)

Show calculations here, and list sources for costs/savings, or attach backup data pages

\$50-\$150 for programmable thermostat and \$150-\$250 for smart thermostat.

Provide your best estimate of the annual energy savings (or additional energy use) for your code change proposal?

[Click here to enter text.](#)KWH/ square foot (or) [Click here to enter text.](#)KBTU/ square foot

(For residential projects, also provide [Click here to enter text.](#)KWH/KBTU / dwelling unit)

Show calculations here, and list sources for energy savings estimates, or attach backup data pages

Estimate 5-10% of total heating and cooling energy saved on average.

List any code enforcement time for additional plan review or inspections that your proposal will require, in hours per permit application:

All questions must be answered to be considered complete. Incomplete proposals will not be accepted.