

The EPA's NSPS requires testing with Method 28 to meet the emissions limit of 0.32 lbs/MMBtu. Method 28 is designed to test units 350,000 Btus or lower. The EPA accredited labs are also unable to accommodate units that are >350,000 Btus for a Method 28 test, so holding units (>350,000btus) to the same EPA standard, 0.32 lbs/MMBtu, or stricter than Phase 2, is not feasible because they can't get Phase 2 tested. In regards to this issue, a Method 5H with a Method 202 backhand approach as an alternative to the Method 28 for units which fall in the range of >350,000 Btus but <1 million Btus is recommended. The Method 5H is an in stack test (no dilution tunnel required) and would allow these large (>350,000 Btu) units to be tested. This is why we have recommended these methods in the amendment. Furthermore, the Phase 2 limit is 18g/hr, but states such as VT have allowed 20g/hr for units >350,000Btus, due to their larger input.

This is also why we added "<350,000btus" to the definition of "outdoor wood-burning furnace", because residential is generally considered under 350,000 Btus, and commercial is greater than 350,000 Btus.

Wood chips were added to the list of fuels discussed to burn and we added in language regarding "batch" and "continuous fed" to include pellet furnaces as well as batch systems which are standard OWFs.

The stack height required for testing a unit is no higher than 15ft above the ground. Adjusting this height affects the combustion efficiency and emissions of the furnace, and therefore we recommend that the stack height is not greater than 15ft above the ground.

Also, we suggest removing the language discussing the particulate matter of 2.5 microns or less, because the particulate matter is not differentiated by size during testing. All particulate is collected on a filter, which is then weighed to measure total collected particulate on the filter.

This is the link to the EPA's proposed standard, which includes hydronic heaters, masonry heaters, indoor wood stoves and pellet stoves, and forced air units. Also, units rated over 350,000 Btus are not considered residential, and there are other test methods for units of these sizes. <http://www.gpo.gov/fdsys/pkg/FR-2014-02-03/html/2014-00409.htm>. The proposed amendment does not reference these new changes in the proposed federal NSPS for Residential Hydronic Heaters.

To: Subst. Senate Bill No. **1134** File No. 496 Cal. No. 366

"AN ACT CONCERNING OUTDOOR WOOD-BURNING FURNACES. "

Strike everything after the enacting clause and substitute the following in lieu thereof:

"Section 1. Section 22a-174k of the general statutes is repealed and the following is substituted in lieu thereof (*Effective October 1, 2013*):

(a) For purposes of this section: [,] (1) "Clean wood" means wood that does not contain a coating of any kind of paint or stain and that is not treated with any fire retardant, pesticide, preservative or any other chemical treatment (reference EPA language on Burnwise website). "Clean wood" includes any wood pellet that is authorized by law to be sold in the state, and "Clean wood" includes any wood chip; and (2) "outdoor wood-burning furnace" means an accessory structure or appliance, including, but not limited to, any outdoor wood-burning boiler and any hydronic heater, either batch or continuous fed, designed to be located outside, or inside, a living space ordinarily used for human habitation and designed to transfer or provide heat, under 350,000 Btus, via liquid or other means, through the burning of wood, including wood pellets, wood chips, or [solid waste] corn, for heating spaces other than where such structure or appliance is located, any other structure or appliance on the premises, or for heating domestic, swimming pool, hot tub or jacuzzi water. "Outdoor wood-burning furnace" does not include a fire pit, wood-fired barbecue, [or] chiminea or any unit permitted pursuant to section 22a-174 or any regulation adopted pursuant to said section.

(b) [No] (1) On and after January 1, 2014, no person shall [, from July 8, 2005, to the effective date of regulations promulgated by the United States Environmental Protection Agency to regulate outdoor wood-burning furnaces,] construct, install, establish, modify, operate or use an outdoor wood-burning furnace, unless [(1) the outdoor wood-burning furnace was constructed, installed, established, modified, operated or in use prior to July 8, 2005, or (2) the] such outdoor wood-burning furnace complies with the following:

(A) Installation of the outdoor wood-burning furnace [is] places the chimney of such furnace not less than two hundred feet from the nearest residence not serviced by the outdoor wood-burning furnace;

(B) Installation of the chimney of the outdoor wood-burning furnace is at a height that is not more than 15 feet from the ground, which is the requirement for testing under Method 28. [more than the height of the roof peaks of the residences that are located within five hundred feet of the outdoor wood-burning furnace, which residences are not serviced by the outdoor wood-burning furnace, provided the chimney height is not more than fifty-five feet;]

(C) No other materials are burned in the outdoor wood-burning furnace other than [wood that has not been chemically treated] clean wood, or fuel indicated by the manufacturer such as wood pellets, wood chips, or corn; and

(D) Installation and operation of the outdoor wood-burning furnace is in accordance with the manufacturer's written instructions, provided such instructions do not conflict with the provisions of this section.

(2) For any owner or operator of an outdoor wood-burning furnace with a maximum heat output of more than three hundred fifty thousand British Thermal Units per hour who provides evidence to the Commissioner of Energy and Environmental Protection that reasonably demonstrates that such outdoor wood-burning furnace was installed prior to July 8, 2005, said commissioner shall not require compliance with the provisions of subparagraphs (A) and (B) of subdivision (1) of this section until on and after October 1, 2014. The commissioner may extend the compliance date of this subdivision for not more than five years beyond October 1, 2014, upon a showing of economic or other hardship by such owner or operator, provided no adjacent property owner will be adversely impacted by the continued operation of such outdoor wood-burning furnace.

(3) For any owner or operator of an outdoor wood-burning furnace with a maximum heat output of less than three hundred fifty thousand British Thermal Units per hour who provides evidence to the commissioner that reasonably demonstrates that such outdoor wood-burning furnace was installed on or before July 8, 2005, said commissioner shall not require compliance with the provisions of subparagraphs (A) and (B) of subdivision (1) of this subsection.

(4) On and after October 1, 2018, for any owner or operator of an outdoor wood-burning furnace that was installed on or before October 1, 1998, such owner or operator shall not own or use said outdoor wood-burning furnace unless, after October 1, 2018, such furnace: (A) Is, or is upgraded to become, a Phase 2 qualified model under the Hydronic Heater Program of the United States Environmental Protection Agency, or (B) has a maximum heat output of more than three hundred fifty thousand British Thermal Units per hour and such furnace (i) meets an emission standard of .32 pounds of particulate matter of 2.5 microns or less per million British Thermal Units of output, tested under a Method 5H and 202 or (ii) meets an emission standard that is

equivalent to or more stringent than that of a Phase 2 emission standard under the Hydronic Heater Program of the United States Environmental Protection Agency, but tested under a Method 5H and 202. The commissioner may extend the compliance date of this subdivision for not more than five years beyond October 1, 2018, upon a showing of economic or other hardship by such owner or operator, provided no adjacent property owner will be adversely impacted by the continued operation of such outdoor wood-burning furnace.

(5) On and after October 1, 2018, for any owner or operator of an outdoor wood-burning furnace that was installed on or after October 1, 1998, but prior to January 1, 2014, such owner or operator shall not own or use said outdoor wood-burning furnace unless twenty years after the installation of such furnace the furnace: (A) Is, or is upgraded to become, a Phase 2 qualified model under the Hydronic Heater Program of the United States Environmental Protection Agency, or (B) has a maximum heat output of more than three hundred fifty thousand British Thermal Units per hour and such furnace (i) meets an emission standard of .32 pounds of particulate matter of 2.5 microns or less per million British Thermal Units of output, tested under a Method 5H and 202 or (ii) meets an emission standard that is equivalent to or more stringent than that of a Phase 2 emission standard under the Hydronic Heater Program of the United States Environmental Protection Agency, but tested under a Method 5H and 202. The commissioner may extend the compliance date of this subdivision for not more than five years beyond October 1, 2018, upon a showing of economic or other hardship by such owner or operator, provided no adjacent property owner will be adversely impacted by the continued operation of such outdoor wood-burning furnace.

(6) In the event the commissioner or the Connecticut Clean Energy Finance and Investment Authority establishes a rebate or incentive program for the purchase of outdoor wood-burning furnaces, no owner or operator of an outdoor wood-burning furnace shall be eligible for such program rebate or incentive unless such outdoor wood-burning furnace was installed prior to January 1, 2014, and such owner or operator performs any requisite upgrade or replacement on or before October 1, 2018.

[(c) The provisions of this section shall be enforced by the Commissioner of Energy and Environmental Protection and may be enforced by the

municipality affected by the operation or potential operation of an outdoor wood-burning furnace.]

(c) On and after January 1, 2014, no person shall install, give, sell or offer for sale or for use or delivery in this state any outdoor wood-burning furnace unless such furnace: (1) Is a Phase 2 qualified model under the Hydronic Heater Program of the United States Environmental Protection Agency, or (2) has a maximum heat output of greater than three hundred fifty thousand British Thermal Units per hour and such furnace (A) meets an emission standard of .32 pounds of particulate matter of 2.5 microns or less per million British Thermal Units of output, tested under a Method 5H and 202 or (B) meets an emission standard that is equivalent to or more stringent than that of a Phase 2 emission standard under the Hydronic Heater Program of the United States Environmental Protection Agency, but tested under a Method 5H and 202.

(d) The commissioner or a duly authorized municipal official may order the owner or operator of any outdoor wood-burning furnace to remove, render permanently inoperable or discontinue the use of any furnace that does not comply with the requirements of subsection (b), (c) or (d) of this section.

[(d)] (e) Any person who operates an outdoor wood-burning furnace in violation of this section shall be deemed to have committed an infraction and shall be fined not more than ninety dollars. Each day of operation of such outdoor wood-burning furnace in violation of this section shall be a separate violation. "