



State of Oregon
Department of
Environmental
Quality

Oregon Department of Environmental Quality

June 16, 2014

Statement of Need and Fiscal and Economic Impact Statement

In the matter of:

Air quality permitting, Heat Smart, and gasoline dispensing facility updates

Statement of need

1. Clarify and update air quality rules

After years of rulemakings and updates, DEQ proposes to clarify, update and reorganize Oregon's air quality rules. Previous improvements to these programs began with EQC's adoption of revisions to point source air management rules in 2001 and air quality permit program streamlining and updates in 2007. The existing rules contain multiple definitions for the same term, missing details, obsolete or outdated rules and rules that do not align with federal rules adopted by the U.S. Environmental Protection Agency, which causes confusion. This proposal would clarify and update the rules to address the needs listed in this table.

What need would the proposed rules address?	How would the proposed rules address the need?
Some important details are missing from the rules, such as specific compliance methods for determining compliance with an emission standard. This creates uncertainty for DEQ and regulated parties implementing the air quality programs.	The proposed rules would incorporate the missing compliance methods and help businesses understand how to comply with the standards.
Some procedures are in definitions rules instead of procedural rules, creating confusion for regulated parties. For example, the procedures to determine a major modification, actual emissions and netting basis are in the definitions rules instead of procedural rules.	The proposed rules would move procedures from definitions rules to procedural rules.
The rules contain different definitions for the same term and definitions are located in multiple divisions, making it difficult for regulated parties to find definitions or know how to apply the definitions.	The proposed rules would move all common definitions to division 200, General Air Pollution Procedures and Definitions. The proposed rules would provide only one definition per term and add definitions for undefined terms such as <i>control efficiency</i> , <i>internal combustion engine</i> and <i>removal efficiency</i> .
Some of the tables in the rules are difficult to find and understand.	The proposed rules change the layout of these tables and move rule language from the tables into the text to make information easier to find and understand. This includes information about significant emission rates, de minimis emission levels, generic Plant Site Emission Limits, significant impact levels and Prevention of Significant Deterioration increments.

1. Clarify and update air quality rules

What need would the proposed rules address?	How would the proposed rules address the need?
The rules contain requirements for industries that no longer operate in Oregon.	DEQ proposes to repeal rules for the following industries that no longer operate in Oregon: • Neutral sulfite semi-chemical pulp mills • Sulfite pulp mills • Primary aluminum standards • Laterite ore production of ferronickel • Charcoal producing plants If a business in these industries wants to build in Oregon and requires an air quality permit, DEQ would issue the permit under more stringent federal requirements for new sources. Oregon rules incorporate the federal rules by reference.
When Oregon adopted federal and state standards, some of DEQ's rules became unnecessary. These rules do not align with EPA's more stringent standards and this creates conflict between DEQ's rules and federal law.	DEQ proposes to repeal the following rules: • Spray paint rules for sale or use in the Portland area. Federal rules that apply to manufacturers of consumer spray paint will continue to reduce ozone from consumer products. • Western Backstop (WEB) Sulfur Dioxide (SO₂) Trading Program rules. Oregon no longer needs the general sulfur dioxide trading program to address regional haze because Oregon adopted individual emission limits (based on Best Available Retrofit Technology requirements) to directly reduce haze-causing emissions from sources like the PGE Boardman plant. • Open burning rules that regulate emissions from forced-air pit or air curtain incinerators. Federal rules for commercial and industrial solid waste incineration require facilities with forced-air pit or air curtain incinerators to obtain Title V permits. Therefore, DEQ must repeal the rules that allow forced-air pit incineration as an alternative to open burning.

1. Clarify and update air quality rules

What need would the proposed rules address?

The excess emission rules do not contain all of the sources required to report excess emissions. They also do not contain source specific criteria for determining enforcement action.

The excess emission rules require sources to report excess emissions to DEQ as follows:

- Large sources must report all excess emissions immediately (within one hour of the event)

A “large” source is defined as any Title V source, any source whose emissions are equal to or exceed 100 tons per year of any regulated air pollutant, or which is subject to a National Emissions Standard for Hazardous Air Pollutants.

- Small sources must notify DEQ immediately only of excess emissions events that could endanger public health.

A “small” source means any other stationary source with a basic, general, simple or standard Air Contaminant Discharge Permit. In the definition of “small” sources in the excess emission rules, DEQ inadvertently did not include sources that are on basic permits.

Since EQC’s initial adoption of the excess emission rules, EPA adopted NESHAPs for many smaller sources, such as gas stations, hospital ethylene oxide sterilizers, and dry cleaners. These sources are missing from DEQ’s rules, creating conflict between DEQ’s rules and federal law.

The general provisions for NESHAP sources and some individual NESHAPs include excess emission reporting; therefore, DEQ’s rules do not need to include these small sources with the large sources that are required to report excess emissions immediately.

How would the proposed rules address the need?

The proposed rules would add omitted sources required to report excess emissions and add the criteria for determining whether to take enforcement action for excess emissions, including

- Whether any federal New Source Performance Standard or National Emission Standard for Hazardous Air Pollutants apply and whether the excess emission event caused a violation of the federal standard; and
- Whether the excess emissions event was due to an emergency.

1. Clarify and update air quality rules

What need would the proposed rules address?

Source-specific technology-based standards such as federal New Source Performance Standards and NESHAPs consider the achievable emissions of a facility that uses best demonstrated technology. Adding this criterion when determining whether to take enforcement action for excess emissions allows DEQ to recognize that while a source may violate the general statewide standard, the source is still complying with the source-specific technology-based standard.

The excess emission rules allow affirmative defense in incorrect circumstances. Affirmative defense is the ability to avoid civil penalties for violations. On Feb. 12, 2013, EPA proposed a new rule limiting the circumstances in which sources could claim affirmative defenses, and clarifying how such provisions may apply under Title V permits versus other permits under the SIP. Under EPA's interpretation, DEQ's excess emissions rules incorrectly allow all permitted sources to assert an affirmative defense, rather than just Title V sources.

Portions of the Source Sampling Manual Volumes I and II and the Continuous Monitoring Manual are no longer current, which creates problems for DEQ staff and regulated parties implementing the manuals. DEQ last updated the manuals in 1992.

How would the proposed rules address the need?

In addition, DEQ proposes to limit affirmative defenses to Title V permitted sources only and not sources that are regulated under the State Implementation Plan.

The proposed rules update the Source Sampling Manual Volumes I and II and the Continuous Monitoring Manual.

DEQ extensively revised the Source Sampling Manual Volume I to incorporate revised EPA methods for measuring fine particulate matter and other changes to sampling and monitoring methods made since 1992. The manual addresses air emissions source sampling practices and procedures for sampling projects conducted within the State of Oregon.

DEQ also extensively revised the Continuous Monitoring Manual to address:

- Continuous Emission Monitoring Systems;
- Continuous Parameter Monitoring Systems;
- Continuous Opacity Monitoring Systems;
- Federal monitoring requirements pertaining to NSPS, NESHAP, and Acid Rain programs; and
- DEQ specific monitoring requirements.

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What need would the proposed rules address?	How would the proposed rules address the need?
	Revisions to the Continuous Monitoring Manual primarily concern: • Commercial operations that are required to install and operate Continuous Monitoring Systems; • Contractors that audit or certify Continuous Monitoring Systems; and • Venders who sell or design Continuous Monitoring Systems. The manuals are part of the proposed rules in this rulemaking package.
The Lane Regional Air Protection Agency's authority is unclear in some rules. LRAPA implements Oregon's air quality permitting programs in Lane County.	The proposed rules clarify LRAPA's authority in rules that LRAPA implements in Lane County. LRAPA generally must implement DEQ rules unless it adopts its own rules that are at least as strict as DEQ rules.

2. Update particulate matter emission standards

DEQ proposes more stringent particulate matter standards to help prevent violations of the federal fine particulate standard.

Like many other states, Oregon adopted statewide particulate matter standards in 1970 as part of Oregon's initial State Implementation Plan. Since 1970, health researchers have concluded that exposure to particulate pollution is more harmful than previously indicated. As a result, EPA lowered the ambient air quality standard for particulates from 260 micrograms per cubic meter; it established separate standards, including a coarse particulates standard at 150 micrograms per cubic meter and a fine particulates standard at 35 micrograms per cubic meter.

EPA designates areas that violate air quality standards as nonattainment areas and designates all other areas as attainment or unclassified areas. With EPA's adoption of the fine particulate ambient air quality standard in 2011, Klamath Falls and Oakridge are now designated as nonattainment areas for fine particulate. Lakeview also violates the standard, but was not designated nonattainment because its data was not available at the time EPA designated Klamath Falls and Oakridge. Numerous other areas in Oregon are only slightly below the standard. More stringent state particulate matter standards may help prevent additional violations of the federal fine particulate standard in the future, especially if EPA continues to lower the standard.

Oregon's initial State Implementation Plan included less protective emission standards for businesses that were in operation in 1970; these are known as grandfathered businesses. However, emissions from grandfathered businesses subject to the particulate matter standards do not

2. Update particulate matter emission standards

adequately protect air quality. Routine exposure to air pollution at these levels can cause significant adverse health impacts to sensitive individuals.

In addition, emissions from these businesses can create barriers to economic development in the community. If a single business consumes the majority of an airshed's acceptable pollution levels, other businesses may not be able to expand and new businesses may not be able to come into the area. Work on the Klamath Falls fine particulate attainment plan showed when the background particulate matter concentration is added to a business's impacts, the impacts from a single grandfathered business could consume a significant portion of the available airshed. DEQ found similar results when analyzing emissions from a grandfathered business near Lakeview.

DEQ relies on two types of general standards to control emissions from permitted sources of particulate matter such as dust or smoke. One type of standard sets concentration-based emission limits as mass per unit volume of exhaust gas. A second type of standard, referred to as a visible emissions standard, limits the maximum visual density, or opacity, of a plume. Existing rules include different particulate concentration and opacity standards for units installed before or after 1970:

Pre-1970 unit 0.2 grain/dry standard cubic foot (gr/dscf) and 40 percent opacity

Post-1970 unit 0.1 gr/dscf and 20 percent opacity

What need would the proposed rules address?

Particulate matter emissions put Oregon areas at risk of exceeding ambient air quality standards and being designated as nonattainment areas by EPA. Once EPA designates an area as nonattainment for fine particulate emission, DEQ and the local government must develop and implement a federally approved attainment plan, which is costly to all involved and can require severe restrictions for businesses that want to build or expand in these areas. Attainment plans for fine particulate nonattainment areas typically include stringent regulations to reduce emissions from existing and new industry, residences and commercial establishments. An example of the type of restrictions imposed on businesses are in the rules adopted for the Medford/Ashland air quality maintenance area PM₁₀ attainment plan under OAR 340-240-0100 through 340-240-0250.

How would the proposed rules address the need?

Reducing emissions from grandfathered businesses before areas exceed ambient air quality standards and are designated as nonattainment areas helps Oregon avoid the costs of developing and implementing attainment plans. This would also help avoid severe restrictions for businesses that want to build or expand in these areas.

The proposed rules would affect both the statewide particulate matter and opacity standards for grandfathered units built before June 1970 by phasing in a requirement for these businesses to meet lower standards based on typically available control technology, such as multiclones.

The particulate matter standard for all businesses (both pre- and post-1970) that are currently emitting less than 0.080 grains per dry standard cubic foot will be reduced to 0.10 gr/dscf from 0.2 gr/dscf and 0.1 gr/dscf, respectively. Under current rules, businesses are required to operate at their highest and best practicable treatment and control of air contaminant so as to maintain overall air quality at the highest possible levels, and to maintain pollution at the lowest possible levels. Therefore, businesses that are operating at levels much lower than existing standards must continue to do so.

2. Update particulate matter emission standards

What need would the proposed rules address?	How would the proposed rules address the need?
	Pre-1970 businesses will be required to meet 0.15 gr/dscf rather than 0.2 gr/dscf. Post-1970 businesses will be required to meet 0.14 gr/dscf. The standard for equipment or modes of operation that are used less than 876 hours per year remains at 0.20 gr/dscf. The opacity standard would be reduced for all businesses to 20 percent with the following exceptions: • 40 percent during 12 minutes in an hour; and • 40 percent during grate cleaning operations for wood fired boilers. The proposal would allow a five-year transition period, ending no later than Jan. 1, 2020, but includes an opportunity for a one-year extension, if necessary. The proposed rules provide an option to request a source-specific limit if boiler or multiclone optimization does not result in emissions low enough to meet the revised standards. This would ensure the proposed rules would not require any business to replace a boiler or convert to fossil fuel.
DEQ's rules conflict with federal guidance. Oregon's current particulate matter standards have only one significant figure (e.g., 0.1 gr/dscf) whereas EPA expects all standards to have two significant figures (e.g., 0.10 gr/dscf) when comparing measured emissions data to the standards.	The proposed rules add a significant figure to all particulate matter standards to align with the EPA guidance that standards have two significant figures. The intent of the proposed rules is to ensure that Oregon's particulate standards are consistent with current EPA policy for significant figures when determining compliance with standards.
DEQ's rules do not contain a reference method necessary to demonstrate compliance with opacity standards. Oregon based its first adopted opacity standard on an aggregate of three minutes in a 60-minute period. However, Oregon didn't develop a reference test method for the three-minute aggregate limit. As a workaround to demonstrate compliance with this standard, Oregon businesses used a modified version of EPA's Method 9 reference test method; however, this workaround is inconsistent with EPA and other states' methods.	The proposed rules would help ensure Oregon businesses use a reliable and defined method to measure compliance with statewide opacity standards that are consistent with EPA and other states' methods. The proposed rules would amend all opacity standards, both statewide and industry specific, to a six-minute block average except for the recovery furnace opacity limit that remains the same. This six-minute block average is consistent with other states in the region and EPA and is compatible with EPA's Method 9 reference test method. DEQ does

2. Update particulate matter emission standards

What need would the proposed rules address?	How would the proposed rules address the need?
In addition, current rules for the four-county area around Portland include a 20 percent opacity standard that is an aggregate of 30 seconds in a 60-minute period for non-fuel burning equipment such as material handling equipment. However, just like the statewide standard, Oregon didn't develop a reference method for the 30-second aggregate limit. Not having reference methods for these opacity standards makes it difficult for businesses to demonstrate compliance with the standards, and creates difficulty for DEQ to assure compliance with and enforce the standards.	not expect this to change the overall stringency of the standards. The proposed rules would repeal the 20 percent opacity standard for the four-county area around Portland to eliminate the difficulty of complying with or enforcing the standard. Equipment in the four-county area would be subject to the statewide opacity standard. The 30 second visible emissions standard in OAR 340-208-0600 is more stringent than the current statewide standard, but the rule has limited applicability in the four counties. More importantly, emissions standards are only enforceable if there are defined reference methods for determining compliance.
DEQ needs a different method for addressing opacity from fugitive emission sources. DEQ and businesses currently use EPA Method 9 to determine compliance with opacity standards and ensure fugitive emissions are not causing a nuisance, but this method isn't specific for fugitive sources. Fugitive particulate matter emissions are not emitted from a smoke stack and typically originate from storage piles, material conveying systems, unpaved roads or other dusty activities. In many situations, it is possible to take opacity readings to determine if the emitting source exceeded the opacity standard and then require action to abate the emissions. However, in other situations, opacity readings are difficult to take or the emissions do not exceed the opacity standard, but are nevertheless objectionable to surrounding neighbors. Therefore, rules are needed to control fugitive emissions from leaving a business's property, regardless of their opacity.	The proposed rules would require businesses to take reasonable precautions to prevent fugitive emissions. DEQ may request a business develop and implement a fugitive emissions control plan to prevent visible emissions from leaving the property for more than 18 seconds in a six minute period. This is a simpler, more comprehensive and effective approach to controlling these emissions than the current approach that requires DEQ to make a nuisance determination outside of special control areas. DEQ and businesses would use EPA Method 22, Visual Determination of Fugitive Emissions from Material Sources and Smoke Emissions from Flares to determine compliance. Method 22 is specific for fugitive sources, making it a much better method for determining compliance than Method 9.

3. Change permitting requirements for emergency generators and small natural gas or oil-fired equipment

Federal law requires Title V permits to account for emissions from all activities at a regulated facility, including insignificant activities that do not warrant the kind of effort applied to the main emitting activities. When Oregon established the Title V permitting program in 1993, DEQ developed a list of "categorically insignificant activities" that may take place at a source but are not addressed individually in

3. Change permitting requirements for emergency generators and small natural gas or oil-fired equipment

the permit. This list includes activities such as:

- Janitorial activities
- Groundskeeping activities
- Emergency generators

Businesses indicate they have categorically insignificant activities in their permit applications, but these activities are exempt from rigorous monitoring requirements because DEQ determined emissions from these activities are insignificant compared to other activities onsite.

What need would the proposed rules address?

EPA recently adopted National Emission Standards for Hazardous Air Pollutants for stationary reciprocating internal combustion engines. EPA's adoption added requirements for emergency generators currently exempt from permitting in Oregon because DEQ lists them as categorically insignificant activities. In addition, the growing need for large amounts of backup power from emergency generators at data centers has shown that emissions from emergency generators can be significant.

DEQ also determined that small fuel burning equipment, currently listed as categorically insignificant because each unit has low emissions, could have significant aggregate emissions if a business has multiple units. For example, DEQ identified one business that has eight small boilers that together have significant potential emissions of approximately 12 tons per year of nitrogen oxides.

How would the proposed rules address the need?

The proposed rules would remove emergency generators and small natural gas or oil-fired equipment from the list of categorically insignificant activities if:

- Those units are above size thresholds that make them subject to emission limits, or
- Their aggregate emissions are greater than de minimis levels.

DEQ would add these activities to existing permits.

In cases where emissions from a non-permitted business with these activities exceed permitting thresholds, the non-permitted business might need to obtain a permit for these activities alone. If the aggregate emissions are less than permitting thresholds, the owner or operator may only need to obtain preconstruction approval from DEQ when installing new units and not a permit.

4. Establish two new state air quality area designations, "sustainment" and "reattainment," to help areas avoid and more quickly end a federal nonattainment designation

EPA designates areas that violate air quality standards as "nonattainment" areas and designates all other areas as "attainment" or "unclassified" areas. Oregon law designates former nonattainment areas that EPA reclassified to attainment as "maintenance" areas to ensure those areas avoid future violations. DEQ proposes to establish two new Oregon air quality area designations, "sustainment" and "reattainment," to help areas avoid and more quickly end a federal nonattainment designation. If EQC approves these proposed rules, it would be able to designate specific areas of the state as "sustainment" or "reattainment" based on a local air quality analysis and public comment. To designate a specific area as "sustainment" or "reattainment" would require public notice and a rule

4. Establish two new state air quality area designations, “sustainment” and “reattainment,” to help areas avoid and more quickly end a federal nonattainment designation

change. These designations would provide communities and businesses with additional tools and incentives to improve air quality. Please view DEQ’s [Lakeview Sustainment Area](#) document for supplemental information about the sustainment area designation.

What need would the proposed rules address?

There are gaps in the current designation system, described in the next two sections, that can create disincentives for affected communities to improve air quality and unnecessarily impede economic development. While EPA does not establish designations for these areas, there is a need for Oregon to establish designations to help these areas avoid and more quickly end a federal nonattainment designation.

Communities are not provided sufficient opportunities to avoid nonattainment designation.

This first gap in area designations is for attainment areas where the air quality is in danger of failing to meet air quality standards. While air pollution in these areas can cause health effects, new or modified businesses are not necessarily the sources that contribute to the problem. However, air pollution levels in the area make it difficult or impossible for new and expanding businesses to demonstrate that their added emissions will not cause or contribute to air quality violations. The current permitting rules for attainment areas do not include provisions for these businesses to offset

How would the proposed rules address the need?

The proposed rules would establish two new designations with different permitting requirements for companies proposing a new or modified facility in areas that are close to or violating air quality standards:

- *Sustainment* area for a federally designated attainment area that is in danger of failing to meet air quality standards and which EPA has not yet designated a nonattainment area.
- *Reattainment* area for a federally designated nonattainment area that is meeting air quality standards and which EPA has not yet redesignated an attainment area.

EQC would designate specific areas of the state as sustainment or reattainment based on a local air quality analysis, DEQ recommendations and public comment. These classifications would provide communities and businesses with additional tools and incentives to improve air quality, as described below.

Establishing *sustainment* areas would provide communities more opportunities to avoid nonattainment designation.

The proposed rules would allow DEQ to work with the local community to determine if a state sustainment designation would be the best approach to improve air quality and prevent a nonattainment designation. DEQ would identify potential sustainment areas based on an air quality analysis that may include monitoring, development of an emission inventory, and air quality modeling. The analysis would identify the air pollution sources that primarily contribute to public health concerns, and a boundary for the potential sustainment area. Upon approval by the local community, DEQ would then

4. Establish two new state air quality area designations, “sustainment” and “re attainment,” to help areas avoid and more quickly end a federal nonattainment designation

What need would the proposed rules address?	How would the proposed rules address the need?
their emission increases by a reduction in emissions from existing sources in the area. Designating these areas as nonattainment areas may be appropriate in some cases. However, in other cases, a nonattainment designation could impose prescriptive federal requirements and timelines that interfere with the more effective local efforts to improve air quality.	propose the sustainment designation for public comment through its rulemaking process. An EQC-designated sustainment area would remain a federal attainment area and new and modified facilities above the federal major source threshold would continue to be subject to federal attainment area requirements. However, the proposed rules for sustainment areas would address industrial source emissions below federal major source thresholds that the community could rely upon as part of an overall plan, such as EPA’s PM Advance program, for improving the ambient air quality. Within a sustainment area, new and modified facilities would receive incentives to obtain emission offsets from those existing air pollution sources that are identified as the primary cause of degraded air quality in the sustainment area under category six below (Change the New Source Review preconstruction permitting program). An area designated as a sustainment area could still become a federal nonattainment if air quality continued to degrade.
Communities designated as nonattainment areas must continue to require costly elements of an attainment plan when those elements are no longer necessary to protect air quality. This second gap in area designations is for nonattainment areas that have met federal ambient air quality standards by implementing an approved attainment plan. For these areas to be designated as federal attainment areas and state maintenance areas, DEQ must develop and EPA must approve a long-term air quality maintenance plan. In developing the maintenance plan, DEQ may determine that some elements of the attainment plan are no longer required to maintain air quality. However, until EPA redesignates the area to attainment – a process that can take years – the area must continue implementing all elements of the attainment plan.	Establishing <i>re attainment</i> areas would allow communities to discontinue costly elements of an attainment plan when those elements are no longer necessary to protect air quality. The proposed rules would allow DEQ to propose to EQC a state reattainment designation for a federal nonattainment area with an approved attainment plan where air quality reliably meets the federal ambient air quality standards. The potential for a reattainment area designation would create an incentive for a community to improve air quality as quickly as possible. The boundary for the reattainment area would be the same as the nonattainment area boundary. An EQC designated reattainment area would remain a federal nonattainment area. All elements of the area’s attainment plan would continue to apply until

4. Establish two new state air quality area designations, “sustainment” and “reattainment,” to help areas avoid and more quickly end a federal nonattainment designation

What need would the proposed rules address?

How would the proposed rules address the need?

EPA approves a maintenance plan and redesignates the area to attainment. However, within the reattainment area, new and modified facilities that fall below the federal major source threshold would be subject to less stringent requirements unless DEQ has identified the facility as a significant contributor to the air quality problems in the area under category six below (Change the New Source Review preconstruction permitting program).

5. Designate Lakeview as a state sustainment area while retaining its federal attainment designation

Air quality in Lakeview currently does not meet the ambient air quality standards for fine particulates. However, EPA has not yet designated Lakeview a nonattainment area because Lakeview was not exceeding the standard at the time EPA made its designations throughout the United States. Oregon did not have the required three years of monitoring data to determine if the area was violating the federal standards.

Please view DEQ’s [Lakeview Sustainment Area](#) document for supplemental information about the designation for Lakeview.

What need would the proposed rules address?

How would the proposed rules address the need?

Lakeview’s status as violating the federal air quality standard without a nonattainment designation has created problems in permitting new and modified facilities. The construction approval process for attainment and unclassified areas includes an analysis that a new or expanding major pollution source will not cause or contribute to a violation of air quality standards. However, meeting this test is not possible for an area that already violates the standards. This, in effect, prevents DEQ from approving construction permits for new and expanding facilities in Lakeview.

The proposed rules would designate Lakeview as a state sustainment area proposed under category four above. While Lakeview would retain its federal designation as an attainment area, a state designation of sustainment would help the community in its efforts to improve air quality by:

- Providing more flexible permitting requirements for non-federal major emission sources and
- Avoiding a federal nonattainment designation.

The Lakeview Sustainment Area document includes DEQ’s technical analysis to identify the boundary and primary sources of air pollution in the proposed sustainment area.

5. Designate Lakeview as a state sustainment area while retaining its federal attainment designation

What need would the proposed rules address?	How would the proposed rules address the need?
Designating Lakeview as a nonattainment area would preclude the community's active voluntary efforts to meet federal air quality standards under the PM Advance program.	The Lakeview community voluntarily participates in EPA's "PM Advance" program to develop an air quality improvement and prevention plan. Local officials expect to bring the area quickly back into attainment with the standard to avoid a federal nonattainment designation and the resulting impacts on costs for businesses seeking to locate there. DEQ assists the community with technical analysis and administrative support for the PM Advance planning process. The PM Advance plan that Lakeview is currently developing outside the rulemaking process will address all PM_{2.5} emission sources, including residential wood stoves and open burning. DEQ determined that the PM Advance plan and designation as a sustainment area would complement each other to address stationary sources within the Lakeview area. Under the sustainment area designation, new and expanding businesses that do not exceed the federal major source threshold for particulate matter could be permitted by obtaining offsets under category six below (Change the New Source Review preconstruction permitting program). As an incentive, the offset requirement would be lowered for businesses that obtain offsets from residential wood heating, which is the primary cause of air quality violations in Lakeview.

6. Change the New Source Review preconstruction permitting program

DEQ proposes changes to the New Source Review program to improve air quality in all areas of the state, especially those that are close to or exceed ambient air quality standards. New Source Review is a federally required preconstruction program that ensures new or modified facilities install the latest control technologies and do not have adverse impacts on ambient air quality standards. The intent of the Prevention of Significant Deterioration portion of the New Source Review program is to prevent degradation of air quality in areas that meet federal air quality standards. The intent of the nonattainment New Source Review program is to improve the air quality in designated nonattainment areas that violate air quality standards. DEQ's proposal would also establish New Source Review requirements for the proposed new sustainment and reattainment area designations described in category four above.

6. Change the New Source Review preconstruction permitting program

Please view DEQ's [NSR Program Supplemental Discussion](#) for supplemental information about these changes.

What need would the proposed rules address?

The current New Source Review program rules apply to facilities that emit more than the federal major source threshold and to some facilities that emit less. Federal law requires states to have both a major and a minor New Source Review program. The requirements for the federal major New Source Review program are very prescriptive. States have more flexibility in designing a state minor New Source Review program if the state demonstrates that it will protect air quality. Oregon's current requirements for major and minor New Source Review are the same. This limits DEQ's ability to use the minor New Source Review program in the most effective way to protect air quality while enabling economic development.

Current criteria for determining if a major new or modified facility would improve air quality in or near a nonattainment or maintenance area are known as Net Air Quality Benefit. Problems with the criteria include:

- Based solely on air quality modeling,
- Sometimes impossible for businesses to meet, unless the increasing and offsetting businesses are co-located,
- Prevent potentially more beneficial local air pollution reduction projects from occurring, thereby creating an unnecessary construction ban, and
- Require new or modified businesses to reduce emissions from other existing businesses and demonstrate that together the emission increases and reductions result in improved air quality at most modeled receptors within the area.

The current New Source Review program rules allow extensions of construction permits for good cause. The rules do not include criteria for approving or denying extensions of construction

How would the proposed rules address the need?

The proposed rules for new and modified facilities would distinguish facilities above the federal major source threshold from facilities below the threshold. To do this, the proposed rules would:

- Establish a minor New Source Review program for smaller facilities called "State New Source Review."
- Tailor New Source Review requirements for smaller facilities to the air quality needs of an area in ways that are not allowed for larger businesses subject to EPA requirements.

The proposed rules would establish a new process for companies proposing a new or modified facility in or near a nonattainment, sustainment or maintenance area. The proposal provides a simplified modeling demonstration that requires emission offsets to be greater than emission increases. The offset ratio would depend on:

- The area classification, and
- Whether the new or modified source of emissions is a federal major source or minor source.

The proposed rules would provide incentives for new or modified businesses to help address ambient air quality problems. The incentives would reduce the emission-offset ratio if the business obtains reductions from priority sources, those that primarily cause air quality problems in the local area. In addition, the proposed rules would ensure no degradation of air quality in relation to the ambient monitoring for the area.

The proposed rules provide two 18-month extensions and procedures for requesting and approving extensions for New Source Review construction permits:

6. Change the New Source Review preconstruction permitting program

What need would the proposed rules address?

permits or the number of extensions allowed.

Allowing construction permits to be extended multiple times without limit or additional review could:

- Tie up the business's designated allowable emissions portion of the airshed indefinitely,
- Result in the installation of less effective control technology if control technology has improved since the approval of the original construction permit, and
- Unnecessarily impair air quality.

How would the proposed rules address the need?

- For the first extension, the proposed rules would require a review of any new pollution control technologies that could be applied to the proposed source.
- For the second extension, the proposed rules would require a review of the pollution control technology and a review of the impacts on the ambient air quality in the area.

7. Modernize methods allowed for holding public hearings and meetings

DEQ is committed to public engagement and staying current with emerging and innovative ways to reach people and hold hearings. This proposal would make it easier and more cost effective for DEQ to hold, and people to participate in, permit actions and public hearings. Current rules require DEQ to hold informational meetings on the most complex permit actions and public hearings.

What need would the proposed rules address?

The existing rules are very prescriptive regarding how DEQ holds public hearings and meetings for air quality permits. These rules, first adopted by Oregon in 1974, do not allow for technological advances like Internet-based virtual meetings in lieu of statewide travel. Having staff travel to local hearings and meetings around the state can be resource intensive and wasteful if no one attends to present comments or gather information.

How would the proposed rules address the need?

The proposed rules would make it easier and more cost-effective for DEQ to hold and people to participate in public hearings and meetings by removing the prescriptive language from the rules. For example, with the option to hold Internet-based virtual meetings, DEQ could hold more meetings across the state using fewer resources. In addition, after DEQ has established the necessary technology, it would have the option to allow people to call in to hearings and meetings from any location instead of requiring people to travel to the hearing or meeting.

8. Re-establish Heat Smart woodstove replacement program exemption for small commercial solid fuel boilers regulated under the permitting program

DEQ proposes revisions to residential wood heating rules to remedy the inadvertent prohibition of selling small commercial biomass boilers in Oregon. DEQ's Heat Smart program requires biomass and other solid fuel burning devices that have heat output of less than one million Btu per hour to meet certification requirements. The existing rules exempt small biomass boilers from certification requirements if they are subject to federal National Emission Standards for Hazardous Air Pollutants. However, EPA revised its rules in 2012 to exempt small biomass boilers from these standards. DEQ's proposed rules reestablish the Heat Smart exemption for small commercial biomass boilers regulated through the construction approval or permit programs.

8. Re-establish Heat Smart woodstove replacement program exemption for small commercial solid fuel boilers regulated under the permitting program

What need would the proposed rules address?

Small commercial biomass boilers with heat output less than one million Btu per hour cannot be sold in Oregon. DEQ's existing rules exempt small biomass boilers from the Heat Smart program if they are subject to National Emission Standards for Hazardous Air Pollutants. The Heat Smart Program is intended to ensure that commercial and residential wood stoves and other wood heating devices meet certification standards. The certification standards were not designed to apply to biomass boilers. However, EPA recently exempted small biomass boilers from the National Emission Standards for Hazardous Air Pollutants. EPA's exemption subjected these devices to Oregon's Heat Smart rules unintentionally.

How would the proposed rules address the need?

The proposed rule changes would allow small scale commercial biomass boilers to be sold in Oregon again, while ensuring they are still subject to existing state limits on particulate matter and opacity. This proposal would eliminate the reference to the federal regulations and allow boilers with a heat output less than one million Btu per hour to be sold in Oregon.

9. Remove annual reporting requirements for small gasoline dispensing facilities

DEQ proposes repealing the annual reporting requirement for small gasoline dispensing facilities after finding the reports unnecessary to ensure compliance with emission standards for preventing leaks and spills.

What need would the proposed rules address?

The annual reporting requirement for these small gasoline-dispensing facilities is unnecessary. A gasoline dispensing facility with a monthly throughput of fewer than 10,000 gallons of gasoline is currently required to:

- Meet work practice standards,
- Have a submerged fill tube installed on any tank at the facility that has a capacity of 250 gallons or more,
- Submit to DEQ a one-time initial notification and later a notification of compliance status, if subject to the submerged fill tube requirement, and
- Submit annual reports of throughput.

These facilities are not required to have an air quality permit. DEQ collected one-time throughput data from these facilities and has authority to request additional information if needed.

How would the proposed rules address the need?

The proposed rules would remove the annual reporting requirement for facilities with monthly throughput less than 10,000 gallons. DEQ would still have authority to request throughput information from these facilities but would only do so as needed for businesses close to the 10,000-gallon threshold to determine if they trigger permitting requirements.

How will DEQ know the rules have addressed the needs stated above?

To determine whether the rulemaking met its objectives, DEQ would confirm, as part of ongoing interaction with regulated parties, whether regulated parties have a clearer understanding of the program and their obligations. DEQ expects to see a reduction in the number of business that request help interpreting the rules.

DEQ expects to see an improvement in air quality, which could result in fewer nonattainment areas, based on the following reductions in emissions from:

- Updates to the particulate matter standards;
- Offsets of priority sources causing air quality problems in areas that chose to become sustainment areas;
- Changes to the New Source Review preconstruction permitting program,

DEQ expects to have more flexibility in how DEQ holds public meetings and hearings, more participation from the public, and reduced costs.

If EQC adopts the proposed rules after considering public comments, DEQ would submit the rules to EPA to update Oregon's State Implementation Plan. DEQ would know the goals of this rulemaking have been addressed when EPA reviews and approves the State Implementation Plan revision.

Fiscal and economic impacts

The proposed rules would have fiscal and economic impacts on the public, businesses, state agencies and units of local governments. DEQ proposes to:

- Streamline, reorganize and update Oregon's air quality permit programs to improve air quality with more efficient and effective permitting programs,
- Amend statewide particulate matter standards and the preconstruction permitting program to help Oregon comply with EPA's adoption of the ambient air quality standard for fine particulate, also known as PM_{2.5} and respond to problems identified with Oregon's permitting program that must be addressed to protect air quality,
- Add preconstruction permitting flexibility for smaller facilities,
- Improve community outreach, and
- Make minor changes to the woodstove replacement program called Heat Smart and the gasoline dispensing facility rules to improve program implementation.

Statement of Cost of Compliance

This section organizes the cost of compliance by the nine categories of rule changes.

Impacts on state agencies, local government and the public

1. Clarify and update air quality rules

The proposed rules to improve the organization and increase the clarity of the rules may have slight positive fiscal and economic impacts on state agencies, local governments and the public because the rules would be easier for people to understand. DEQ lacks information to estimate individuals' time savings in using rules that are easier to understand. DEQ expects the clarifications and updates would have no negative impacts except DEQ's permitting staff would experience a slight workload increase until staff become familiar with the proposed rules followed by a workload decrease.

2. Update particulate matter emission standards

State agencies and local government: The proposed particulate emission standards would have positive and negative fiscal and economic impacts on state agencies and local governments.

The proposed rules would create positive fiscal and economic impacts indirectly in the form of cost savings for DEQ and Oregon communities. Reducing emissions before an area exceeds ambient air quality standards would help Oregon avoid additional nonattainment designations by EPA. As a result, DEQ and Oregon communities could avoid the costs to develop and implement attainment plans for these areas. DEQ is unable to estimate the cost savings because each plan is unique, but the recent plan for Klamath Falls took two years to develop and required resources from EPA, DEQ, the Klamath Falls Air Quality Advisory Committee and other community

members. DEQ expects its permitting staff would experience a slight workload increase until staff become familiar with the proposed rules followed by a workload decrease.

The proposed rules would have no fiscal and economic impacts on state agencies and local governments holding permits because these facilities already meet the lower emission standards so none of these agency- or government-owned facilities would be required to make any changes to comply with the proposed rules. State agencies own 30 permitted facilities, federal agencies and tribes own 8 permitted facilities, and local governments own 68 permitted facilities.

Public: DEQ expects the proposed lower particulate matter standards would have no fiscal or economic impacts on the public directly. The proposed rules could affect the public indirectly if businesses change the price of goods and services to offset the costs of compliance. DEQ expects any such price increases to be small but lacks available information to estimate potential increases accurately.

The proposed rules could create positive economic benefits and improvements in public health and welfare indirectly by reducing particulate matter emissions statewide. Particulate matter causes serious health problems ranging from increased respiratory and pulmonary symptoms, hospital admissions and emergency room visits, to premature death for people with heart and lung disease. These health problems have negative economic impacts. DEQ lacks available information to estimate the health and welfare benefits, but when EPA adopted the current 24-hour PM_{2.5} national ambient air quality standard in 2006, EPA estimated the following:

- The nationwide cost of meeting the revised 24-hour PM_{2.5} standards at \$5.4 billion in 2020. This estimate includes the costs of purchasing and installing controls for reducing pollution to meet the standard.
- The revised standards will yield \$9 billion to \$76 billion a year in health and visibility benefits in 2020. Health benefits include reductions in premature death, diseases and symptoms associated with fine particle pollution exposure.

3. Change permitting requirements for emergency generators and small natural gas or oil-fired equipment

State agencies and local governments: The proposed changes to permitting requirements for emergency generators and small natural gas or oil-fired equipment would have a negative fiscal and economic impact on state agencies and local governments required to obtain a new permit for these generators or equipment. The initial cost to obtain a new permit is \$1,200 plus permit holders pay approximately \$1,300 in annual fees. However, DEQ expects no state agencies and local governments would be required to obtain new permits as a result of the proposed rules because most facilities that have generators or equipment subject to the proposed rules already hold air quality permits. State agencies own 30 permitted facilities, federal agencies and tribes own 8 permitted facilities, and local governments own 68 permitted facilities.

If any state agencies and local governments that already hold air quality permits are subject to the proposed requirements for emergency generators and small natural gas or oil-fired equipment, DEQ would add the new requirements to these facilities' permits at the time of permit renewal. The proposed rules would not affect these facilities' permit fees. These businesses might experience costs associated with additional recordkeeping depending on their

current environmental managements systems. DEQ lacks available information to estimate those costs of additional recordkeeping accurately.

DEQ workload would increase initially and could level off or decrease depending on the number of new facilities that require permits.

Public: DEQ does not anticipate any fiscal or economic impacts from the proposed rules directly on the public. The proposed rules could affect the public indirectly if businesses change the price of goods and services to offset the costs obtaining a new permit. DEQ expects any such price increases to be small but lacks available information to estimate potential increases accurately. The proposed rules could create positive economic benefits and improvements in public health and welfare indirectly by helping Oregon protect air quality.

4. Establish two new state air quality area designations, “sustainment” and “reattainment,” to help areas avoid and more quickly end a federal nonattainment designation.

The proposed rules to establish new state air quality area designations would have positive fiscal and economic impacts.

State agencies: DEQ expects the proposed rules to reduce the likelihood EPA will designate an area as nonattainment. By designating sustainment areas before areas exceed ambient air quality standards and are designated as nonattainment areas, DEQ and Oregon communities would avoid the costs of developing and implementing attainment plans. DEQ is unable to estimate the costs savings because each plan is unique. Designating reattainment areas would require approximately the same work as designating a maintenance area, but reattainment designation could happen more quickly than maintenance designation. DEQ’s workload would initially increase as staff become familiar with the proposed rules followed by a workload decrease. The proposed rules would have no fiscal or economic impacts on other state agencies because they do not permit businesses or hold permits in the areas affected by the proposed rules. The only two federally owned facilities with permits in the affected area are so small that they are not affected by the sustainment or reattainment area designations.

Local government: The proposed rules would have a positive fiscal and economic impact in sustainment areas indirectly by allowing businesses to build or expand in the areas as long as air quality is protected. The proposed rules would have a positive fiscal and economic impact in reattainment areas indirectly because new and modified facilities that fall below the federal major source threshold would be subject to less stringent requirements provided they were not identified as significant contributors to the air quality problems in the area. The proposed rules would have positive fiscal and economic impacts on local governments by avoiding the costs of developing and implementing attainment plans, such as convening advisory committee meetings required under the nonattainment and maintenance area designations. DEQ lacks available information to estimate these impacts accurately.

Public: DEQ does not anticipate the proposed rules under this category to have any direct fiscal or economic impacts on the public. Positive fiscal or economic impacts to the public could occur indirectly, such as increased access to goods and services, if more businesses build or expand in the sustainment or reattainment areas. DEQ lacks available information to estimate these impacts accurately.

5. Designate Lakeview as a state sustainment area while retaining its federal attainment designation

The proposed rules to designate Lakeview as a state sustainment area would have the same fiscal and economic impacts on state agencies, local governments and the public as establishing the new state air quality area designation described in category 4 above. In addition, if a new business locates in Lakeview and buys woodstove offsets, some members of the public may benefit from woodstove replacements.

6. Change the New Source Review preconstruction permitting program

State agencies and local government: DEQ expects the proposed changes to the preconstruction permitting program would have no negative fiscal and economic impacts on state and federal agencies and local governments because it's unlikely these entities' permitted facilities would ever trigger requirements for New Source Review.

DEQ expects the proposed rules would not change the workload of U.S. Forest Service and National Park Service land managers who currently review New Source Review permit applications for businesses located close to Class I areas, which are usually designated wilderness areas. DEQ expects its permitting staff would experience a slight workload increase until staff become familiar with the proposed rules followed by a workload decrease.

The proposed rules would create positive fiscal and economic impacts indirectly in the form of cost savings for DEQ and Oregon communities. Reducing emissions before an area exceeds ambient air quality standards would help Oregon avoid additional nonattainment designations by EPA. As a result, DEQ and Oregon communities would avoid the costs to develop and implement attainment plans for these areas. DEQ is unable to estimate the cost savings because each plan is unique, but the recent plan for Klamath Falls took two years to develop and required resources from EPA, DEQ, the Klamath Falls Air Quality Advisory Committee and other community members.

Public: DEQ expects the proposed rules would have no fiscal or economic impacts on the public directly. The proposed rules could affect the public indirectly if businesses change the price of goods and services to offset the costs of complying with the proposed rules. DEQ expects any such price increases for goods or services to be small and lacks available information upon which it could accurately estimate potential increases.

7. Modernize methods allowed for holding public hearings and meetings

State agencies and local government: The proposed rules to increase flexibility for public hearings and meetings would have positive fiscal and economic impacts on state agencies, local governments and the public. After DEQ has established the necessary technology, it would have the option to allow people to call into hearings and meetings from any location instead of requiring people to travel to the hearing or meeting. The proposed rules would have positive impacts by indirectly decreasing travel and associated expenses for state agencies, local governments and others who attend or participate in DEQ hearings and meetings. Cost savings depend on the physical location of the hearing or meeting. DEQ lacks available information to estimate costs to attendees because the travel distance and frequency is unknown.

In addition, with the option to hold Internet-based virtual meetings, DEQ would experience cost savings by holding meetings across the state using fewer resources. Currently, DEQ staff travel to numerous public hearings and meetings as required by the existing rules. DEQ's cost for using a state car is \$0.56 per mile and accommodation rates for staff are approximately \$83 to \$126 per night. The average hourly rate of a DEQ permit writer who typically represents DEQ at these hearings and meetings is \$70 to \$85 per hour including benefits. The total cost of the hearing or meeting depends on how far staff must travel. If the physical location of the hearing or meeting is two hours from staff's home city, DEQ's cost could be approximately \$2,000. At least \$800 of this is transportation costs. DEQ's workload may increase initially depending on implementation of the proposed rules, but is expected to decrease as staff become familiar with the procedures of holding virtual hearings and meetings.

Public: The public may experience positive indirect fiscal or economic impacts due to DEQ's more efficient use of state resources. DEQ expects costs to be small per individual and lacks available information to estimate potential decreases accurately.

8. Re-establish Heat Smart woodstove replacement program exemption for small commercial solid fuel boilers regulated under the permitting program

State agencies, local government and the public: The proposed re-establishment of the woodstove replacement program exemption would have no fiscal or economic impacts on state agencies, local governments and the public because these entities do not sell commercial solid fuel boilers. DEQ's workload would not change because the proposed rules would allow DEQ to continue the pre-existing program.

9. Remove annual reporting requirement for small gasoline dispensing facilities

State agencies, local government and the public: The proposed elimination of annual reporting requirements for certain small gasoline dispensing facilities would have small positive fiscal and economic impacts on any state agencies and local governments who own or operate these facilities. The proposed rules would eliminate their costs associated with the annual reports, such as recordkeeping and administrative activities. DEQ estimates that any positive impact on gasoline dispensing facilities would be very small and would probably not be passed on to the public indirectly in the form of reduced costs for goods or services.

Large businesses - businesses with more than 50 employees

DEQ anticipates the proposed rules would have the following fiscal and economic impact on approximately 1340 large businesses.

1. Clarify and update air quality rules

The proposed rules to improve the organization and to increase clarity of the rules may have slight positive fiscal or economic impacts on businesses because the rules would be easier to use and understand. DEQ lacks information to estimate large businesses' time savings in using rules that are easier to understand.

2. Update particulate matter emission standards

The proposed particulate emission standards would have positive and negative fiscal and economic impacts on large businesses holding air quality permits.

Positive: The proposed rules have positive fiscal and economic impacts on business indirectly by helping DEQ and Oregon communities avoid severe restrictions for businesses that want to build or expand in some areas that are exceeding or are close to exceeding ambient air quality standards. Reducing emissions in these areas would help Oregon avoid nonattainment designations by EPA. When EPA designates an area as nonattainment, federal requirements automatically apply to industrial sources, such as requiring the most stringent control equipment for new or expanding sources or reasonable control measures, such as more strict opacity standards, and requirements for operation and maintenance plans and fugitive emission plans for existing sources. These restrictions may also prevent some industries from expanding or moving to the nonattainment area.

Negative: DEQ reviewed ten years of source test data submitted to DEQ and the Lane Regional Air Protection Agency and determined approximately two businesses that own wood-fired boilers may need to optimize boiler or control equipment performance to comply with the proposed opacity and grain loading limits. One of these wood-fired boilers has no controls and is not currently operating; the owner and operator of this boiler might be required to install a multiclone system if the business decides to operate the boiler.

The costs depend on the methods of compliance or pollution control technology, such as boiler tune-ups or replacement, multiclone optimization or installation and source testing. Based on inquiries with boiler manufacturers, pollution control vendors, engineering design consultants, and the regulated businesses, as well as information provided by the fiscal advisory committee, DEQ estimates the cost of complying with the proposed standards as follows:

Boiler tune-ups: Conducting annual tune-ups is one way to optimize performance of a boiler. Vendors estimated a typical boiler tune-up that requires no replacement parts would cost between \$2,000 and \$11,000. A typical tune-up may include:

- A visual inspection of the system while operating, looking for obvious things that need repair
- Review of past performance checks and expected performance data
- Gathering performance data (oxygen and carbon dioxide readings, stack temperature, feed water temperature, fuel moisture and steam flow)
- Making adjustments to boiler air delivery settings

A more comprehensive boiler tune-up costs from \$33,000 to \$65,000. A boiler tune-up may or may not allow sources to comply with the new standards over time but could provide other benefits such as reduced fuel costs. Newly adopted federal law already requires wood-fired boilers to be tuned up every two to five years so this may not be an additional cost.

Multiclone optimization: If a tune-up is not adequate to comply with the standard, an owner or operator may choose to do a one-time optimization of its multiclone control technology. Nearly all wood-fired boilers in the state already have multiclones. Emissions from these boilers can be

reduced by inspecting the integrity of all parts of the multiclone and checking for and repairing plugged or damaged tubes annually. A thorough multiclone inspection costs approximately \$3,000 to \$4,000. As part of the inspection, it may be necessary to install access panels and a gauge for accurately measuring the pressure drop across the multiclone at an additional cost of \$1,000 to \$2,000. Most wood-fired boilers with multiclones already have gauges to measure pressure drop. According to one vendor, the repair or upgrade of a multiclone is estimated to range in cost from \$10,000 to a \$200,000 per boiler, depending on upgrades employed. The upper-end cost estimate may be atypical since it exceeds other vendors' estimates for the cost of a new multiclone.

Another option for multiclone optimization is flue gas recirculation. Optimum performance of a multiclone occurs within a pressure drop range of about two to four inches of water column. However, the pressure drop can vary significantly, depending on the gas flow rate through the multiclone. The actual gas flow rate for a wood-fired boiler varies due to many factors, including firing rate and fuel quality. It is possible, however, to optimize multiclone performance with varying firing rates by using flue gas recirculation, which provides a nearly constant gas flow rate and a consistent pressure drop across the multiclone. Installation of flue gas recirculation ranges in cost from \$30,000 to \$100,000.

Engineering analysis: If a boiler tune-up or multiclone optimization does not enable a wood-fired boiler to meet the proposed particulate matter standard of 0.15 gr/dscf, the owner or operator of the boiler may request a source specific particulate matter limit of 0.17 gr/dscf. Before receiving a source specific particulate matter limit, the owner or operator must submit to DEQ a report by a registered professional engineer that specializes in boiler and multiclone optimization to evaluate existing equipment optimization options and certify a 0.15 gr/dscf standard cannot be met without installing additional controls. The cost of this engineering report will vary, depending on the reasons for the source specific particulate matter limit, but is expected to be within the range of \$8,000 to \$24,000.

Source test data shows all boilers currently operating in the state can meet 0.17 gr/dscf except for the one backup boiler described previously that is currently not in use. If boiler optimization does not allow this boiler to meet 0.17 gr/dscf, this facility may choose to install a multiclone if it decides to operate the backup boiler on wood rather than using the existing natural gas boiler.

Multiclone Installation: An owner or operator may choose to install multiclone pollution control equipment. Vendors state that compliance with a 0.15 gr/dscf particulate matter standard is possible with multiclones, especially with ceramic high-efficiency multiclones, but is not guaranteed. Ceramic high-efficiency multiclones have been shown to reduce particulate matter to as low as 0.06 gr/dscf, cost approximately \$110,000 to \$120,000, and last three to five times longer than iron multiclones. Typical iron multiclones cost approximately \$60,000 to \$150,000 for the purchase and installation and last approximately 12 to 15 years before needing replacement.

Source Testing: An owner or operator that makes changes to its wood-fired boilers or pollution control equipment to meet the standard must perform source testing to determine if the changes were effective. A particulate matter source test costs approximately \$12,000. Businesses are already required to perform periodic compliance source testing and could save \$12,000 if the tests could be aligned.

Continuous opacity monitoring systems: An owner or operator may voluntarily choose to install a continuous opacity monitor to ensure it complies with opacity limits at all times. The responsible official for each Title V source is already required to submit a compliance certification report every six months stating whether compliance is continuous or intermittent. Opacity is a good indicator of how well a boiler is operating. High opacity is a result of high emissions and can inform the operator that adjustments are needed to reduce emissions. Adding a continuous opacity monitoring system, along with flue gas recirculation, would help the operator run the boiler efficiently and in compliance with the emissions standards at all times.

A continuous opacity monitoring system ranges in costs from \$13,000 to \$30,000. Installation costs range from \$5,000 to \$40,000 depending on the situation at the facility. Annual operating costs range from \$300 to \$6,000 per year. Equipment and installation cost of a recently installed system on a wood-fired boiler was \$27,800. These costs do not include the cost of a computer, which is a necessary component to these monitoring systems.

Electrostatic precipitators: Installation of an electrostatic precipitator is not required to meet the proposed standards, but a business could voluntarily elect to install electrostatic precipitators to reduce emissions. An electrostatic precipitator can easily meet the 0.15gr/dscf standard because it controls emissions over the wide range of operating conditions that may occur due to changing steam demand and fuel quality. Based on input from vendors, DEQ determined a new electrostatic precipitator costs from approximately \$700,000 to \$2.7 million. This cost could vary by plus or minus 40 percent. However, a facility could use a smaller electrostatic precipitator if its goal were simply to comply with the 0.15 gr/dscf standard. Smaller electrostatic precipitators suitable for the affected wood-fired boilers range in costs from approximately \$420,000 to \$700,000 installed. In early discussions on the proposed changes to the particulate matter standards, one business informed DEQ it was considering a used wood-fired package boiler with an electrostatic precipitator for approximately \$500,000.

Boiler replacement: Boiler replacement is not required to meet the proposed standards, but a business could voluntarily elect to replace a boiler to reduce emissions. A new wood-fired boiler with an electrostatic precipitator installed in 2006 cost about \$7 million. Boilers that provide 25,000 to 200,000 pounds of steam per hour are estimated to cost in the range of \$5.5 million to \$17.9 million. These costs include electrostatic precipitators and continuous opacity monitors.

Summary of annualized costs: The following table summarizes and compares the cost effectiveness of several pollution control devices for controlling PM₁₀ emissions.

Cost Effectiveness for Controlling PM ₁₀ Emissions						
Pollution Control Device	Control Efficiency	PM ₁₀ Emissions Removed (tons/year)	Installed Capital Cost of Equipment	Annual Operating Costs	Total Annual Costs	Total Cost per Ton Removed
Cyclone	50%	0.9	\$2,243	\$580	\$791	\$930
Multiclone	75%	1.3	\$9,424	\$580	\$1,469	\$1,151
High Efficiency Multiclone	99%	1.3	\$62,878	\$800	\$6,980	\$4,159
High Efficiency Multiclone (valved)	99%	1.7	\$125,756	\$800	\$12,915	\$7,695

Cost Effectiveness for Controlling PM ₁₀ Emissions						
Pollution Control Device	Control Efficiency	PM ₁₀ Emissions Removed (tons/year)	Installed Capital Cost of Equipment	Annual Operating Costs	Total Annual Costs	Total Cost per Ton Removed
Core Separator (12")	94%	1.7	\$111,709	\$1,239	\$12,350	\$7,685
Core Separator (24")	72%	1.2	\$63,337	\$1,459	\$8,004	\$6,519
Cyclone + Baghouse	99%	1.7	\$109,878	\$3,920	\$14,291	\$8,483
ESP	95%	1.6	\$138,005	\$1,867	\$14,894	\$9,213

Note: This table is from "Emission Control for Small Wood-Fired Boilers" prepared for the U.S. Forest Service's Western Forestry Leadership Coalition in May 2010

DEQ estimated costs based on information from equipment vendors and EPA's Cost Control Manual. In addition to the size of the wood-fired boiler, the following are factors, which cause variability in capital costs and are not accounted for in the EPA Cost Control Manual:

- Change in the price of steel
- Foreign exchange rates for equipment purchased overseas
- Pollution control device design
- Fuel characteristics such as variable firing rates and wet fuels
- Space requirements
- Ancillary equipment such as ductwork.
- Shipping costs.

Note: DEQ originally considered proposing a much more stringent statewide particulate matter emission standard (0.10 gr/dscf and 20 percent opacity)). DEQ determined 11 businesses were at risk of non-compliance with the more stringent standard. Seven of these businesses were wood products facilities with wood-fired boilers, one was a pulp mill that operates its boiler on residual oil during natural gas curtailment, and three were asphalt plants. After receiving input from businesses and stakeholders following DEQ's August 2013 workshops, DEQ determined that compliance with the original proposal could have significant negative fiscal and economic impacts and possibly require process changes or expensive controls such as electrostatic precipitators. DEQ mitigated the negative impacts by proposing alternative standards that are based on well maintained and typically available control technology, often multiclones for wood-fired boilers. The three asphalt plants that were at risk of exceeding the original proposal are older plants that use wet scrubber controls and are exempt because of the hours of operation exemption in DEQ's proposed rules. As a result of the mitigation, DEQ does not anticipate that the proposed rules would require any business to shut down, replace a boiler or change fuel types.

3. Change permitting requirements for emergency generators and small natural gas or oil-fired equipment

The proposed rules to change permitting requirements for emergency generators and small natural gas or oil-fired equipment would have a negative fiscal and economic impact on any facilities required to obtain a new permit for these generators and equipment. The initial cost to obtain a new permit is \$1,200 plus these permit holders pay approximately \$1,300 in annual fees. However, DEQ expects no current facilities would be required to obtain a new permit as a result

of the proposed rules because most facilities that have generators or small natural gas or oil-fired equipment already hold air quality permits. DEQ would add the permitting requirements to these facilities' permits at the time of their permit renewals. The proposed rules would not affect these facilities' permit fees. These facilities might experience costs associated with additional recordkeeping depending on their current environmental managements systems. DEQ lacks available information to estimate the costs of additional recordkeeping accurately.

- 4. Establish two new state air quality area designations, “sustainment” and “re attainment,” to help areas avoid and more quickly end a federal nonattainment designation; and**
- 5. Designate Lakeview as a state sustainment area while retaining its federal attainment designation**

The proposed sustainment and reattainment area rules would have positive fiscal and economic impacts on large businesses. Without the new area designations, it will continue to be nearly impossible for businesses to obtain a permit to construct new smaller sources of air pollution in these areas. Although there is a cost associated with obtaining a permit, DEQ believes the proposed rules have a net positive fiscal and economic impact by reducing restrictions and creating opportunities for new businesses to be constructed and operated. The proposed rules do not change the permitting requirements for Oregon's largest sources of air pollution, known as federal major sources, and therefore have no fiscal or economic impact on these sources. DEQ expects creating the new area designations to have no negative fiscal or economic impacts on businesses.

6. Change the New Source Review preconstruction permitting program

The proposed rules to change the preconstruction permitting program would have positive and may have negative fiscal and economic impacts on large businesses. DEQ is unable to quantify the magnitude of the impact accurately because New Source Review permitting requires DEQ to perform a case-by-case analysis and the type of pollution controls and computer modeling varies for each case.

Positive: Establishing a preconstruction permitting program for small sources of air pollution (called State New Source Review) distinct from the New Source Review program for federal major sources, would have positive fiscal and economic impacts on businesses because the changes would eliminate restrictions on some smaller sources that wish to build or modify their facilities. The proposed rules would allow construction and modification as long as the area's air quality is protected.

The proposed rules would likely reduce costs for businesses in the State New Source Review program in areas DEQ wants to transition from nonattainment to maintenance more quickly than EPA could redesignate the area to attainment (EPA does not have a maintenance area designation). The proposed rules allow these businesses to meet requirements for maintenance areas instead of more stringent requirements for nonattainment areas. The control technology required in a maintenance area is typically less expensive than technology required in a nonattainment area. If the technology required in maintenance areas results in fewer emission reductions than the business could achieve with technology required in nonattainment areas, the business might be required to purchase more offsets. As a result, there may be higher emission

offset costs in maintenance areas if the less expensive control technology allows higher emissions.

The proposed rules clarify how DEQ provides extensions of a construction permit when construction is delayed. This would have a positive fiscal and economic impact on a business that needs an extension because the permit fees for extensions are lower than the initial application fees for a construction permit. In addition, the business would be allowed to continue to use any offsets obtained under the original application as long as the offsets did not expire.

Negative: The proposed rules improve air quality by raising the amount of offsets a new or modified business would be required to purchase, which would have negative fiscal and economic impacts on businesses. The cost of offsets for industrial facilities varies from \$2,500 per ton to \$100,000 per ton, depending on the pollutant and the supply and demand for offsets. In areas where air quality is close to an ambient air quality standard, the proposed rules also create incentives by allowing fewer offsets to be obtained by a business that chooses to obtain its offsets from sources that are the greatest contributors to the area's air quality problems. The proposed rules would provide businesses the opportunity to obtain offsets from woodstoves. The cost to replace an uncertified woodstove is approximately \$3,000. A certified woodstove reduces emissions by about 0.03 tons per woodstove on an annual basis. The cost of one ton of offsets from woodstoves is approximately \$100,000.

7. Modernize methods allowed for holding public hearings and meetings

The proposed rules to provide DEQ more flexibility for public hearings and meetings would have a positive fiscal and economic impact on large businesses indirectly because they would have more options and cost savings when participating in hearings and meetings. Cost savings depend on the physical location of the hearing or meeting and distance of travel for attendees. DEQ expects adding flexibility for public hearings and meetings to have no negative fiscal or economic impacts on businesses.

8. Re-establish Heat Smart woodstove replacement program exemption for small commercial solid fuel boilers regulated under the permitting program

The proposed rules to re-establish the woodstove replacement program exemption would have a positive economic benefit on large businesses directly because it would allow them to once again sell small biomass boilers for commercial, industrial and institutional uses in Oregon. By allowing these sales, the proposed rules also have a positive impact on businesses that manufacture, purchase or use small biomass heating systems in commercial, industrial and institutional applications in Oregon. DEQ expects re-establishing the program to its former state, before sales were inadvertently prohibited, to have no negative fiscal or economic impacts on businesses.

9. Remove annual reporting requirement for small gasoline dispensing facilities

The proposed elimination of annual reporting requirement for certain gasoline dispensing facilities would have small positive fiscal and economic impacts on 60 large businesses directly by eliminating their costs associated with the annual reports, such as recordkeeping and administrative activities. DEQ expects removing the reporting requirement to have no negative fiscal or economic impacts on businesses.

Impact on small businesses (those with 50 or fewer employees) ORS 183.336

In addition to the fiscal and economic impact described under the section above “Large businesses - businesses with more than 50 employees”, the proposed rules could have the following impacts on small business.

a) Estimated number of small businesses and types of businesses and industries with small businesses subject to proposed rule.	The proposed rules would affect approximately 1333 small businesses, such as asphalt plants, rock crushers and grain elevators. The proposed rules would affect approximately 440 small businesses that own or operate small gasoline dispensing facilities and approximately 60 small businesses that own or operate emergency generators and small natural gas or oil-fired equipment. Many of the small businesses subject to the lower grain loading and opacity standards already have the lower standards in their permits. Current compliance information indicates that all small businesses already comply with the proposed standards and would not experience fiscal or economic impacts.
b) Projected reporting, recordkeeping and other administrative activities, including costs of professional services, required for small businesses to comply with the proposed rule.	The proposed rules would eliminate annual reporting, recordkeeping and administrative activities associated with the annual reporting requirements for gasoline dispensing facilities with monthly throughput of less than 10,000 gallons of gasoline. The proposed rules would increase recordkeeping and reporting for emergency generators and small natural gas or oil-fired equipment over permitting thresholds.
c) Projected equipment, supplies, labor and increased administration required for small businesses to comply with the proposed rule.	DEQ expects the proposed rules would result in no additional costs for equipment, supplies, labor or administration.
d) Describe how DEQ involved small businesses in developing this proposed rule.	DEQ notified small businesses during rule development by mail and email, announcements on the DEQ website, stakeholder meetings, a fiscal advisory committee meeting, and the DEQ Small Business Compliance Advisory Panel. At the onset of the public comment period, DEQ notified small businesses by mail, email, notices in the Secretary of State Bulletin, and ads in newspapers.

Documents relied on for fiscal and economic impact

Air Contaminant Discharge Permits – Table 1, DEQ relied on OAR 340-216-0020
http://arcweb.sos.state.or.us/pages/rules/oars_300/oar_340/_340_tables/340-216-0020_10-24.pdf

EPA Air Pollution Control Cost Manual, Report No. 452/B-02-001, January 2002, Section 6, Chapter 1, Baghouses and Filters http://www.epa.gov/ttn/catc/dir1/cost_toc.pdf

Consumer Price Index Conversion Factors 1774 to estimated 2021 to Convert to Dollars of 1998. 2013 Robert C. Sahr, Political Science, Oregon State University, Rev 05/08/2013
<http://oregonstate.edu/cla/polisci/sites/default/files/faculty-research/sahr/inflation-conversion/excel/cv1998.xls>

Emission Controls for Small Wood-Fired Boilers, Prepared for: United States Forest Service, Western Forestry Leadership Coalition, May 2010
http://www.wflccenter.org/news_pdf/361_pdf.pdf

Advisory committee for fiscal and economic impact statement

DEQ appointed an advisory committee for the sole purpose of making recommendations on this fiscal and economic impact statement.

To comply with [ORS 183.333](#), DEQ asked for the committee's recommendations on:

- Whether the proposed rules would have a fiscal impact,
- The extent of the impact, and
- Whether the proposed rules would have a significant impact on small businesses and comply with [ORS 183.540](#).

The committee reviewed the draft fiscal and economic impact statement, specifically the impact on small businesses, and documented its recommendations in the [Fiscal Impact Advisory Committee Meeting Summary](#). The committee concluded that the proposed rules will have a fiscal and economic impact but found it difficult to assess the extent of the impact. The committee had mixed opinions on whether the rules will have a significant impact on small business, although most concluded that the direct impacts would not be significant. To meet requirements in [ORS 183.540](#), the committee considered how to reduce the economic impact on small business. One committee member suggested that economic impacts on small businesses could be reduced by providing funds such as tax credits or sinking funds. No other committee members offered suggestions.

DEQ considered input from the advisory committee and DEQ's standing Small Business Compliance Advisory Panel when completing this fiscal and economic impact statement.

Housing cost

To comply with ORS 183.534, DEQ determined the following three categories of the proposed rules may have an effect on the development cost of a 6,000-square-foot parcel and construction of a 1,200-square-foot detached, single-family dwelling on that parcel.

Update particulate matter emission standards: The costs of compliance could be passed through by businesses providing products and services for such development and construction.

Change permitting requirements for emergency generators and small natural gas or oil-fired equipment: The costs for additional permits could be passed through by businesses providing products and services for such development and construction.

Change the New Source Review preconstruction permitting program: The costs for additional permits, control or process equipment could be passed through by businesses providing products and services for such development and construction.

The possible impact of these proposed changes appears to be minimal. DEQ cannot quantify the impact at this time because the available information does not indicate whether the costs would be passed on to consumers and any such estimate would be speculative.

The other proposed changes do not have an effect on housing costs. The other proposed changes would make it easier for people to use and understand air quality rules, modernize methods allowed for holding public hearings and meetings, remove reporting requirements, affect the sales of small biomass boilers, and affect whether businesses can construct or modify air contaminant sources in sustainment or reattainment areas.