

Submitted by: Chair of the Assembly at the
Request of the Acting Mayor

Prepared by: Department of Health and
Human Services

For reading: March 24, 2009

See AO 2009-41(s)

ANCHORAGE, ALASKA
AO No. 2009-41

1 AN ORDINANCE AMENDING ANCHORAGE MUNICIPAL CODE SECTIONS
2 15.35.040 AND 15.35.050, AND ADDING A NEW SECTION TO REGULATE
3 THE SALE AND INSTALLATION OF WOOD-FIRED BOILERS.
4

5 THE ANCHORAGE ASSEMBLY ORDAINS:
6

7 **Section 1.** Anchorage Municipal Code section 15.35.040 is amended to read as
8 follows (*the remainder of the section is not affected and therefore not set out*):
9

10 **15.35.040 Stationary source emissions - General definitions.**
11

12 Unless the context clearly indicates otherwise, the following terms used in
13 this regulation shall be defined as follows:
14

15 *** *** ***
16

17 Clean wood means wood with no paint, stains, or other types of coatings,
18 and wood with no preservative treatment(s) including, but not limited to,
19 copper chromium arsenate, creosote, or pentachlorophenol.
20

21 *** *** ***
22

23 Wood-fired boiler means a fuel burning device designed to:
24

- 25 1. Burn primarily wood, wood pellets or corn; and
- 26 2. Heat spaces or water by the distribution through pipes of a fluid
27 heated in the device, typically water.
- 28 3. Examples of common uses of wood-fired boilers include, but are not
29 limited to, space heating, heating of domestic hot water, and heating
30 water for swimming pools, hot tubs or whirlpool baths.
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32
33

34 (AO No. 78-141; AO No. 79-80(AM); AO No. 80-2; AO No. 80-70)

Section 2. Anchorage Municipal Code section 15.35.050 is amended to read as follows (*the remainder of the section is not affected and therefore not set out*):

15.35.050 **Stationary source emissions - Visible emission standards.**

A. No person shall cause, permit or allow the emission of any air contaminant, excluding portions of emissions containing condensed uncombined water vapor from any stationary source including air curtain incinerators to reduce visibility through the exhaust effluent by:

1. Greater than twenty percent for a period or periods aggregating more than three minutes in any one hour, except as provided in subsection 2 of this subsection; or
2. Twenty percent or greater for municipal wastewater treatment plant sludge incinerators[.]; or
3. Greater than twenty percent for a period or periods aggregating more than six minutes in any hour for wood-fired boilers, except during the first 20 minutes after the initial firing of the unit.

*** *** ***

(AO No. 78-141; AO No. 79-80(AM); AO No. 80-2; AO No. 80-70; AO No. 93-131, § 8, 10-26-93)

Section 3. Anchorage Municipal Code chapter 15.35 is amended by adding a new section for wood-fired boilers to read as follows:

15.35.105 **Stationary source emissions - wood-fired boilers.**

A. Unless otherwise prohibited by law, within the boundaries of the municipality no person shall cause, suffer, permit or allow the operation of a wood-fired boiler except when fired by:

1. Clean wood; or
2. Wood pellets made from clean wood; or

1 3. Corn; or

2
3 4. Home heating oil and natural gas as a starter fuel or substitute
4 fuel in dual-fired wood boilers.

5
6 B. Within the boundaries of the municipality the burning of wood that
7 has been treated, painted, or treated with preservatives or other
8 coatings is prohibited.

9
10 C. Within the boundaries of the municipality the burning of used oil,
11 waste petroleum products and home heating oil not meeting
12 applicable limits for sulfur content is prohibited.

13
14 D. Within the boundaries of the municipality, no person shall install or
15 allow the installation of a wood-fired boiler subject to the
16 requirements of this section unless:

17
18 1. The wood-fired boiler is located more than 100 feet from an
19 adjacent property line and 150 feet from any habitable
20 structure that it is not serving at the time of installation, unless
21 that property or habitable structure is under common
22 ownership; and

23
24 2. The wood-fired boiler has an attached permanent stack
25 extending higher than the peak of the roof of the structure(s)
26 being served by the wood-fired boiler, and higher than the
27 peak of the roof of any other habitable structure located within
28 300 feet of the wood-fired boiler; and

29
30 3. The wood-fired boiler is certified to meet the U.S.
31 Environmental Protection Agency voluntary phase 2
32 emissions level for wood-fired boilers through testing by an
33 accredited independent laboratory showing it emits no more
34 than 0.32 pounds of particulate matter per million BTUs of
35 heat output; and

36
37 4. The wood-fired boiler complies with all applicable laws,
38 including but not limited to local ordinances, and its operation
39 does not create a public nuisance; and

40
41 5. Scaled drawings are submitted and approved by the air
42 pollution control officer showing the wood-fired boiler will meet
43 the separation requirements to adjacent property lines and

habitable structures established in this subsection and that the stack of the boiler will be higher than the roof peak of any habitable structure within 300 feet.

6. Installation, modification and repair of a wood-fired boiler shall comply with the provisions of the Anchorage Building Code, Title 23 of the Anchorage Municipal Code.

E. Within the boundaries of the municipality, no person shall sell or offer for retail sale or lease a wood-fired boiler subject to the requirements of this section unless prior to any sales or lease agreement, the seller or dealer provides the prospective buyer or lessee with written notice prepared by or approved by the air pollution control officer stating:

1. Only clean wood may be burned in a wood-fired boiler; and
2. The installation of the wood-fired boiler is subject to the property line setback and stack height requirements provided in section A above; and
3. Prior to installation, written drawings showing all the requirements will be satisfied must be submitted and approved by the air pollution control officer; and
4. Includes an advisory statement noting a wood-fired boiler meeting the distance and stack height requirements in section A may not be appropriate in some areas due to terrain or meteorological conditions that render the operation of a wood-fired boiler a public nuisance or health hazard.

F. The written notice specified in section E shall be signed and dated by the prospective buyer or lessee to indicate receipt of the notification requirements of this section.

G. Prior to making delivery of a wood-fired boiler into the possession of any buyer or lessee, the seller or dealer shall mail or otherwise provide a copy of the signed notice specified above to the air pollution control officer. The notice shall contain:

1. The name, address and telephone number of both the seller or dealer and the buyer or lessee; and

2. The make and model of the wood-fired boiler, plus documentation showing the boiler is certified to meet the U.S. Environmental Protection Agency voluntary phase 2 emissions level.

Section 4. This ordinance shall be effective beginning on July 1, 2009.

PASSED AND APPROVED by the Anchorage Assembly this ____ day of _____, 2009.

Chair

ATTEST:

Municipal Clerk

MUNICIPALITY OF ANCHORAGE
Summary of Economic Effects -- General Government

AO Number: 2009-41

Title: AN ORDINANCE OF THE ANCHORAGE MUNICIPAL ASSEMBLY
AMENDING ANCHORAGE MUNICIPAL CODE CHAPTER 15.35 TO
REGULATE THE SALE AND INSTALLATION OF WOOD-FIRED BOILERS.

Sponsor: ACTING MAYOR
Preparing Agency: Department of Health and Human Services
Others Impacted:

CHANGES IN EXPENDITURES AND REVENUES:		(In Thousands of Dollars)				
	FY09	FY10	FY11	FY12	FY13	
Operating Expenditures						
1000 Personal Services	\$ 5	\$ 2	\$ 2	\$ 2	\$ 2	
2000 Non-Labor	1	-	-	-	-	
3900 Contributions						
4000 Debt Service						
TOTAL DIRECT COSTS:	\$ 6	\$ 2	\$ 2	\$ 2	\$ 2	
Add: 6000 Charges from Others						
Less: 7000 Charges to Others						
FUNCTION COST:	\$ 6	\$ 2	\$ 2	\$ 2	\$ 2	
REVENUES:						
CAPITAL:						
POSITIONS: FT/PT and Temp						

PUBLIC SECTOR ECONOMIC EFFECTS:

Small expenses expected to be necessary for DHHS to inform vendors and potential vendors of new wood-fired boiler regulations, especially during first year after passage of ordinance. In addition, small expenses expected for public outreach to inform potential buyers of wood-fired boilers of new requirements.

PRIVATE SECTOR ECONOMIC EFFECTS:

This new regulation may reduce the potential for new sales because property line setback requirements reduce the number of properties where they can be legally installed. However, the number of wood-fired boiler units being sold and installed in Anchorage is currently very small. Thus, the economic impact of this regulation on vendors selling these units is probably insignificant. If natural gas prices rise and make alternative sources of heating more attractive, the economic impact on vendors could become more significant.

This ordinance is expected to have a positive impact on air quality and will therefore reduce medical costs associated with exposure to fine particulate air pollution.



MUNICIPALITY OF ANCHORAGE

ASSEMBLY MEMORANDUM

No. AM 159-2009

Meeting Date: March 24, 2009

From: ACTING MAYOR

Subject: AN ORDINANCE AMENDING ANCHORAGE MUNICIPAL CODE SECTIONS 15.35.040 AND 15.35.050, AND ADDING A NEW SECTION TO REGULATE THE SALE AND INSTALLATION OF WOOD-FIRED BOILERS.

Wood-fired boilers are popular in the northeastern U.S. as a way of coping with the high cost of space heating. Unfortunately, these units often produce large amounts of smoke. Several states and many local governments have found it necessary to regulate or ban their use. Wood-fired boilers are effectively prohibited in the State of Washington.

A recent study showed particulate matter (smoke) emissions from these units are twenty times greater than a typical EPA-certified wood stove and four times greater than a heavy-duty diesel truck. Airborne concentrations of particulate matter measured 150 feet away from a boiler were found to frequently exceed 400 micrograms per cubic meter, more than ten times the EPA air quality standard. Elevated particulate emissions exacerbate asthma, bronchitis, and other lung and cardiovascular diseases.

Although wood-fired boilers are not yet popular in Anchorage, these devices are currently offered for sale by a number of local vendors. Thus far, the MOA Department of Health and Human Services (DHHS) has received just two air pollution complaints about them. However, as owners of homes and small businesses face the prospect of rising natural gas heating costs, wood-fired boilers may become more prevalent. Current municipal code does not regulate where or how wood-fired boilers are installed or operated.

Perhaps because home heating costs are higher than Anchorage, a large number of wood-fired boilers have been recently installed in the Fairbanks area. According to Borough air quality officials, about 1,500 wood-fired boilers were installed last summer alone. Fairbanks regularly violates federal air quality standards for particulate matter in the winter heating season. Borough officials believe that wood-fired boilers are a major contributor to the problem. They report that the pollution impacts of a single boiler can be measured as much as a quarter mile away.

1 The purpose of this ordinance is to avoid some of the problems that have occurred in
2 Fairbanks and in the northeast U.S. This ordinance, proposed by DHHS, incorporates ideas
3 from states that have recently regulated these boilers.

4
5 Effective July 1, 2009, this ordinance requires any wood-fired boiler to be installed a
6 minimum of 100 feet from adjacent property lines, with a boiler chimney constructed so it
7 is higher than the roof peaks of all habitable structures located within 300 feet.

8
9 EPA recently established Phase 1 and Phase 2 voluntary standards for wood-fired boilers.
10 Even though these standards are voluntary on the federal level, a growing number states
11 and local governments have opted to make these standards mandatory within their own
12 jurisdictions. Boiler manufacturers have responded by developing units to meet these
13 standards. The proposed Anchorage ordinance will prohibit the installation of wood
14 boilers that do not meet the more stringent Phase 2 standard. Although laboratory testing
15 suggests that Phase 2 certified boilers will be lower polluting, very little is known about
16 how well they will perform in practice. They can still emit significant amounts of
17 particulate pollution especially if they are used to burn improperly seasoned wood or soft
18 woods such as spruce.

19
20 Vendors selling these units inside the municipality will be required to report any sales of
21 these units to DHHS and inform buyers of the property line setback and stack height
22 requirements. Anyone intending to install and operate a wood-fired boiler in the
23 municipality must submit plans to DHHS showing the wood-fired boiler installation meets
24 the property line setback and stack height requirements.

25
26 The ordinance also prohibits the burning of anything other than clean, untreated wood, and
27 imposes opacity requirements that limit how much smoke can be produced during
28 operation. Features of the ordinance are compared with regulations adopted by other states
29 in the attached table.

30
31
32 **THE ADMINISTRATION RECOMMENDS APPROVAL OF AN ORDINANCE**
33 **AMENDING ANCHORAGE MUNICIPAL CODE SECTIONS 15.35.040 AND**
34 **15.35.050, AND ADDING A NEW SECTION TO REGULATE THE SALE AND**
35 **INSTALLATION OF WOOD-FIRED BOILERS.**

36
37 Prepared by: Stephen S. Morris, Department of Health and Human Services
38 Concur: Diane Ingle, Director, Department of Health and Human Services
39 Concur: James N. Reeves, Municipal Attorney
40 Concur: Michael K. Abbott, Municipal Manager
41 Respectfully submitted: Matt Claman, Acting Mayor

Exhibit for AM supporting Wood-Fired Boiler - AMC 15.35 amendments

Proposed MOA Wood-fired Boiler Ordinance Compared with Regulations in Other States

	MOA Ordinance (AMC section 15.35.105)	Examples of Requirements in Other States
Setback to adjacent properties	100 feet from nearest property line	Vermont: 200 ft from another residence Connecticut: 200 ft from another residence Massachusetts: 50 ft from property line and 75 ft to nearest occupied building (EPA Phase 2 boilers only)
Chimney height	Higher than roof peaks of any habitable building within 300 feet	Connecticut: higher than all roof peaks within 500 ft, however stack height may not exceed 55 ft. Vermont: higher than roof peaks of any residence within 500 ft. Massachusetts: higher than roof peaks of any residence within 150 ft. (EPA Phase 2 boilers only).
Particulate pollution emission limit	Must meet EPA Phase 2 Limit ≤ 0.32 lbs/million BTUs	Vermont: ≤ 0.44 lbs/million BTUs Massachusetts: ≤ 0.32 lbs/million BTUs (i.e., must meet Phase 2 standard) Maine: ≤ 0.60 lbs/million BTUs, ≤ 0.32 lbs/million BTUs after March 31, 2010 (EPA Phase 2).
Opacity (smoke limitation)	$\leq 20\%$ opacity or less for an aggregate of 6 minutes in each hour except for the first 20 minutes after start-up	Connecticut: $\leq 20\%$ for 6-minute avg and $\leq 40\%$ for 1-minute avg Maine: $\leq 30\%$ for 6-minute avg Massachusetts: $\leq 20\%$ for aggregate of 2 minutes each hour except 40% during first 6 minutes of start New Hampshire: $\leq 20\%$ for any 6-minute period except start-up, shut-down Vermont: $\leq 20\%$ opacity or less for an aggregate of 6 minutes in each hour
Other operational requirements	May burn untreated wood, corn, natural gas or clean heating oil.	All states have similar provisions limiting burning to clean wood, wood pellets or corn. The burning of garbage, tires and treated wood is prohibited.
Vendor notification requirements to MOA	Notify DHHS upon sale if wood boiler is to be installed in MOA. Provide name of buyer, seller and make and model of unit sold and address where unit will be installed. Provide written information to buyer on wood-fired boiler requirements in the MOA	Vermont and Maine have provisions in their regulations similar to the Anchorage proposal.
Owner notification requirements to MOA	Submit plans to DHHS for approval (must show installation will meet property line setback, stack height requirements)	No similar requirements in state ordinances. Some local governments have established a permit process requiring submission and approval of plans.

Cut-away View of Typical Wood-fired Boiler

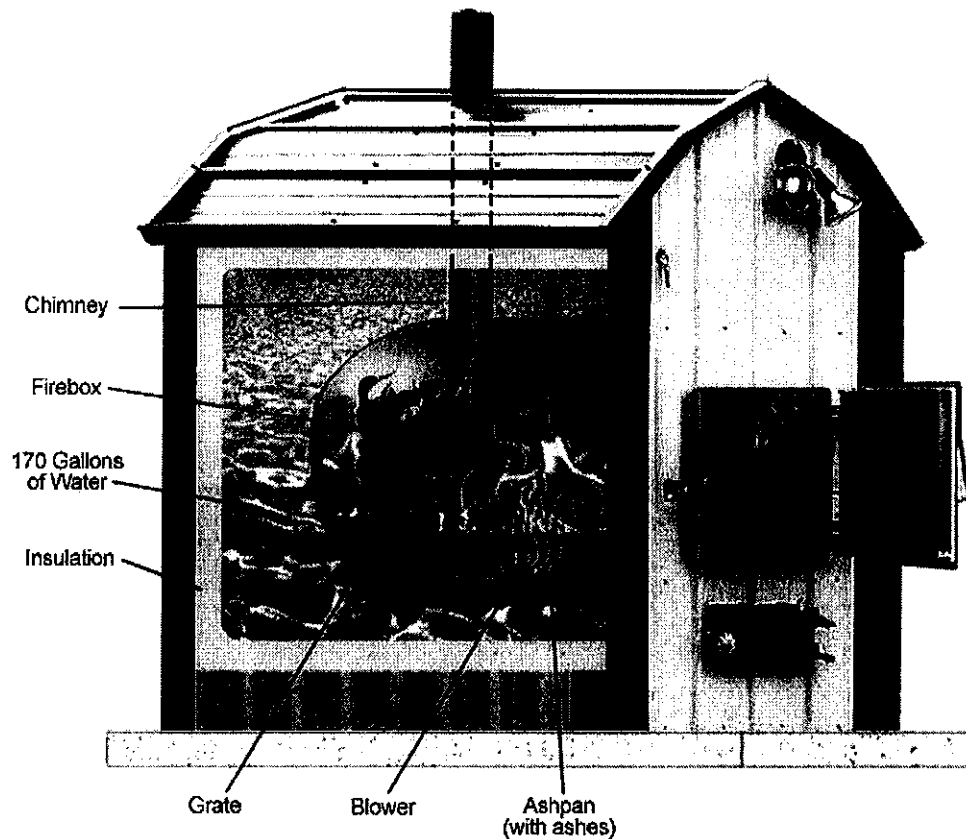


Photo from <http://www.outdoor-wood-furnace-boiler.com/images/cutaway-box.JPG>

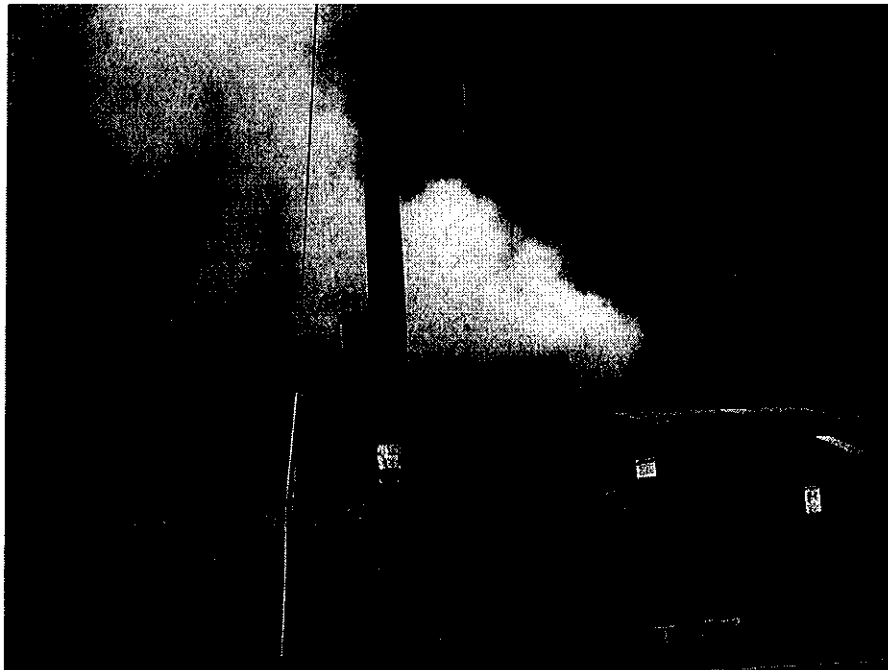


Photo from NESCAUM, March 2006

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AN ORDINANCE AMENDING ANCHORAGE MUNICIPAL CODE SECTIONS

Title: 15.35.040 AND 15.35.050, AND ADDING A NEW SECTION TO REGULATE
THE SALE AND INSTALLATION OF WOOD-FIRED BOILERS.**Author:** riderbg**Initiating
Dept:** HHS**Date
Prepared:** 2/18/09 1:27 PM**Director
Name:** Diane Ingle**Assembly
Meeting Date:** 3/24/09**Public
Hearing Date:** 4/21/09

Workflow Name	Action Date	Action	User	Security Group	Content ID
Clerk_Admin_SubWorkflow	3/12/09 3:18 PM	Exit	Joy Maglaqui	Public	007446
MuniMgrCoord_SubWorkflow	3/12/09 3:18 PM	Approve	Joy Maglaqui	Public	007446
MuniManager_SubWorkflow	3/12/09 9:35 AM	Approve	Michael Abbott	Public	007446
Legal_SubWorkflow	2/26/09 2:37 PM	Approve	Rhonda Westover	Public	007446
Finance_SubWorkflow	2/24/09 11:01 AM	Approve	Sharon Weddleton	Public	007446
OMB_SubWorkflow	2/20/09 11:20 AM	Approve	Wanda Phillips	Public	007446
HHS_SubWorkflow	2/18/09 2:00 PM	Approve	Jayson S. Smart	Public	007446
AllOrdinanceWorkflow	2/18/09 1:30 PM	Checkin	Benedicte Rider	Public	007446