


State of Oregon
Department of Environmental Quality

Memorandum

Date: Nov. 16, 2012
To: Environmental Quality Commission
From: Dick Pedersen, Director 
Subject: Agenda item I, Action item, Rule proposal: Oakridge-Westfir PM_{2.5} Attainment Plan
Dec. 6-7, 2012, EQC meeting

Why this is important This proposed rulemaking adopts an attainment plan that will reduce fine particulate matter, or PM_{2.5}, in order to protect the health of the residents in the city of Oakridge and neighboring Westfir community. LRAPA, the Lane Regional Air Protection Agency, is the designated agency for air quality in Lane County, as delegated by DEQ. The plan and associated rules are designed to bring this area into compliance with National Ambient Air Quality Standards for PM_{2.5} by the federal deadline of December 2014.

DEQ recommendation and EQC motion DEQ recommends that the Oregon Environmental Quality Commission adopt the proposed rule amendments as presented in attachment A, approve Oakridge-Westfir PM_{2.5} Attainment Plan as presented in attachment A and direct DEQ to submit the Oakridge-Westfir PM_{2.5} Attainment Plan to the Environmental Protection Agency as a revision to the Oregon Clean Air Act State Implementation Plan.

Background and need for rulemaking History of particulate pollution in Oakridge
During the winter months, Oakridge air quality is often threatened by high concentrations of smoke from woodstoves settling on the valley floor. Local climate and topography make the city of Oakridge prone to wintertime temperature inversions, low wind speeds and poor atmospheric dispersion.

As a result, Oakridge has struggled to meet air quality standards. Oakridge was designated a PM₁₀ nonattainment area Jan. 20, 1994. The city has not violated the PM₁₀ standard since this designation. Voluntary measures to reduce wood smoke emissions adopted in 1999 continue to reduce measured particulate levels.

In 1997, EPA revised the particulate standard to include smaller particulate, PM_{2.5}, and established a daily standard of 65 micrograms per cubic meter. The original PM₁₀ strategies were so successful that Oakridge met the 1997 PM_{2.5} standard. However, in 2006, EPA

lowered the daily PM_{2.5} standard based on the latest health effects research, from 65 µg/m³ to 35 µg/m³, causing Oakridge to go back into nonattainment. The area designated as nonattainment for PM_{2.5} was expanded to include the nearby small city of Westfir and the surrounding area. The federal Clean Air Act requires Oakridge-Westfir to reduce its particulate levels to comply with the PM_{2.5} standard by December 2014.

The Oakridge PM_{2.5} Advisory Committee

LRAPA and the City of Oakridge convened the Oakridge Advisory Committee in 2011 to help develop and recommend strategies to bring Oakridge into attainment with the standard. The committee included residents from both Oakridge and Westfir. From July to December 2011, the committee met to evaluate pollution reduction strategies with the highest chance of success in meeting the PM_{2.5} standard and developed recommendations for emission reduction measures. These recommendations formed the groundwork for the city to adopt emission reduction measures in local ordinances, and for LRAPA to develop an attainment plan for the Oakridge-Westfir area.

State Implementation Plan

The attainment plan, developed in accordance with EPA's guidance, is a comprehensive document that identifies the emission sources of PM_{2.5} and estimates the current and future year concentrations based on the emission inventory and measurements. The plan contains emission reduction strategies consisting of local ordinances, LRAPA regulations and non-regulatory elements including incentives and education. If the community fails to reduce particulate emissions by the 2014 deadline, the plan's contingency measures would take effect automatically and are designed to achieve rapid compliance with the PM_{2.5} standard. The contingency measures are a backstop until the plan can be reevaluated and corrected. The proposed attainment plan will help LRAPA and the community control emissions to ensure clean air and protect public health in Oakridge-Westfir.

Effect of rule

Since residential woodstove emissions comprise the majority of the fine particulate emissions in Oakridge-Westfir, most of the proposed particulate reductions will come from enhancements to the community's woodstove curtailment program, implemented through local ordinances. Other related strategies include continuing the program of replacing polluting uncertified woodstoves and a public awareness and education program.

If the attainment plan fails to achieve the federal standard by December 2014, additional measures and regulations in the contingency plan would increase the number of "red no-burn days"

under the woodstove program from 20 to 30 days per year, increase the percentage of curtailment effectiveness and decrease the allowed opacity for woodstove emissions from 40 percent to 20 percent during the winter woodstove season.

The emission reduction measures in the attainment plan are designed to meet the daily PM_{2.5} standard by lowering PM_{2.5} levels on worst days during the winter heating season to approximately 28 µg/m³, below the 24-hour health standard of 35 µg/m³. Since the woodstove curtailment program achieves the vast majority of emission reductions, the effectiveness of the program is critical to meet the PM_{2.5} standard in Oakridge-Westfir.

**Commission
authority**

The commission has authority to take this action under ORS 468.020, 468A.025 and 468A.460.

Key issues

Economic impacts

During plan development and the public comment period, LRAPA received comments expressing concern that the attainment plan could harm the local economy and hinder its recovery. LRAPA, the Oakridge Advisory Committee and the City of Oakridge focused on strategies with the lowest fiscal impact on local businesses and the economy.

One benefit of the plan meeting the health standards on schedule is that it would allow more opportunity for future economic development.

When an area is designated as nonattainment, federal requirements for industrial sources require use of the most stringent control equipment for new or expanding sources and reasonably available control technology for existing sources. While these federal restrictions may prevent some industries from expanding or moving into the Oakridge-Westfir area, they are designed to reduce pollution and ensure the health of all residents. LRAPA expects the attainment plan will achieve timely compliance with the standard, which will enable LRAPA to begin the steps needed to lift the more stringent industrial restrictions. If the area meets the standard by 2014, LRAPA can begin development of a maintenance plan that can be submitted to EPA, with a request to re-designate the area to attainment. The maintenance plan can include provisions to ease the restrictions on industrial growth, depending on the implementation success of the existing attainment plan. This will have a positive economic impact on the community.

Evaluating compliance with the standard

Some community members raised questions on the technical accuracy of monitoring data showing Oakridge-Westfir is above the PM_{2.5} standard. They stated that the Willamette Activity Center monitor in southwest Oakridge should not be used to determine compliance because it is located in a part of town that has the poorest air quality and is not representative of the entire city. However, EPA monitoring requirements dictate that monitoring take place in the area with the highest pollution levels in order to ensure the entire community meets health standards and is protected. Over the last 20 years, LRAPA has conducted numerous monitoring studies where particulate samples have been taken throughout the Oakridge area, and more recently in the Westfir area. These studies show that particulate levels are consistently high at Willamette Activity Center.

LRAPA also received comments questioning the validity of the PM_{2.5} standard. EPA sets this standard based on the latest scientific and health effect research. EPA reviews the standard every five years. LRAPA expects that the proposed attainment plan will have a positive effect on the health of Oakridge-Westfir residents. There are a number of studies linking PM_{2.5} exposure with respiratory problems and cardiac diseases. U.S. and Canadian studies report statistically significant relationships between an increase in PM_{2.5} and an increase in hospitalizations for all respiratory causes, including chronic obstructive pulmonary disease, pneumonia and asthma. In addition to the greatly expanded body of evidence on hospitalization or emergency department visits for cardiovascular diseases, new epidemiologic studies have also reported associations between more subtle physiological changes in the cardiovascular system and short-term exposures to PM_{2.5} concentrations. These impacts could result in days of missed work and have economic impacts that would affect the economy.

Woodstove emissions

The enforcement of the woodstove curtailment program is the key strategy to help Oakridge-Westfir comply with the standard. This includes a focus on habitually violating offenders, increased patrols on red days and increased awareness and public outreach regarding the curtailment program. Since the curtailment program already exists, effective enforcement is essential for success of the plan.

Public outreach

LRAPA held a public information meeting in Oakridge on Sept. 18, 2012, with residents from Oakridge and Westfir in attendance, and a public hearing was held before the LRAPA Board of Directors in Springfield on Sept. 20, 2012. A summary of the public comments is provided in attachment C.

Next steps. If approved, DEQ must submit this PM_{2.5} attainment plan to EPA as a revision to the Oregon Clean Air Act State Implementation Plan. LRAPA must continue to provide real-time air monitoring and daily woodburning advisories and work closely with the city of Oakridge to ensure effective implementation of the curtailment strategies and the success of the attainment plan. LRAPA must continue to assist the city in designing public education materials. Finally, LRAPA staff must continue to collaborate with the city of Oakridge and the public to track progress in reducing PM_{2.5} levels to meet the standard.

Attachments

- A. Proposed rule revisions
 - 1. Revisions to Division 200
 - 2. Revisions to LRAPA's Title 29
 - 3. Oakridge-Westfir PM_{2.5} Attainment Plan
- B. Summary of public comments and agency responses
- C. Presiding Officer's Report on public hearings
- D. Relationship to Federal Requirements questions
- E. Statement of Need and Fiscal and Economic Impact
- F. Land Use Evaluation statement

Available upon request

- 1. DEQ proposed rulemaking announcement
- 2. Oakridge PM_{2.5} Advisory Committee Recommendations
- 3. Legal Notice of Hearing
- 4. Written comments received
- 5. LRAPA minutes from public hearing

Approved:

Division:

Section:

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