



Outdoor Wood Boilers in Maine

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EPA/WESTAR Wood Smoke Workshop

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Neighbor vs. Neighbor

Boiler Smoke Led to Harrassment

MILLINOCKET, Maine — A year-old dispute between neighbors over an outdoor wood boiler has culminated with a restraining order on the boiler's owner, officials said Friday.

(Bangor Daily, 1/30/2009)



Chronology

- First OWB complaint in 1998
- June 2007: OWB law enacted
- November 2007: OWB regulation effective
- July 2008: Legislature established Replacement Fund with \$0
- February 2009: Added pellet boilers to regulation and created Replacement and Buy Back Program
- Buyback program sunsets August 2013



OWB Rule Overview

- EPA certification required
- Consumer information requirement
- Fuel restrictions
- Limitations on smoke opacity
- Nuisance provision
- Home rule provision

PHASE 2 QUALIFIED
U.S. Environmental Protection Agency
2008 Hydronic Heater Program

Phase 2 Qualified models are cleaner and pollute less than those models that have not met this emission level. Exposure to smoke has been associated with respiratory illness and other health problems. Models that have lower smoke emissions may reduce your risk.

For more information go to www.epa.gov/woodheaters

**HYDRONIC HEATERS
SMOKE EMISSIONS RANGE**

LOWER EMISSIONS HIGHER EMISSIONS
0 2.0
Better Worse

0.26
THIS MODEL

0.33 EPA PHASE 2 EMISSIONS LEVEL

Heaters with lower emissions produce less smoke when installed and operated properly.

MANUFACTURER:	XXXX
MODEL NUMBER:	XXXXX
9-HOUR OUTPUT RATING:	112,000 BTU/HR
8-HOUR AVERAGE EFFICIENCY:	70% (using higher heating value) 81% (using lower heating value)
FINE PARTICLE EMISSIONS:	5.1 GRAMS/HR (average) 17.4 GRAMS/HR (maximum test run) 0.17 LBS/MILLION BTU INPUT 0.26 LBS/MILLION BTU OUTPUT 0.09 GRAMS/HR/10,000 BTU OUTPUT

EPA has determined, based on testing by an accredited independent laboratory, that this model qualifies at the Phase 2 emissions level for U.S. EPA's Voluntary Program.

OWB Rule Overview

	Required After	PM standard (lb/MMBtu)	Property line setback	Neighboring dwelling setback	Stack 10 ft, or 2 ft above roof if within _____ ft of neighbor
Uncertified Wood	Nov 2007		250	270	500
Uncertified Pellet	Feb 2009		250	270	500
Phase I	April 2009	0.6 heat input	100	120	300
Phase II	April 2010	0.32 heat output	50	70	300
Voluntary		0.06 heat output	20	40	100

Nuisance

Legislative directive to define for OWBs in regulation

“Nuisance” means emission of air contaminants to the outdoor atmosphere of such quantity, characteristic or duration that may be injurious to human, plant or animal life or property, or that unreasonably interferes with the comfortable enjoyment of life or property. (06-096 CMR 150)

Rule also contains:

A. Opacity standards for Nuisance smoke

B. Prohibition against operating outdoor wood or pellet boiler in a manner that creates a nuisance

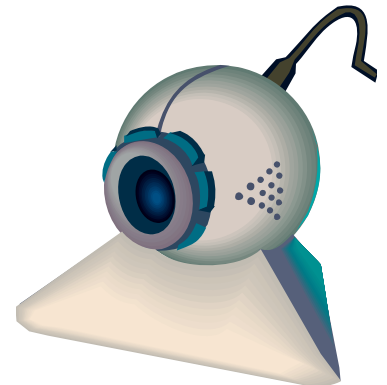
Enforcement Tools



- **EPA Method 9 Opacity**
 - Maximum 30% opacity
 - Certified observers can't reach sites in time

- **EPA Method 22 Nuisance Smoke**

- 12 minutes of impact in an hour
- Any observer and/or video record
- Any visible smoke crosses property line
- Time consuming



Complaint Response

1. Site visits

- Evaluate variables for impact
 - OWB distance from complainant
 - Terrain
 - Weather
- OWB owner
 - Unit characteristics
 - Burn practices
 - Fuel type

Complaint Response

2. Education

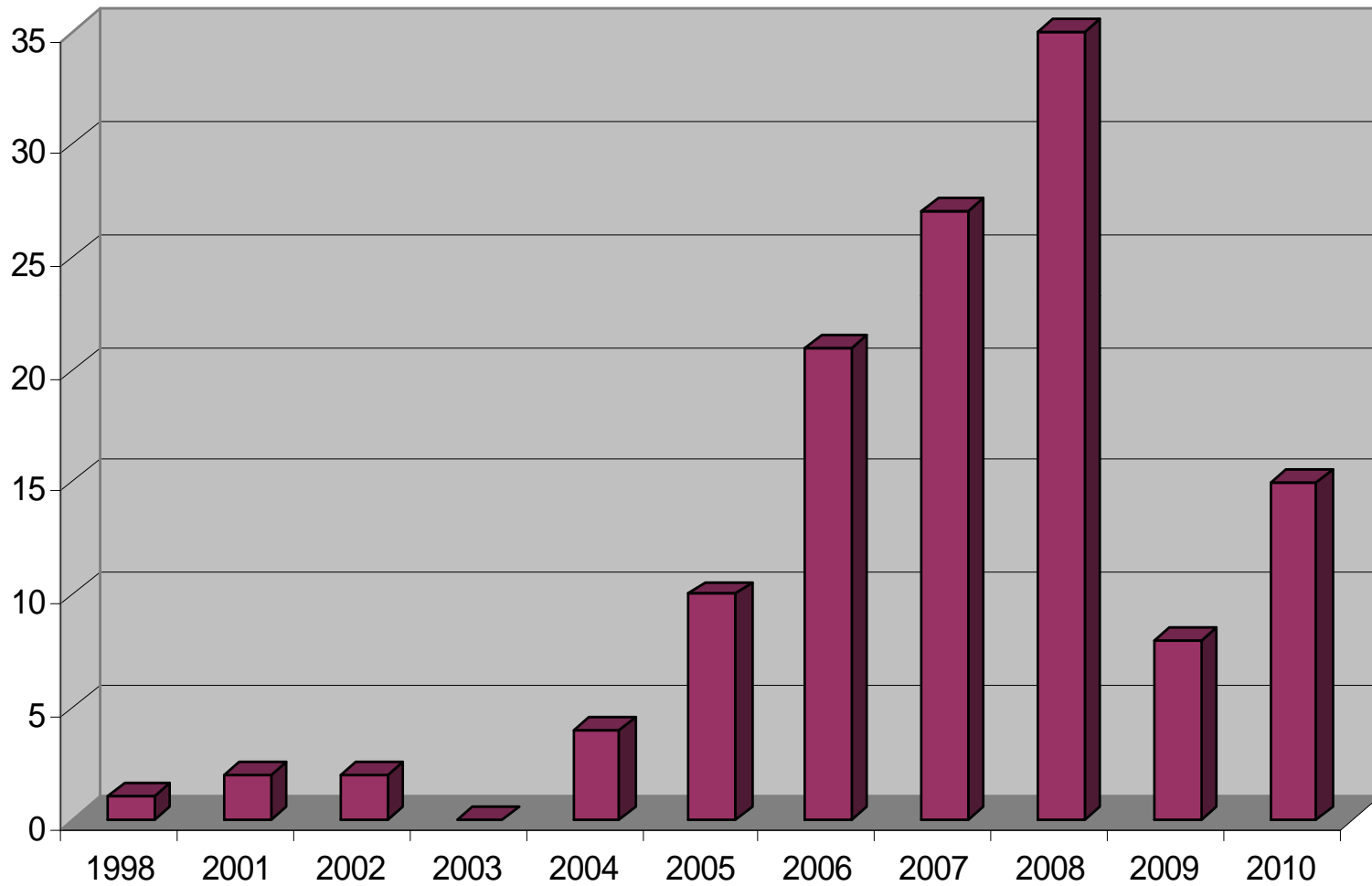
(more site visits)

3. Monitoring

4. Enforcement



Number of OWB Complaints



Total = 125

Survey of Complainants

- 29 Complainants responded in 2008
 - 11 reported improvement since regulation
 - 20 reported smoke and odor impact
 - 20 reported respiratory or cardiac diagnoses
 - 4 reported doctor visits or hospitalization
 - 2 respondents relocated because of OWB



Success Story

Heatmor OWB used by cabinet manufacturer caused repeated complaints

Replaced with 2 condensing propane boilers in 2009

Wood cost	\$11,000.00
Labor to tend OWB	\$3,588.00
Value of production lost	\$11,814.60
Total cost of OWB heating	\$26,402.60
Propane cost	\$7,713.99
Annual Savings	\$18,688.61

Progress?

- Press coverage of legislation and rulemaking
- Dealers must educate buyers
- Outreach efforts
- Phase II units much cleaner
- New technology for old units?

ClearStak



Buy-Back Program



Fund established and rules in place to implement
...but no \$\$\$

DEP maintains list of prioritized OWBs

Ranked by:

- Threat they pose to the public's health
- Distance to neighbors
- Population density where located
- Proximity to sensitive populations.
- Efforts by the owner to reduce impact