

State of Oregon
Department of Environmental Quality

Memorandum

Date: Nov. 23, 2011

To: Environmental Quality Commission

From: Dick Pedersen, Director

Subject: Agenda item E, Action item, Rulemaking: Small and mid-size boiler rule amendments
Dec. 15-16, 2011, EQC meeting

Why this is important DEQ's Heat Smart program rules, as revised and approved by the commission earlier in 2011, had the unintended consequence of limiting the sale and use of some small-scale biomass or solid fuel burning commercial and institutional boilers. These boilers are necessary for biomass energy initiatives planned in Oregon, and DEQ proposes to replace the temporary rules with the proposed permanent rules to clarify the restrictions limiting the sale and use of these boilers.

DEQ recommendation and EQC motion DEQ recommends that the commission adopt the proposed revisions to Oregon Administrative Rules, Chapter 340, divisions 200, 210, 212, 228 and 262 as presented in attachment A. DEQ also recommends that the commission amend the Oregon Clean Air Act State Implementation Plan, and authorize DEQ to submit these revisions to the U.S. Environmental Protection Agency for approval as revisions to Oregon's plan.

Background and need for rulemaking In February 2011, the commission revised the Heat Smart rules to require that small solid fuel burning devices with maximum heat output capacities below 1 million Btu per hour meet EPA's New Source Performance Standards for residential wood heating appliances¹ in order to be sold in Oregon. After adopting the revisions, it came to DEQ's attention that the rules had the unintended consequences of affecting small-scale commercial and institutional wood-fired space heating and process boilers. Heat Smart rules address residential wood heating devices, including outdoor wood-fired boilers, also known as hydronic heaters, and small-scale commercial space heating systems that use wood as a primary fuel. Small and mid-size commercial, institutional and industrial biomass boilers are typically process boilers used in a different type of application than those used for residential or small-scale commercial space heating. Typically, these boilers are used for wood drying applications at a biomass campus and for

¹ 40 CFR Part 60, Subpart AAA

heating much larger spaces, such as schools or hospitals. These types of small boilers are subject to existing state and federal air quality standards, including federal air toxics standards, but the current Heat Smart rule unintentionally restricts the sales of these units in Oregon.

EPA is developing an emissions performance certification program for residential and small-scale commercial biomass boilers, similar to its woodstove certification program. Since EPA's program is still in development and cannot currently be used to certify small-scale commercial, industrial, and institutional biomass boilers, these devices are not allowed to be sold or installed in Oregon. However, under this proposed rule change, small-scale commercial and institutional solid fuel boilers that are subject to National Emission Standards for Hazardous Air Pollutants, and which obtain construction approval from DEQ, would be exempt from Heat Smart program rules and could be sold in Oregon.

The proposed rule amendments also require the owner or operator to register exempted boilers with DEQ. Registration indicates that the solid fuel burning device is in compliance with applicable national emissions standards for hazardous air pollutants as well as state standards for opacity and particulate grain loading.

In addition to allowing the sale and installation of small-scale solid fuel burning devices, the proposed rule amendments would also allow DEQ to require future registration of mid-sized solid fuel burning devices, defined as those with maximum heat input below 10 million Btu per hour. Boilers in this size range are generally too small to be covered by a conventional DEQ air quality permit. Larger boilers, those with maximum heat input capacities greater than 10 million BTU per hour, are typically associated with major industrial facilities and are covered under the facility's air quality operating permit.

Effect of rule

As proposed, this rulemaking would replace the temporary rules currently in effect for small biomass boilers. The temporary rules expire Dec. 19, 2011. If adopted, the proposed rule amendments would exempt from Heat Smart rules and allow the sale of solid fuel boilers that are subject to national emissions standards for hazardous air pollutants with heat outputs less than one million Btu per hour, and have obtained construction approval from DEQ. DEQ will also require boilers exempt from the Heat Smart rule to verify compliance with state and federal emission standards. Under the proposed rule changes, DEQ could require registration for biomass boilers and other solid fuel burning devices with heat inputs below 10 million Btu per hour that are located at unpermitted facilities. These registrations would be triggered in the future upon DEQ request, allowing DEQ to phase-in the

registration process for existing boilers and manage the workload of providing technical assistance to boiler owners. Boilers at an existing facility with an air quality permit will continue to demonstrate compliance with applicable emissions standards through permitting.

As part of the registration process, the owner or operator would be required to confirm that a boiler meets emission standards that apply to the boiler's operation. These standards include a grain loading limit of 0.1 grain per dry standard cubic feet (OAR 340-22-0210), an opacity limit of 20 percent except for three minutes per hour (OAR 340-208-0110), and biennial tune-ups as required by the national emissions standards for hazardous air pollutants. There would be no registration fee, but there could be costs associated with source testing in order to demonstrate compliance with the grain loading standard.

In order to confirm compliance with applicable emissions standards, owners or operators of affected boilers could choose to either have a source test conducted or request source testing results documentation from the boiler manufacturer. DEQ could require manufacturers to hire an independent, third-party tester to provide verification that a boiler meets emissions standards using test conditions representative of normal operating parameters.

This proposed rulemaking would amend the State of Oregon Clean Air Act State Implementation Plan.

**Commission
authority**

The commission has authority to take this action under ORS 468, ORS 468A, ORS 468.020, ORS 468A.025, ORS 468A.035, ORS 468A.050, ORS 468A.055, ORS 468A.070, ORS 468A.460 to 468A.515, and ORS 468A.310.

Key issues

Several small-scale commercial, industrial and institutional biomass boiler projects are under development across the state as part of Oregon's biomass initiative. These projects are relying on federal and Oregon Department of Energy funding, with fast project timelines critical to the success of these efforts. Without these proposed rules, some small biomass boiler projects under the state biomass initiative will remain subject to the Heat Smart rules and will therefore not be allowed in Oregon.

Public outreach

DEQ held a stakeholder meeting to discuss the rules in Portland this June. DEQ's public comment period was open July 15 to Aug. 25 and DEQ held a public hearing Aug. 18, 2011. No one from the public attended the hearing. DEQ received written comments from one commenter during the comment period.

Next steps If adopted, the proposed permanent rule amendments would become effective upon filing with the Secretary of State. DEQ's Air Quality Division will provide technical assistance to owners and operators of biomass boilers and other solid fuel burning devices that will be required to register under the new rules. Outreach activities will be coordinated and implemented through DEQ's Small Business Assistance Program. DEQ is also developing a simple, web-based, construction approval and registration process for boilers affected by these rules. For more information, the technical assistance implementation plan is available upon request.

Attachments

- A. Proposed rules (redline)
- B. Public hearing officer's report
- C. Public comment and agency responses
- D. Relationship to Federal Requirements questions
- E. Statement of Need and Fiscal and Economic Impact
- F. Land use evaluation statement

Available upon request

- 1. Rulemaking announcement
- 2. Technical Assistance Implementation Plan
- 3. Temporary Rulemaking documents
- 4. EPA Area Source MACT rules

Approved:

Division:

Section:

Report prepared by: Carrie Capp
Phone: 503-229-5868