Oregon Department of Environmental Quality
Sept. 29, 2016
Oregon Environmental Quality Commission special meeting
Rulemaking, Action item A

Art Glass Permanent Rulemaking

This file contains the following documents:

- EQC staff report
- Attachment A: Proposed draft rules – shown with proposed changes as markup
- Attachment B: Proposed draft rules – no markup
- Attachment C: Supporting documents

DEQ recommendation to the EQC

DEQ recommends that the Environmental Quality Commission adopt the proposed permanent rules in Attachment A as part of Chapter 340 of the Oregon Administrative Rules.

Overview

Short summary

DEQ proposes that the Oregon Environmental Quality Commission approve the proposed permanent rules for colored art glass manufacturers. This proposal is based on the temporary rules adopted by EQC in April 2016, with corrections in May 2016, with modifications based on new information and public comment.

Brief history

Elevated levels of hazardous air pollutants were found in the air around two glass manufacturing facilities in Portland. In May 2015, DEQ received the initial results of a study the U.S. Forest Service conducted looking at moss samples as an indicator or screening tool for contaminants in the air. The study's results showed that moss samples in the areas near two CAGMs contained high levels of cadmium and arsenic in Southeast Portland and cadmium in North Portland.

This pilot study prompted DEQ to set up air monitoring systems near the glass company in Southeast Portland. The results of DEQ air monitoring in October 2015 confirmed that the glass company was the likely source. DEQ completed its quality assurance and quality control review of those samples in late January 2016 and then shared its analysis of the findings with the Oregon Health Authority and the Multnomah County Health Department. DEQ also identified a second area of concern near the glass company in North Portland.

The glass companies were operating in compliance with the current law. One company was operating within its permit and the other company was not required to have a permit.

Based on sampling results DEQ concluded that uncontrolled furnaces used at the two facilities were more likely than not to emit potentially unsafe levels of hazardous air pollutants, and that current federal regulations for this source category were not sufficient to protect public health and the environment. The permanent rules that DEQ proposes for EQC adoption are intended to ensure that air emissions from colored art glass manufacturers do not cause unsafe levels of glassmaking hazardous air pollutants (arsenic, cadmium, chromium, lead, manganese, nickel and selenium) in the air nearby.

EQC adopted temporary rules April 21, 2016. If no action is taken the temporary rules will expire 180 days after they were adopted, which is Oct. 18, 2016. The proposed rules would replace the temporary rules and make the requirements permanent, with modifications further described below.

Regulated parties

The proposed rules would apply to colored art glass manufacturers anywhere in Oregon that make more than five tons per year of glass containing certain hazardous air pollutants.

The manufacturers will incur expenses to obtain air permits; submit reports to DEQ; and depending on the compliance path chosen, to install, operate and maintain emission control devices, and/or perform stack testing and dispersion modeling.

Outreach efforts

To collect information to improve the rule and give the public and affected parties an opportunity to comment, DEQ made the following outreach efforts:

- Convened a fiscal advisory committee to review DEQ's estimate of the fiscal impact of the proposed rules. Representatives from all known companies that would be subject to the rules, as well as multiple

environmental and neighborhood groups were invited to participate. The committee met May 27, 2016 and June 10, 2016. These meetings were open for the public to attend or to listen to by phone.
- Sent updates about the rulemaking process through a GovDelivery email list.
- Published a public notice requesting comment on the rule. The public notice included draft rule language and invited comment on any part of the rule. It also specifically invited comment on three specific questions about rule applicability and control device source testing.
- Accepted public comment through the DEQ website and other formats from June 15, 2016, through July 29, 2016.
- Held a public hearing July 19, 2016. The public hearing was held in Portland, and a video and audio feed was available for those who wanted to attend remotely.

Hearing testimony and public comments

DEQ received 151 unique comments from 136 commenters. That includes comments made in person during the public hearing, as well as comments submitted through the online comment tool on DEQ's website, through email or in hard copy. DEQ read and considered all comments.

DEQ identified 60 different points that were made by one or more commenters. A summary of each of those points and DEQ's response to it is included later in this document.

Changes since the temporary rule

DEQ's public notice for this rulemaking included proposed rule language that was unchanged from the temporary rule, with a note that DEQ was requesting comment on several possible changes:

- Should the rule be modified to apply to sources that make less than 10 tons per year of colored art glass?
- Should the rule be modified to apply statewide, rather than only in the Portland Air Quality Maintenance Area?
- The temporary rule requires control devices be shown to capture at least 99.0 percent of incoming particulate matter. Should that standard be replaced with one based on the particulate matter at the outlet of the control device?

After reviewing public comments on these three issues, DEQ is proposing to make these changes:

1. Reducing the applicability threshold for the rule from 10 tons per year of hazardous air pollutant-containing glass to five tons per year.
2. Making the rule apply statewide rather than only in the Portland area
3. Changing the standard that confirms a control device is working from the 99.0% capture efficiency standard to a 'grain loading' particulate matter standard at the control device outlet of 0.005 gr/dscf (grains of particulate per dry standard cubic foot of air.)

DEQ also received comments on many other topics. In response to these comments, DEQ's proposal includes these elements that are different from the temporary rule:

4. Adding selenium to the list of glassmaking hazardous air pollutants that are regulated in the rule, based on monitored levels of selenium that were at or exceeding the daily maximum acceptable concentration.
5. Revising the requirements for control devices and providing compliance options. Tier 2 facilities must perform a 'grain loading' source test and install either a baghouse leak detection system (BLDS) or a high efficiency particulate arrestance (HEPA) afterfilter on each control device. Tier 1 facilities may choose to perform a 'grain loading' source test or install a BLDS or a HEPA afterfilter on each control device.
6. Changing the rule's 24-hour health benchmark for hexavalent chromium from 36 ng/m3 (nanograms per cubic meter of air) to five ng/m3, based on a re-evaluation of the exposure levels that could pose an

unacceptable risk to human health. An Oregon Health Authority review of health benchmarks is ongoing and may result in a change in the benchmarks through future rulemakings.

7. Changing the way that Tier 2 facilities set maximum usage limits for trivalent and hexavalent chromium. The new method of testing chromium emissions no longer assumes that the control device capture efficiency for particulate matter is the same as that for chromium. Facilities must test for chromium at the outlet of the control device rather than the inlet, and may choose to test for hexavalent chromium emissions or to test for total chromium emissions and assume all of it is hexavalent chromium.
8. Adding a provision for compliance extensions for Tier 1 colored art glass manufacturers if control device installation is delayed for reasons beyond their reasonable control. This has been added based on reports that some affected facilities are experiencing lengthy delays in issuance of necessary building permits.

Making the rule apply statewide and adding selenium to the list of regulated hazardous air pollutants means that affected facilities will need additional time to comply with the rules. The rules include delayed compliance dates for many of the new requirements to give companies time to make necessary changes.

Statement of Need

What need would the proposed rule address?

DEQ is addressing the need to control HAP emissions from CAGM facilities. As DEQ recently determined through air monitoring and facility inspections, uncontrolled glass furnaces processing colored glass to which glassmaking HAPs[1] are added emit these HAP at levels that can pose an immediate threat to the health of people nearby. Recent monitoring close to a CAGM with uncontrolled furnace emissions has shown HAP concentrations at levels that can significantly increase risks of cancer and other health problems.

These rules are necessary to address a regulatory gap. A federal regulation called NESHAP 6S[2] is applicable to some furnaces at the largest CAGMs, but smaller facilities and furnaces also use and emit glassmaking HAPs in quantities likely to pose an unacceptable risk to people nearby. No other state and federal standards currently apply that would limit potentially unsafe levels of glassmaking HAP emissions from these types of facilities.

How would the proposed rule address the need?

The proposed rules would fill the regulatory gap by setting operational standards for art glass businesses that emit air toxics and potentially cause serious health effects.

The proposed rules create two tiers of CAGM based on production and furnace type. The larger Tier 2 CAGMs would be required to install emission control devices on all furnaces using glassmaking HAPs and to perform source testing and dispersion modeling to measure and limit emissions of hexavalent chromium. The smaller Tier 1 CAGMs can install emission control devices on all furnaces using glassmaking HAPs, use source testing and modeling to demonstrate that emissions are below source impact levels without controls, or stop using glassmaking HAPs in one or more furnaces.

[1] The glassmaking HAPs governed by the proposed rule include arsenic, cadmium, chromium, lead, manganese, nickel and selenium.

[2] National Emission Standards for Hazardous Air Pollutants for Glass Manufacturing Area Sources, 40 CFR Part 63 Subpart SSSSSS.

These rules would decrease the risk from airborne HAP exposure to people nearby, including children and other sensitive or vulnerable individuals.

How will DEQ know the rule addressed the need?

The rule requires source testing to demonstrate that emissions control devices are working properly and to measure emissions in several other cases (hexavalent chromium emissions from Tier 2 facilities and glassmaking HAP emissions from Tier 1 facilities opting to operate uncontrolled furnaces).

DEQ is also performing ambient air monitoring near several CAGMs, which can verify whether HAP concentrations in the air people breathe have been reduced to safe levels.

Rules affected, authorities, supporting documents

Lead division

Operations

Program or activity

Program Operations

Chapter 340 action

Repeal	Oregon Administrative Rules (OAR) 340-244-0010(T), 340-244-9000(T), 340-244-9010(T), 340-244-9020(T), 340-244-9030(T), 340-244-9040(T), 340-244-9050(T), 340-244-9060(T), 340-244-9070(T), 340-244-9080(T), 340-244-9090(T)
Adopt	OAR 340-244-9000, 340-244-9010, 340-244-9020, 340-244-9030, 340-244-9040, 340-244-9050, 340-244-9060, 340-244-9070, 340-244-9080, 340-244-9090
Amend	OAR 340-244-0010

Statutory authority

Oregon Revised Statutes (ORS) 468.020, 468A.025, 468A.040, 468A.055, 468A.070 and 468A.310

Statute implemented

ORS 468A.025, 468A.040, 468A.055, 468A.070 & 468A.310

Documents relied on for rulemaking

Document title	Document location
EQC Staff Report for Colored Art Glass Manufacturer Emissions Temporary Rulemaking	http://www.oregon.gov/deq/RulesandRegulations/Documents/ToxicsStaff0416.pdf

Fee Analysis

This rulemaking does not involve the adoption of any new fees.

Statement of fiscal and economic impact

Fiscal and Economic Impact

The proposed permanent CAGM rules would have fiscal and economic impacts on businesses, DEQ, and the public. It is not anticipated to have fiscal and economic impacts on federal government, other state agencies, or local governments.

Statement of Cost of Compliance

State and federal agencies

Direct Impacts

The proposed rules would require Tier 1 CAGMs to apply for and maintain Air Contaminant Discharge Permits (ACDPs), which these businesses would not otherwise be required to have. The permit application fees (currently $7,200 per facility) and annual fees (currently $4,608 per facility) would be additional revenue to DEQ. However, those fee amounts would be offset by DEQ's additional costs for permit writing, compliance monitoring and inspections.

Tier 2 CAGMs that must comply with the substantive requirements of NESHAP 6S will be required to have Title V operating permits whether or not the proposed rules are adopted. In this case, adoption of the proposed rules would not impact DEQ revenue or costs for these facilities. If a Tier 2 CAGM is not required by NESHAP 6S to have a Title V permit, the proposed rules would require them to get an ACDP similar to Tier 1 CAGMs. Bullseye Glass currently has an ACDP.

The US Environmental Protection Agency has been in contact with CAGMs and DEQ but they would not be directly involved in implementing the proposed rules. DEQ does not anticipate impacts to federal agencies or other state agencies besides DEQ.

Indirect Impacts

DEQ does not anticipate indirect impacts to DEQ or other state and federal agencies.

Local governments

DEQ does not anticipate direct or indirect impacts to local governments.

Public

Direct Impacts

DEQ does not anticipate direct impacts to members of the public, because they are not subject to the rule.

Indirect Impacts

The proposed rules are intended to measure and reduce emissions of glassmaking HAPs from the CAGMs subject to the rule. Decreased emissions of glassmaking HAPs and other particulate matter may have significant health benefits for the public, particularly those who live, work or otherwise spend significant time near a CAGM.

Cadmium, arsenic, and lead, three of the HAPs regulated by the rule, have been found to exceed human health-based benchmark concentrations near CAGMs. Exposure to metal HAPs through inhalation or other means is connected with serious health effects like cancer, respiratory problems and organ damage.

The compliance route chosen by many CAGMs will likely be installation of one or more particulate matter control devices such as baghouses. In addition to reducing metal HAP emissions, installation of these devices would reduce emissions of other particulate matter, including fine particulate matter (less than 2.5 microns in diameter). Fine 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.

Health problems have negative economic impacts to the people experiencing them, and may also affect their family members, employers, and the health care system. The proposed rules would create positive economic benefits and improvements in public health and welfare by reducing these emissions. DEQ currently does not have an estimate of avoided health impacts, but the Oregon Health Authority (OHA) is working on Public Health Assessments to estimate the health impacts of emissions from Bullseye and Uroboros. OHA plans to release those reports in late fall of 2016.

The US Environmental Protection Agency (EPA) estimated the costs and benefits of the 1990 Clean Air Act Amendments[3], which among other things expanded regulation of air toxics and led to regulations such as NESHAP 6S. EPA's estimate was that the health benefits of that set of regulations were 30 times the costs of compliance, with a range between 3 and 90. According to EPA, "This net improvement in economic welfare is projected to occur because cleaner air leads to better health and productivity for American workers as well as savings on medical expenses for air pollution-related health problems. The beneficial economic effects of these two improvements alone are projected to more than offset the expenditures for pollution control."[4] While EPA has calculated these benefits for the 1990 Clean Air Act Amendments, it is unknown whether figures would be similar for these proposed rules.

The source testing, modeling, and reporting components of the rule provide the public information about the amount and composition of emissions. This information appears to have value to members of the public, though DEQ is unable to quantify that value in monetary terms.

To the extent that metals emissions depress property values near CAGM facilities, the proposed rule may also have a positive economic impact by reversing that effect. DEQ does not have available data to quantify this.

Members of the public that are customers of CAGMs may pay higher prices, if CAGMs raise their prices to recoup their compliance costs. DEQ lacks information to estimate the impact of price increases but expects this impact on the public to be small relative to the health benefits.

Large businesses - businesses with more than 50 employees

Direct Impacts

Currently there are five CAGMs that would be subject to the proposed rules. One of those, Bullseye Glass Company, has more than 50 employees and is therefore considered a large business for the purposes of rulemaking fiscal impact analysis.

Compliance cost may vary depending on facility-specific circumstances. In particular, Bullseye is making changes to comply with NESHAP 6S at the same time as this proposed rule. Even if this proposed rule is not

[3] "Benefits and Costs of the Clean Air Act, 1990 to 2020", https://www.epa.gov/clean-air-act-overview/benefits-and-costs-clean-air-act

[4] https://www.epa.gov/clean-air-act-overview/benefits-and-costs-clean-air-act-1990-2020-second-prospective-study

adopted, Bullseye would need to install one or more baghouses to meet NESHAP 6S requirements. Because the number of baghouses that would be installed for NESHAP 6S alone is uncertain, the number of additional baghouses needed for compliance with the proposed rule is also uncertain. (Bullseye is planning for installation of a total of 4 baghouses.) DEQ has incorporated that uncertainty into this fiscal impact analysis by estimating that Bullseye would install between zero and two additional baghouses to comply with the proposed rule, over and above what they would install for NESHAP 6S compliance alone.

If no additional baghouse costs were attributable to the proposed rule, compliance with the proposed rule would cost Bullseye about $70,000 to $100,000 in initial costs for permitting, source testing, and modeling, with no ongoing costs.

If all costs for two additional baghouses were attributable to the proposed rule, compliance with the proposed rule would cost Bullseye about $598,000 to $990,000 for permitting, baghouse installation, source testing, and modeling, and ongoing costs of $54,000 to $174,000 per year to operate and monitor the baghouses.

It is possible that Bullseye may be able to offset the cost of compliance through increased prices. Bullseye is reportedly increasing prices by 12.5% in August 2016 to help pay for baghouse installation[5]. However, the potential for increasing revenue may be limited if prices are set in a market that includes competitors located outside the jurisdiction of the proposed rules.

Further details on these cost estimates can be found in Attachment A.

Indirect Impacts

To the extent CAGMs raise their prices in response to the proposed rules, the increased prices represent an indirect fiscal impact on their customers, some of whom may be large businesses. DEQ does not have sufficient information to estimate this effect.

Small businesses – businesses with 50 or fewer employees

Direct Impacts

Four of the five businesses subject to the proposed rules have 50 or fewer employees and are therefore considered small businesses for the purposes of rulemaking fiscal analysis.

Of these, one (Uroboros Glass Studios, Inc.) is in Tier 2 of the proposed rules. The other three (Glass Alchemy, Northstar Glassworks, and Trautman Art Glass) are in Tier 1.

Like Bullseye, Uroboros is making changes to comply with NESHAP 6S at the same time as the proposed rule. Uroboros stated that in 2015 all of their furnaces were below the throughput thresholds for NESHAP 6S applicability. But, they intend to comply with NESHAP 6S because future throughput may be higher. Uroboros plans to install one baghouse at their facility. Because that baghouse is partially attributable to this proposed rule, DEQ calculated Uroboros' costs with between zero and one additional baghouse to comply with the proposed rule.

If no additional baghouse costs were attributable to the proposed rule, compliance with the proposed rule would cost Uroboros about $66,000 to $89,000 in initial costs for permitting, source testing, and modeling, with no ongoing costs.

[5] Portland Mercury, "Bullseye Glass is Raising Prices To Pay for Air Filters", June 8, 2016.

If all costs for the baghouse were attributable to the proposed rule, compliance with the proposed rule would cost Uroboros $431,000 to $729,000 for permitting, baghouse installation, source testing, and modeling, and ongoing costs of $27,000 to $87,000 per year to operate and monitor the baghouse.

Facility-specific data for the Tier 1 CAGMs was not available, so their costs were estimated as a class. The proposed rule gives Tier 1 CAGMs multiple compliance options.

One option is to install an emissions control device such as a baghouse. DEQ estimates that the cost of compliance through this method is approximately $261,000 to $422,000 per facility in one-time costs and between $32,000 and $92,000 per facility in ongoing annual costs. The Tier 1 facilities are not subject to NESHAP 6S and would likely install only one baghouse per facility. All three potential Tier 1 CAGMs indicated that they planned to pursue this compliance option.

Alternately, Tier 1 CAGMs can operate without an emissions control device if they show through source testing and dispersion modeling that the impact of their emissions on the nearest sensitive receptor is within acceptable source impact levels. DEQ estimates that the cost of compliance via this pathway would be approximately $32,000 to $127,000 in one-time costs and $5,000 in ongoing annual costs for permitting. However, this estimate does not include the cost of reductions or changes in the type or amount of products produced, which could potentially be required in order to maintain emission impacts below limits. The proposed rules also prohibit hexavalent chromium from being used in furnaces that are using this compliance pathway. DEQ does not have sufficient information to estimate whether reduction or changes in production would be necessary.

Tier 1 CAGMs also have the option to stop using some or all of the hazardous air pollutants regulated by this rule completely. While this option is available, this would limit the range of glass colors that can be produced, and the lost revenue would likely make this an expensive compliance option.

Trautman Art Glass, one of the Tier 1 CAGMs, said that the proposed rules may prompt them to move their facility to a new location. That decision would depend on whether the current property owner agrees to allow installation of a baghouse, as well as other factors internal to their business. The company estimated that moving their factory and complying with the rules at the new location would cost approximately $2 million, plus lost revenue of $1 million during the moving process. DEQ does not have data to verify the necessity to move or the facility's cost estimates for doing so.

As for large business CAGMs, it is possible that small business CAGMs may be able to offset the cost of compliance through increased prices. However, this potential may be limited if their prices are set in a market that includes competitors located outside the jurisdiction of the proposed rules.

Further details on these cost estimates can be found in Attachment A.

Indirect Impacts

To the extent CAGMs raise their prices in response to the proposed rules, it would represent an indirect fiscal impact on their customers, some of whom may be small businesses. DEQ does not have sufficient information to estimate this effect.

Summary of impact on small business (ORS 183.336)

a. Estimated number of small businesses and types of businesses and industries with small businesses subject to proposed rule.

Four of the CAGMs that are likely subject to the proposed rule are small businesses.

b. Projected reporting, recordkeeping and other administrative activities, including costs of professional services, required for small businesses to comply with the proposed rule.

Tier 1 CAGMs would be required to obtain an Air Contaminant Discharge Permit (ACDP) that they wouldn't otherwise be required to have. Tier 2 CAGMs would be required to obtain an ACDP, if an ACDP or Title V is not already required by other regulations.

CAGMs complying using an emissions control device are required to do an initial source test and ongoing monitoring and reporting to show proper operation of the emissions control device.

CAGMs complying using source testing and modeling would be required to perform source testing and modeling, and may also need to do recordkeeping and reporting to show that production levels remain below limits established through that process.

c. Projected equipment, supplies, labor and increased administration required for small businesses to comply with the proposed rule.

CAGMs complying using an emissions control device would be required to install the control device, which may require replacement parts and supplies.

d. Describe how DEQ involved small businesses in developing this proposed rule.

DEQ allowed for a two week public comment period on the temporary rule, which is not required by law. DEQ received comments on the temporary rule from three of the four small businesses likely to be affected by the rule. DEQ proposed changes in the rules for Tier 1 CAGMs as a result of these comments.

Documents relied on for fiscal and economic impact

Document title	Document location
Benefits and Costs of the Clean Air Act 1990-2020, the Second Prospective Study	https://www.epa.gov/clean-air-act-overview/benefits-and-costs-clean-air-act-1990-2020-second-prospective-study
Bullseye Glass is Raising Prices To Pay for Air Filters	Portland Mercury, June 8, 2016 http://www.portlandmercury.com/blogtown/2016/06/08/18194644/bullseye-glass-is-raising-prices-to-pay-for-air-filters

Advisory committee

DEQ appointed a fiscal advisory committee.

As ORS 183.33 requires, 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 complies with ORS 183.540.

The committee met on May 27, 2016 and June 10, 2016 to review the draft fiscal and economic impact statement. Committee members were asked individually to respond to the questions listed above.

Committee members agreed that the rules would have a fiscal impact. Several members commented that there is also a fiscal impact on the US EPA. Other committee members stated that in addition to negative fiscal impacts of the rule, there are positive impacts because of avoided health impacts.

Committee members felt the range of costs reflected in the DEQ fiscal impact estimates were reasonable. Some commented that there is high uncertainty about the numbers, and some requested that the health benefits of the rule be quantified. One commented that costs could be significantly higher than the cost range given if a CAGM had to move their facility to install controls.

Committee members agreed that the rule would have a significant adverse impact on small businesses. Several members commented that small businesses located near the facilities or whose employees are located near the facilities would be negatively impacted if the rule were not implemented, because of the health impacts of uncontrolled emissions.

The committee determined the proposed rules would have a significant adverse impact on small businesses. As ORS 183.333 and 183.540 require, the committee considered how DEQ could reduce the rules' fiscal impact on small business by:

- Establishing differing compliance or reporting requirements or time tables for small business;
- Clarifying, consolidating or simplifying the compliance and reporting requirements under the rule for small business;
- Utilizing objective criteria for standards;
- Exempting small businesses from any or all requirements of the rule; or
- Otherwise establishing less intrusive or less costly alternatives applicable to small business.

Committee members were asked whether they could suggest ways to reduce the negative economic impact of the rule while still meeting its public health and safety purpose. Several committee members commented that DEQ could reduce uncertainty for small businesses by clarifying source test requirements and whether they can operate during the period between submitting a permit application and DEQ issuing the permit. Some committee members mentioned that the rule already attempts to reduce impacts on small businesses by having different requirements for different tiers.

Committee members also stated that the draft limits of the rule (only affecting CAGM in the Portland AQMA that produced 10 or more tons per year) increased the negative economic impact on the small businesses subject to the rule, because the rule is spurring competition from smaller unregulated operations, some run out of residential garages. The committee suggested that applying the rule statewide and lowering the applicability threshold from 10 tons per year to one, 100 or 1,000 pounds per year would better protect public health and reduce incentives to circumvent the rule. DEQ is proposing changing the applicability threshold to 5 tons per year and applying the rule statewide in part because of the committee's input and subsequent public comments on these points.

After fiscal advisory committee review and the public comment period, requirements for baghouse leak detection or HEPA afterfilter systems were added to this rule proposal. The fiscal impact estimates discussed above for Tier 2 CAGMs have been increased by a range of $10,000 to $30,000 per baghouse to reflect the new rule requirements. Fiscal impact estimates for Tier 1 CAGMs were not affected because they can choose either a 'grain loading' source test or a baghouse leak detection system or a HEPA afterfilter.

Housing cost

As ORS 183.534 requires, DEQ evaluated whether the proposed rules would 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. DEQ determined that the proposed rules could affect the development cost if a house is constructed using art glass as a material, and if CAGMs increase their prices in response to the proposed rule. However, the possible housing cost impact of these proposed changes appears to be infinitesimal because art glass represents an exceedingly small proportion of the development cost of a home.

Federal relationship

Relationship to federal requirements

ORS 183.332, 468A.327 and OAR 340-011-0029 require DEQ to attempt to adopt rules that correspond with existing equivalent federal laws and rules unless there are reasons not to do so.

The proposed rules add requirements additional to those in federal requirements. Air toxics emissions from certain types of industrial businesses like CAGMs are not fully regulated under federal requirements. Based on sampling DEQ has concluded that uncontrolled furnaces used in such colored art glass manufacturing are more likely than not to emit potentially unsafe levels of certain metals, including arsenic, cadmium, hexavalent chromium, nickel and selenium. The permanent rules that DEQ proposes for EQC adoption are intended to protect the public health and the environment by ensuring the air emissions from CAGMs do not cause unsafe levels of glassmaking HAPs in the air nearby.

What alternatives did DEQ consider if any?

The only alternative that would not require rules in addition to federal requirements would be to not adopt these rules. DEQ considered but did not pursue this alternative because air monitoring measured metals at levels that can pose an immediate threat to the health of people nearby.

DEQ considered regulating all CAGMs the same but did not pursue this alternative because of the comments received from the public on the difference between Tier 1 and Tier 2 CAGMs.

Land-use considerations

In adopting new or amended rules, ORS 197.180 and OAR 340-018-0070 require DEQ to determine whether the proposed rules significantly affect land use. If so, DEQ must explain how the proposed rules comply with statewide land-use planning goals and local acknowledged comprehensive plans.

Under OAR 660-030-0005 and OAR 340 Division 18, DEQ considers that rules affect land use if:

- The statewide land use planning goals specifically refer to the rule or program, or
- The rule or program is reasonably expected to have significant effects on:
  - Resources, objectives or areas identified in the statewide planning goals, or
  - Present or future land uses identified in acknowledged comprehensive plans

To determine whether the proposed rules involve programs or actions that affect land use, DEQ reviewed its Statewide Agency Coordination plan, which describes the DEQ programs that have been determined to significantly affect land use. DEQ considers that its programs specifically relate to the following statewide goals:

Goal	Title
5	Open Spaces, Scenic and Historic Areas, and Natural Resources
6	Air, Water and Land Resources Quality
9	Ocean Resources
11	Public Facilities and Services
16	Estuarial Resources

Statewide goals also specifically reference the following DEQ programs:

- Nonpoint source discharge water quality program – Goal 16
- Water quality and sewage disposal systems – Goal 16
- Water quality permits and oil spill regulations – Goal 19

Determination

DEQ determined that these proposed rules do not affect land use under OAR 340-018-0030 or DEQ's State Agency Coordination Program.

Stakeholder and public involvement

Advisory committee

Background

DEQ convened the Art Glass Permanent Rulemaking 2016 Fiscal Advisory Committee. The committee included representatives from CAGMs, environmental groups and neighborhood air quality groups and met two times. The committee's web page is located at: Art Glass Permanent Rules 2016 Advisory Committee

The committee members were:

Name	Representing
Abe Fleishman	Northstar Glassworks
Al Hooton	Glass Alchemy, Ltd
Amanda Jarman	Eastside Portland Air Coalition
Chris Winter	CRAG Law Center
Eric Durrin	Bullseye Glass Company
Jacob Sherman	South Portland Air Quality
Mark Riskedahl	NW Environmental Defense Center
Paul Trautman	Trautman Art Glass

All five CAGMs subject to the rule were invited to participate on the committee. Uroboros Glass Studios, Inc. declined to participate.

Meeting notifications

To notify people about the advisory committee's activities, DEQ:

- Sent GovDelivery bulletins, a free e-mail subscription service, to the following lists:
  - On May 17 DEQ sent a one-time notice to: Subscribers of Air Quality 2016 Permanent Rulemaking, Air Toxics State-wide, Cleaner Air Oregon Regulatory Overhaul, DEQ Public Notices, News Releases, Portland Air Toxics Solutions, Rulemaking and Toxics Reduction Strategy subscribers to describe how to sign up for advisory committee meeting notices, and
  - People who signed up for the advisory committee bulletin.
- Added advisory committee announcements to DEQ's calendar of public meetings at DEQ Calendar.

Committee discussions

The committee's discussions are described under the Statement of Fiscal and Economic Impact section above.

EQC prior involvement

The EQC met on March 15, 2016 to consider the temporary CAGM rules. After a public comment period and revisions to the rule, the EQC approved the rule at a second meeting on April 21, 2016.

Public notice

DEQ provided notice of the proposed rulemaking and rulemaking hearing on June 15, 2016 by:

- Filing notice with the Oregon Secretary of State for publication in the Oregon Bulletin on June 15, 2016,
- Notifying the EPA by email,
- Posting the Notice, Invitation to Comment and Draft Rules on the web page for this rulemaking; located at: Art Glass Permanent Rules 2016,
- Emailing 9906 interested parties on the following DEQ lists through GovDelivery:
  - Subscribers of Air Quality 2016 Permanent Rulemaking
  - Air Toxics State-wide, Cleaner Air Oregon Regulatory Overhaul
  - DEQ Public Notices
  - News Releases
  - Rulemaking
  - Toxics Reduction Strategy
- Emailing the following key legislators required under ORS 183.335:
  - Senator Chris Edwards, Chair, Senate Environment and Natural Resources Committee
  - Representative Jessica Vega-Pederson, Chair, House Energy and Environment Committee
  - Senator Lee Beyer
- Emailing advisory committee members,
- Postings on Twitter and Facebook
- Posting on the DEQ event calendar: DEQ Calendar

Request for other options

During the public comment period, DEQ requested public comment on whether to consider other options for achieving the rules' substantive goals while reducing the rules' negative economic impact on business. This document includes a summary of comments and DEQ responses.

Public hearings and comment

DEQ held one public hearing. Five people commented orally during the public hearing. In addition, DEQ received 151 written comments through DEQ's online comment tool, email, and in hard copy. Later sections of this document include a summary of comments received, DEQ's responses, and a list of the commenters. Original comments are on file with DEQ.

Presiding Officers' Record

Hearing 1

Meeting location: Conference room EQC-A, 10th floor of 811 SW 6th Avenue, Portland, Oregon
Meeting date and time: 6:00 p.m. on July 19th, 2016
Presiding Officer: Joe Westersund

The presiding officer summarized procedures for the hearing including notification that DEQ was recording the hearing. The presiding officer asked people who wanted to present oral comments to complete a registration form.

DEQ Permit Writer George Davis summarized the content of the public notice for this rulemaking, as required by Oregon Administrative Rule 137-001-0030. This summary took about 45 minutes and included staff responses to questions about the rulemaking.

Seven people attended the hearing in person (not counting DEQ staff) and an unknown number listened remotely via phone or watched via webinar. Five people commented orally and two of those also submitted hard copy written comments at the hearing. A summary of the oral comments is below.

Name	Organization	Comment Topics	Submitted Hard Copy Comments
James Knox	Northstar Glassworks	Rule should apply to all CAGMs, not just ones producing 10 tons/year. Rules should apply statewide or nationwide. 99.0% baghouse capture efficiency standard should be changed to a grain loading standard.	
Abe Fleishman	Northstar Glassworks	Rule should apply to all glass manufacturers using metal HAPs, not just ones producing 10 tons/year. Rules should apply statewide or nationwide. 99.0% baghouse capture efficiency standard would cost ~$350k and should be changed to a more cost-effective test that measures actual emissions, like a grain loading standard. 65 to 85% of cadmium used in a glass batch volatilizes and cadmium should be more regulated than in the temporary rule.	
Greg Pourget	Portland Clean Air	DEQ should regulate diesel emissions, Bullseye glass, other glass manufacturers like Owens Brockaway Glass and General Glass. Regulation should be health-based. DEQ should be more responsive and transparent.	
Chris Mini	Tabby Glass	Existing definitions could unintentionally regulate glass artists who do kiln work or glassblowing. These facilities reheat pre-made glass and don't emit metal HAPs. Need better definition of 'melt' and 'furnace', and to not use term 'molten glass'.	Yes
Katharine Salzmann	Speaking as individual	Should regulate all heavy metals used by CAGMs. Health benchmarks should be more protective. There should be no uncontrolled emissions of any HAPs in Oregon.	Yes

DEQ added all names and affiliations of hearing participants who presented testimony to the commenter section of this staff report. DEQ added all written and oral comments presented at the hearing to the summary of comments and agency responses section of this staff report.

Summary of comments and DEQ responses

DEQ received 151 unique comments from 136 commenters. That includes comments made in person during the public hearing, as well as comments submitted through the online comment tool on DEQ's website, through email, or in hard copy. DEQ read and considered all comments.

Original comments are on file with DEQ. The vast majority were added to the online comment tool and can be reviewed at
http://www.oregon.gov/deq/RulesandRegulations/Pages/comments/Cartglass2016.aspx

Many points were raised by more than one commenter. DEQ identified 60 different points that were made by one or more commenters. A summary of each of those 60 points and DEQ's response to it is included below.

CATEGORY: Rule Applicability

Comment: Statewide

DEQ should apply this rule statewide instead of only in the Portland area.

Response

Based on comments received, DEQ is proposing that the permanent rule apply statewide. While there are no known air quality problems related to CAGM operations outside the Portland area, applying the rule statewide gives all Oregonians protections from current and potential future CAGM emissions and helps provide a "level playing field" for CAGMs that install the controls necessary to comply.

Comment: 500 lb/year

DEQ should lower the applicability threshold of the rule so that all facilities making at least 500 lbs per year (or even smaller amounts) of HAP-containing glass are regulated.

Response

DEQ proposes to lower the applicability threshold from 10 tons per year to 5 tons per year of HAP-containing glass.

DEQ proposes to lower the applicability threshold based on comments that suggest lowering the threshold, and because DEQ has received information that indicates that the three smaller CAGMs in the Portland AQMA that DEQ intended to regulate under the temporary rules may actually fall below the current 10 ton per year threshold. However, in proposing to lower the threshold, DEQ also does not wish to make the threshold so low that the rule would encompass facilities whose primary purpose is the production of items made from colored glass, such as glass art pieces or other glass items, and that might make small quantities of glass for special purposes.

Five tons per year is 10,000 pounds per year, and DEQ assumes a typical working year is 50 weeks. To produce 10,000 pounds of glass in a year, a CAGM would have to produce an average of 200 pounds of glass per working week. Producing this much glass per week would require two small glass making furnaces, each making 50 pounds of glass two times per week. DEQ considers this level of production

to reasonably represent a level that defines an art glass manufacturing operation, but is high enough to exclude facilities whose primary purpose is the production of items made from colored glass.

DEQ acknowledges that at this time there is no information available to quantify the glassmaking HAP emissions from CAGM operations, and that the proposed 5 ton per year threshold is therefore somewhat arbitrary. However, the proposed threshold is consistent with the intent of the temporary CAGM rules, which was to rapidly require emission controls on CAGMs.

Comment: All metals

The rule should regulate all heavy metals or all hazardous air pollutants (HAP), not just arsenic, cadmium, chromium, lead, manganese and nickel.

Response

DEQ agrees that the proposed rules should apply to all HAPs likely to be emitted by CAGMs in amounts that could approach or exceed an Ambient Benchmark Concentration or a daily maximum acceptable concentration established by DEQ and OHA, and has expanded the list of HAPs regulated by the proposed rules to add selenium. Selenium has been detected in the air near Bullseye at concentrations at or exceeding health screening levels. The proposed rules prohibit the use of the listed HAPs in uncontrolled furnaces after the applicable compliance dates. If future data shows that other glassmaking materials are likely to approach or exceed acceptable levels, DEQ could add those materials to the list of regulated glassmaking HAPs. In addition, the Cleaner Air Oregon rulemaking is underway and will consider regulations to more broadly address HAP emissions.

340-244-9050(3)(a)(G) of the proposed rules does not set a health benchmark for selenium, because a DEQ and OHA review of selenium toxicity is currently ongoing and is expected to be completed before the end of 2016. Updated benchmarks could be incorporated into this rule in a future rulemaking. Currently, the proposed rules put the burden on a Tier 1 facility requesting to utilize the exemption at 9050(3) to demonstrate that their proposed selenium emissions rate is protective of public health.

Comment: All glass factories

This rule should be changed to regulate all glass factories (such as Owens Brockaway and General Glass), not just CAGMs.

Response

The purpose of the proposed rules is to regulate emissions of certain HAPs from CAGMs. As noted in another response, it is making glass using raw materials that contain the specified HAPs that makes a facility potentially subject to the proposed rules.

DEQ has reviewed other glass making facilities and believes that currently there are five facilities that meet the proposed definition of CAGM: Bullseye, Uroboros, Northstar, Trautman Art Glass and Glass Alchemy. DEQ is proposing to make this rule apply statewide, and other CAGMs may be identified in the future.

Owens Brockway makes container glass, some of which is colored brown or green, but does not deliberately use raw materials that contain the specified HAPs. The colors in the container glass are achieved using iron oxides, and iron is not a HAP. Owens Brockway is regulated under other rules and

is required to have a Title V air permit, but does not meet the definition of CAGM and is not regulated under the proposed rule.

General Glass was also identified by commenters. General Glass manufactures glass products starting from sheet glass, but General Glass does not make glass in the sense of melting raw materials or cullet to produce glass and therefore does not meet the definition of CAGM and is not regulated under the proposed rule.

Comment: NESHAP 6S

This rule is less stringent than NESHAP 6S in some ways, so it should not apply to furnaces that are subject to NESHAP 6S.

Response

The proposed rules are designed to apply even at furnaces that are subject to NESHAP 6S. At furnaces subject to both regulations, the restrictions of both regulations would apply and not just one or the other. The requirements under the proposed rules and NESHAP 6S are similar and compliance with both regulations should not be burdensome nor create a regulatory conflict.

Comment: Health-based applicability

DEQ should base the applicability threshold on the amount of metals used (lbs/year) and their relative health risks, rather than on the amount of glass. Some glass contains concentrated HAP and other recipes are very dilute. Also, some HAP like hexavalent chromium are more dangerous than others.

Response

DEQ agrees that setting an applicability threshold based on health risks is a good idea; however this approach would add technical complexity that DEQ intends to address through the development of a health-based air toxics permitting rule (Cleaner Air Oregon) that may incorporate this concept.

Comment: Don't apply to glass users

Because of the way that 'melt' and 'furnace' are used in the rule, it may apply to some art glass users that are remelting glass rather than making it from powdered raw materials.

Response

It is not DEQ’s intent to regulate glass users who only remelt glass. DEQ’s intent is to regulate the HAP emissions from the process of making glass using raw materials that contain specified HAPs. The process of remelting pre-made glass would not be regulated under this rule, unless glassmaking HAPs are being added (in a form such as a powder or as a special concentrated frit). DEQ is proposing to change the definition of raw material to make this distinction clearer.

Comment: Address all HAP sources

This rule should address all HAP sources.

Response

This rule is specifically targeted to address CAGM emissions. The Cleaner Air Oregon rulemaking is underway and will consider and determine appropriate regulations to more broadly address HAP emissions from other sources.

Comment: Fuel-fired furnaces

The proposed rule treats electrically heated and fuel-fired furnaces differently in the thresholds between Tier 1 and Tier 2. Are emissions really that different? The 100 tpy (tons per year) threshold for a facility with only electrically fired furnaces to become Tier 2 should be lowered.

Response

DEQ is not aware of data comparing the relative emissions of fuel-fired and electrically heated furnaces. However, the physics of fuel-fired furnaces are likely to result in higher emission rates. DEQ is lowering the applicability threshold for the rule to 5 tpy but is not proposing to adjust the Tier 1 / Tier 2 threshold for electrically fired furnaces at this time.

Comment: Facilities under threshold

What requirements will apply to CAGMs that are under the threshold?

Response

The proposed rules only apply to facilities that produce 5 or more tons per year (previously 10 tpy) of glass containing the specified HAPs. It does not impose requirements on CAGMs who are below that threshold.

CATEGORY: Enforcement

Comment: Self-reported data

Self-monitoring is insufficient. DEQ should conduct ongoing inspections.

Response

The proposed rule would require all affected facilities to get a DEQ permit. DEQ performs inspections of permitted sources on a regular basis.

Comment: Enforcement Penalties

There should be heavy fines for violations, a plan for repeat offenders, and the ability to shut a facility down if it poses an immediate risk to the public and environment.

Response

DEQ follows established enforcement procedures in OAR 340 Division 12. Fines are based on the amounts and procedures specified in these rules, and include provisions for increasing fines for

repeated violations. DEQ may also revoke a permit if a permitted facility is seriously endangering the public health, safety or the environment, under OAR 340-216-0082(4)(b).

In addition, under ORS 468.115, if DEQ finds that air pollution presents imminent and substantial endangerment to the public health, at the Governor's direction, DEQ can issue a cease and desist order against the person or persons responsible for the pollution. The order can be effective for no more than 10 days and may be renewed by order of the Governor.

CATEGORY: General rulemaking

Comment: Environmental justice

DEQ has a legal obligation to do a demographic analysis to make sure the proposed rule does not have disproportionate adverse impacts on communities of color.

Response

DEQ has considered whether the proposed rule would result in distinct adverse impacts on communities of color, and has concluded that it will not. The purpose of this rule is to reduce art glass manufacturers' emissions of HAPs to surrounding communities. With the proposed change to apply it statewide, the rule does not differentiate based on the location of the facilities, nor does it encourage or discourage the location of the facilities in any particular area. All communities that are impacted by this source category would also benefit from the protection of the rules.

Some commenters have suggested that the facilities regulated by this rule are in wealthy areas, and that the source category should be defined differently so that disadvantaged communities would benefit more. Several commenters mentioned Owens Brockway and General Glass as glass-related facilities that they felt should be regulated by the rule.

Owens Brockway makes container glass, some of which is colored brown or green, but does not deliberately use raw materials that contain the specified HAPs. The colors in the container glass are achieved using iron oxides, and iron is not a HAP. Owens Brockway is regulated under other rules and is required to have a Title V air permit, but does not meet the definition of CAGM and is not regulated under the proposed rule.

General Glass manufactures glass products starting from sheet glass, but does not make glass in the sense of melting raw materials or cullet to produce glass and therefore does not meet the definition of CAGM and is not regulated under the proposed rule.

Comment: Future additions

The rule should include a clause to allow for the future regulation of other materials from glass manufacturing if found to exceed either short and/or long term air quality health standards.

Response

The proposed rules include OAR 340-244-9090, which allows DEQ to set a limit on a particular CAGM's use of a glassmaking HAP if that HAP is determined to pose an unacceptable risk to human health in the area of the CAGM. However, the rule would not allow DEQ to add HAPs to the list of glassmaking HAPs without going through a new rulemaking process. If new information comes to

light, then DEQ could revisit the rule, or in an emergency the Governor could order DEQ to take action, as noted above.

With respect to other materials that may be emitted, DEQ is working on the development of a larger statewide rule (the Cleaner Air Oregon rule) to regulate air toxics emissions from industrial emission sources. This larger rule is expected to provide a uniform program for the regulation of air toxics emissions. The rule is being developed over 2016 and 2017, with significant information gathering and opportunity for public input.

Comment: September 1st

DEQ should apply the new rules by September 1st

Response

DEQ disagrees that all of the rule's requirements should apply by September 1, 2016. When rules that require the installation of emission control devices are adopted, DEQ generally gives the affected facilities time to design, obtain building permits, obtain the emission control device and install it, provided such flexibility will not significantly endanger the public health or the environment. When the temporary rules were adopted, the Tier 2 CAGMs were given until September 1, 2016 to comply with the rules. The Tier 1 CAGMs were contacted some time after the Tier 2 CAGMs, and had less warning that they would be regulated, so were given an extra month. If the rules become applicable statewide, as proposed, CAGMs outside the Portland AQMA will need time to comply and DEQ has proposed to give them until April 1, 2017. In addition, DEQ has determined to add selenium to the list of glassmaking HAPs, and has concluded that facilities should have until January 1, 2017 (or April 1, 2017, if outside the Portland AQMA), to meet those new requirements.

In addition to the above considerations, only the Environmental Quality Commission has the authority to approve new rules. EQC will meet on September 29th to consider DEQ's proposal and it would be inequitable to apply changes approved by EQC retroactively.

Comment: Wait for Cleaner Air Oregon

DEQ should wait to propose a permanent rule until the Cleaner Air Oregon rulemaking finishes. Otherwise, the rule for art glass manufacturers may have different or incompatible requirements.

Response

The current, temporary rules on art glass manufacturers will expire on October 18th, 2016, and cannot be extended. DEQ proposed the temporary rules to regulate CAGMs in response to data that showed residents near CAGMs were exposed to potentially unhealthy air, in some cases exceeding acute (24 hour) health benchmarks. The temporary rules established a regulatory framework for the CAGMs that included requirements to install emission control devices, and all of the five currently known facilities are moving forward to comply with those rules before the temporary rules expire. However, some facilities are experiencing significant delays in the issuance of building permits that will prevent installation of emissions control devices before the temporary rules expire. If the temporary rules were to expire without being replaced by permanent rules, the affected CAGMs would be left in a regulatory limbo with no clear direction and the expired rules would not be enforceable by DEQ. Adopting the proposed permanent CAGM rules will continue the regulatory framework and provide the affected facilities with some regulatory certainty until the Cleaner Air Oregon rules are in place. It is not yet known whether the Cleaner Air Oregon rulemaking will supersede this rule or leave it in place.

CATEGORY: Health

Comment: Health benchmarks

DEQ should modify the health benchmarks in the rule to make them more protective, especially the 36 ng/m3 daily average source impact level for hexavalent chromium. The 36 ng/m3 can't be exceeded without also exceeding the 0.08 ng/m3 annual limit. Health benchmarks should take into account sensitive populations.

Response

DEQ has partnered with the Oregon Health Authority (OHA) to rely on their expertise in estimating environmental risks and setting health benchmarks.

Because chronic exposure to pollutants can cause harm through different mechanisms than intense, acute exposures, OHA recommended that DEQ incorporate an annual and 24 hour limit on chromium emissions from Tier 2 facilities. Facilities are bound by both limits, so the most stringent is the one that matters.

DEQ is proposing to change the 36 ng/m3 limit based on new information submitted by OHA. OHA recommended that DEQ revise the 24 hour health benchmark for hexavalent chromium to 5 ng/m3. 5 ng/m3 is the intermediate minimal risk level (MRL) established by the Agency for Toxic Substances and Disease Registry (ATSDR).

The health-based Ambient Benchmark Concentrations and the daily maximum ambient concentration limits recently developed by DEQ and OHA all include conservative assumptions that encompass the protection of sensitive populations such as children, the elderly, and people who are health-impaired. With respect to hexavalent chromium, the proposed rules also limit long-term exposure to sensitive human receptors located in places such as schools, daycare centers and hospitals, and limit short-term exposure at any location off of the facility’s property.

OHA is beginning a process to review and revise other health benchmarks. If OHA revises other benchmarks as part of that process, the updated data could be incorporated into the art glass rule in a future rulemaking.

Comment: Health-based

This rule's requirements are technology-based, but the rule restrictions should be health-based.

Response

DEQ has begun the Cleaner Air Oregon rulemaking process to develop a statewide risk-based air toxics permitting program that will cover many industry types. There will be many opportunities for public input and participation in that process. The approach proposed in the art glass rule is a combination of risk and technology based approaches. It requires emission control devices to reduce the rate at which CAGMs emit HAPs, which is a technology-based requirement. It also incorporates elements of a risk-based program by establishing usage limits based on health-based acceptable source impact levels for chromium usage at Tier 2 facilities.

For rules to be only health based may be ideal, but the health-based framework that is anticipated in the Cleaner Air Oregon rules does not exist yet and it would be premature for DEQ to try to guess what standards and considerations that framework may involve. At this time it makes more sense to have technology-based rules to achieve reasonable emission reductions while the Cleaner Air Oregon rules are being developed. Finally, other states with health-based air toxics programs still take the availability of emission control technology and its ability to control emissions into account.

Comment: Cumulative health effects

The rule should take into account cumulative/interactive effects instead of pretending that people are exposed to a single pollutant in isolation.

Response

DEQ agrees that cumulative and interactive effects should be considered, and this is one of the program elements being discussed in the Cleaner Air Oregon rulemaking. However, the Cleaner Air Oregon rules do not exist yet and it would be premature for DEQ to try to guess what standards and considerations those rules may involve. The approach taken in both the temporary and proposed permanent CAGM rules is considered to be protective, but these rules are an interim measure to address a particular problem area. Under the final Cleaner Air Oregon rules, the proposed CAGM rules may be replaced entirely or revised to conform to the Cleaner Air Oregon rules.

Comment: Precautionary principle

Where health impacts are uncertain, DEQ should err on the side of being more protective of health. Limits should reflect sensitive populations.

Response

The health benchmarks incorporated into the proposed rule were developed with the help of the Oregon Health Authority and include adjustments to account for sensitive populations. The Cleaner Air Oregon rulemaking may adopt a different approach but is not yet complete.

Comment: Facility limits vs furnace limits

Rule should set per-facility emission limits so that the cumulative impact of multiple furnaces does not exceed health benchmarks.

Response

The emissions limits in the proposed rule (chromium usage limits for Tier 2 facilities and limits for Tier 1 facilities that choose the 'source test and model' compliance pathway) are on a facility-wide basis and not a per-furnace basis.

Comment: Cumulative effects of multiple facilities

The rule should account for the additive effects of emissions from multiple facilities affecting the same geographic area.

Response

DEQ agrees that the additive effects from multiple facilities should be considered, and expects they will be considered in the Cleaner Air Oregon rulemaking. However, the Cleaner Air Oregon rules do not exist yet and it would be premature for DEQ to try to guess what standards and considerations those rules may involve. The approach taken in both the temporary and proposed permanent CAGM rules is considered to be protective, but these rules are an interim measure to address a particular problem area. Under the final Cleaner Air Oregon rules, the proposed CAGM rules may be replaced entirely or revised to conform to the Cleaner Air Oregon rules.

Comment: Ambient monitoring

DEQ should continue long term ambient air monitoring near glass factories.

Response

DEQ has limited resources for air monitoring, and has a responsibility to monitor around the state, not just near the glass factories. DEQ is continuing to monitor near the glass factories at this time, but the monitors will eventually have to be relocated so that monitoring can be done at other locations.

CATEGORY: Other air pollution sources

Comment: Other facilities

The pollution measured around Bullseye may be coming from other sources. DEQ should have collected more wind direction and velocity data. It is likely that metals pollution near Bullseye is actually coming from fly ash used in making cement at the Lehigh Cement facility. There may be other point sources and mobile sources of these pollutants.

Response

Data collected in late 2015 near Bullseye measured elevated concentrations of glassmaking HAPs in air. Subsequent air data showed reductions in these HAPs once these materials were taken out of Bullseye's production process and controls were installed. This demonstrates that Bullseye was a contributing source. DEQ's work to identify and control remaining sources of air toxics around the Bullseye facility is ongoing.

Comment: Ambient concentrations

Ambient concentrations didn't decrease after the temporary rule was put in place, so the pollution must be coming from other sources.

Response

Concentrations have remained fairly consistent during this time, however Bullseye ceased using metal HAPs well in advance of the enactment of the temporary rules. Therefore, no specific reductions would have been expected.

CATEGORY: Permitting

Comment: Can't operate until permit issued

Facilities should not be able to operate until the public has had a chance to comment on the proposed permit and DEQ has issued it.

Response

Because the process of issuing a permit is long, it is DEQ's policy that when a new rule is put in place, existing facilities can continue to operate during the period between submitting an application and when DEQ issues the permit, provided such operations will not significantly endanger public health or the environment. Such facilities do not have to close down and then wait until the permit is issued to resume operating; however, they must comply with the rules.

Comment: Permit fees

DEQ should lower the costs for the permits Tier 1 facilities will be required to get so that they are no more than $2,000 to $4,000 per year.

Response

Permit fees for Air Contaminant Discharge Permits (ACDP), the type that Tier 1 facilities would be required to have, are set in rule across multiple facility types and are not specific to this proposed rule. The class of ACDP these facilities would be required to have currently has a $7,200 application fee and $4,608 annual fee per facility.

CATEGORY: Pollution control devices

Comment: Baghouse leak detection systems

DEQ should require triboelectric baghouse leak detection systems.

Response

DEQ is proposing that, in addition to the grain loading test, Tier 2 facilities be required to either install baghouse leak detection systems (BLDS) or HEPA afterfilters on each baghouse. DEQ feels that HEPA afterfilters, like BLDS, provide added assurance that the baghouse remains effective over time.

Because emissions from Tier 1 facilities are more dilute, DEQ proposes that they can either perform the grain loading test, install a BLDS, or install a HEPA afterfilter.

Comment: No metals in uncontrolled furnaces

CAGMs should not be allowed to use any metals in uncontrolled furnaces.

Response

Under the proposed rules Tier 2 CAGMs are not allowed to use glassmaking HAPs in an uncontrolled furnace. Tier 1 CAGMs would not be able to use glassmaking HAPs in an uncontrolled furnace unless they had done source testing and air dispersion modeling to show that doing so does not pose a risk to

people nearby. One glassmaking HAP, selenium, is newly added to the list in this proposal and has a later compliance date.

Comment: Thermal oxidizers

CAGMs should be required to use better control devices such as thermal oxidizers.

Response

Thermal oxidizers are not effective in reducing metal emissions. Fabric filters (baghouses) are effective against metal particulates and appear to be the control devices most facilities will use to comply with the rule requirements.

Comment: Baghouses not effective

In the Bullseye source test, the capture efficiency for chromium was less than for particulate matter. Baghouses are not effective if pollution is in a gaseous state or in very small particles.

Response

The temporary rules, adopted in April 2016, required a test to determine how much trivalent chromium was converted to the more toxic hexavalent chromium (chromium VI) form. To ensure that the test would give a valid result, which requires capturing a large enough sample, the rules required testing at a baghouse inlet, before the filters in the baghouse reduce the amount of pollutant in the exhaust gases.

The temporary rules included a provision for setting maximum chromium usage rates that would keep a Tier 2 CAGM's ambient chromium VI impacts from exceeding the health-based levels specified in the rules. To do this, it was also necessary to learn the actual emission rate of chromium VI coming out of the baghouse (i.e. from the baghouse outlet). At that time, DEQ assumed that baghouse control efficiency for chromium VI would be the same as the baghouse control efficiency for particulate matter, since DEQ expected all chromium VI to be in particulate form. Therefore, the rules also required testing for particulate matter both at the baghouse inlet and outlet (i.e. before and after the filters). By testing before and after the filters, the particulate matter removal efficiency could be calculated, and this removal efficiency could then be used to calculate the chromium VI emission rate.

In June, Bullseye performed this testing and also took an extra sample of chromium at the baghouse outlet. Based on the inlet and outlet testing for chromium, the calculated efficiency for chromium removal was significantly less than 99.0 percent, whereas the removal efficiency for particulate matter was over 99.0 percent.

Since the test only gave one data point for chromium removal efficiency, DEQ does not consider this to definitively show that the removal efficiency of chromium VI is less than 99.0 percent because there may be an unknown error in that single test. However, the test result does not support the assumption that the removal efficiency of chromium VI is the same as the removal efficiency for PM; therefore, DEQ has taken a different approach in the proposed permanent rules.

DEQ is now proposing that the chromium emission rate be measured directly at the baghouse outlet. This will provide the information needed to set maximum usage rates that will keep a Tier 2 CAGM's ambient chromium VI impacts from exceeding the health-based levels specified in the rules. With this change in approach, testing for particulate matter removal efficiency is no longer necessary and the requirement to test for particulate matter removal efficiency has been replaced with a simpler test in the proposed rules.

Finally, although the June source test result suggests that the chromium control efficiency for a baghouse is less than 99.0 percent, it also suggests that the chromium emissions are controlled to a significant extent, and DEQ still considers baghouses to be appropriate emission control devices for CAGM emissions.

Comment: Best Available Technology

CAGMS should have to demonstrate on an annual basis that they are using the best available technology to limit toxic emissions from their facilities.

Response

Although a full Best Available Control Technology (BACT) analysis was not performed for any CAGMs, it is likely that baghouses would qualify as BACT. Further, emission controls that are suitable for CAGMs are relatively mature technology and are not likely to change significantly from year to year. If improved technologies are developed in the future, DEQ could revisit BACT for this industry.

Comment: Allow uncontrolled furnaces if under grain loading standard

Facilities should be able to operate without control devices if their emissions are below the grain loading standard listed in the rule.

Response

The proposed grain loading standard is only intended to ensure that control devices are working. The grain loading standard is not intended to show health protectiveness because grain loading does not measure the facility's HAP emissions. Further, this rule has been developed in advance of the risk-based rules that DEQ is currently working on. Without those rules in place, DEQ does not have a basis for establishing health-based criteria for all the glassmaking HAPs. Instead, DEQ has taken the protective approach of requiring emission control devices.

Comment: Cadmium

CAGMs shouldn't be able to use cadmium in an uncontrolled furnace.

Response

Under the proposed rule (and earlier temporary rule) Tier 2 facilities are not allowed to use cadmium in an uncontrolled furnace. Tier 1 facilities would only be able to use cadmium in an uncontrolled furnace if they performed source testing and dispersion modeling to show that emissions would not exceed health benchmarks.

CATEGORY: Public outreach

Comment: Translation

DEQ should provide translation for non-English speakers and specific outreach to communities of color and low-income communities.

Response

DEQ can provide language translation for meetings or written materials upon request. Please contact DEQ and let us know if there is a specific community or language group that wants to request this.

Comment: Air permits on website

DEQ should make air emissions permits publicly available through its database.

Response

Making air permit records accessible to the public via DEQ's website is a good suggestion but outside the scope of this rulemaking process.

Comment: More public comment

The public should be able to comment at more steps in the process, including commenting on source test plans and pollutant dispersion modeling.

Response

Opportunities for public participation are a required and valuable part of DEQ's rulemaking process. For this rulemaking DEQ convened a fiscal advisory committee, held a public hearing, and accepted public comment via our website as well as email.

The proposed rule requires all Tier 1 and Tier 2 CAGMs to obtain air permits. As part of DEQ's process for issuing air permits the public has an opportunity to comment on whether DEQ has correctly applied the rules and statutes to the proposed permit. The public can also request a public hearing.

Soliciting and responding to public comment takes significant time and effort, and DEQ is not able to do that at all steps in the process.

Comment: Video

DEQ should get modern video recording equipment and broadcast and post all public meetings.

Response

DEQ has recorded and posted some recent meetings but currently does not have the equipment or staff expertise to produce high-quality video. DEQ is considering requesting funding for this.

Comment: No rules without public comment

DEQ should never propose rules without going through public comment.

Response

The EQC has authority to adopt temporary rules without public notice when there is a need to act quickly, as there was in early 2016 for the temporary art glass rules. As a safeguard against abusing the temporary rulemaking authority, temporary rules are only effective for six months and then either expire or can be renewed/revised through the normal rulemaking process, which includes full public notice and opportunity to comment on the rules.

Comment: Public notice for permitting actions

The public should be notified about any proposed permits.

Response

Public notice is given for all proposed air quality permits, with the public notice procedures varying depending on the type of permit. Public notice requirements are specified in Oregon Administrative Rule Chapter 340, Division 209, available on DEQ's website or through the State of Oregon website. To receive email notification of public notices, please go to DEQ's website at http://www.oregon.gov/DEQ/pages/index.aspx and click on "Public Notices" on the left side of the page, then click on the link "Sign up for email notifications when this page is updated" near the top of the page.

CATEGORY: Rule requirements

Comment: Flexibility

DEQ should give more compliance time and flexibility to CAGMs.

Response

DEQ is confident that the requirements in the proposed rules are achievable by all affected facilities. DEQ is also committed to work with all affected companies to issue necessary emission control device approvals and test plan approvals as quickly as possible. DEQ is aware that some affected facilities are experiencing lengthy delays in issuance of necessary building permits, and has proposed compliance extensions of up to one year if there are factors beyond the facility's control.

DEQ has revised the rule to reduce source testing costs and uncertainties by replacing the 99% capture efficiency standard with a standard at the baghouse outlet.

Comment: Don't shut down

DEQ should consider the economic effect on glass artists. DEQ should not shut down the glass industry.

Response

The proposed permanent rules are intended to ensure that CAGMs operate in a way that is protective of human health and the environment. We are confident that facilities can meet these requirements while continuing to serve their customers.

Comment: Don't increase glass prices

If compliance with the rule is expensive, glass will be too expensive for glass artists to buy.

Response

CAGMs must operate in a way that does not harm the health of their neighbors. DEQ believes the proposed rule requirements provide that protection to facility neighbors in a way that is also achievable for the affected facilities.

Comment: No chromium

CAGMs should not be allowed to use chromium in any form, because it transforms to hexavalent chromium.

Response

DEQ believes that control devices such as baghouses are highly effective and that, by complying with the proposed regulations, CAGMS can use glassmaking HAP including chromium without undue impact to human health and the environment. Tier 2 facilities are required to source test and set usage limits in order to keep their impact below health benchmarks.

Comment: Emissions monitoring

DEQ should require monitoring of emissions rather than monitoring of the control devices.

Response

Monitoring of emission control devices is required to help ensure that the control devices continue to perform properly. This type of monitoring is typical and is often used, because directly measuring emissions at the stack is often very expensive or impractical.

Comment: Hexavalent chromium conversion

The rule should assume that all trivalent chromium converts to the more dangerous hexavalent form during glass production.

Response

Tier 2 facilities are required to set production limits to make sure that chromium emissions are below health benchmarks. To set those production limits, the proposed rules allow CAGMs two options: assume that 100 percent of chromium emitted is in the form of hexavalent chromium, or conduct testing to quantify the emissions of hexavalent chromium. The choice of which option to use is up to the individual CAGMs; however, all testing procedures must be approved by DEQ.

Comment: Cold shops

The rule should regulate dust and wastewater from cutting and cold processing of glass.

Response

Particulates from cutting and grinding operations are larger and heavier, and much less likely to be emitted to the outside of the facility. This rule does not regulate water emissions.

Comment: NESHAP

DEQ should not rely on the NESHAP to protect neighbors.

Response

This rule is in addition to the federal NESHAP Subpart 6S and has a much lower applicability threshold. In some respects, it is also more stringent than the NESHAP.

Comment: Batch vs continuous furnace

The only rule change needed is to 'close the loophole on the definition of batch production' so that furnaces that are kept hot are subject to NESHAP 6S. DEQ should not add other regulation.

Response

EPA's current interpretation of NESHAP Subpart 6S is that furnaces that are kept hot meet the definition of 'continuous furnace' and are subject to 6S if all other applicability criteria are met. However, 6S applies only to individual furnaces that produce 50 tons per year of colored glass using any of 6 listed HAPs. Many of the HAP-emitting furnaces at CAGMs would not be subject to 6S. The proposed rule applies to all furnaces at Tier 1 and Tier 2 CAGMs that produce any amount of glass using any of a larger list of HAPs.

Comment: Visible emissions

Are CAGMs subject to a limit on visible emissions?

Response

Visible emissions from CAGMs are subject to another rule, Oregon Administrative Rule 340-208-0110. DEQ will include permit conditions to implement this rule in permits issued to CAGMs.

Comment: Fugitive emissions

The rule should monitor and restrict fugitive emissions.

Response

By their very nature, fugitive emissions are difficult to control. DEQ’s observations of gas-fired glassmaking furnaces indicate little or no fugitive emissions during normal operation. Fugitive emissions may occur during charging of raw materials, which happens several times at the beginning of the glassmaking process. However, it is an operational necessity that the furnace be opened during charging and the possibility of some fugitive emissions during that time is unavoidable. If DEQ determines that operational practices need to be limited to reduce fugitive emissions, DEQ already has the authority to establish such limits under OAR 340-226-0120. In addition, fugitive emissions are also subject to limits under OAR 340-208-0210.

Comment: Recordkeeping

The rule should require CAGMs to maintain a list of all hazardous materials kept on site and used in glass furnaces.

Response

DEQ's air quality program is concerned with emissions of pollutants into the atmosphere. As such, DEQ can require facilities to keep records of air emissions and of activities and materials that contribute to those emissions. The proposed rule requires Tier 2 CAGMs to keep daily records of all glass formulations produced, including all HAPs used. DEQ may include additional recordkeeping requirements when issuing permits to CAGMs.

Other hazardous materials that may be on site at a facility or that may be emitted to other media (e.g. water or landfill) would be regulated by other programs and are outside the scope of the air quality program and this rulemaking.

Comment: How does DEQ interpret 340-244-9090?

The proposed 340-244-9090 says that DEQ "must set a limit on the CAGM's use of the glassmaking HAP of concern" if ambient concentrations pose an unacceptable risk. How would this work in detail? Doesn't this presuppose the result of the Cleaner Air Oregon rulemaking?

Response

The proposed rule is not intended to presuppose the Cleaner Air Oregon rulemaking. However, OAR 340-244-9090 is an appropriate safety net because of the potential risks posed by CAGM emissions. The proposed language at OAR 340-244-9090 would give DEQ the authority to act if, despite the rule, DEQ determined that a CAGM's glassmaking HAP emissions were found to still be posing an unacceptable risk to people near them. Such a determination would be made in consultation with the Oregon Health Authority.

Comment: Measure actual emissions

Facilities should be required to measure and report actual emissions.

Response

Requirements to report emissions are included in permits issued to regulated facilities, and DEQ anticipates that for permitting purposes, emissions will be determined or estimated and reporting will be required. However, permitting, emission limits and reporting requirements are based on other rules, and with the exception of requiring Tier 1 and Tier 2 CAGMs to apply for a permit, DEQ has not included those requirements in this rule.

CATEGORY: Source testing

Comment: 99.9% baghouse capture efficiency

The temporary rule requires CAGMs to show that their baghouses capture 99.0% of incoming particulate matter. Baghouses can capture more than that, and DEQ should require them to demonstrate that they are capturing 99.9%.

Response

DEQ agrees that baghouses are capable of capture efficiencies higher than the 99.0% particulate matter capture efficiency standard in the temporary rule. However, DEQ has learned that there are practical problems with demonstrating capture efficiency with a source test, particularly for the smaller (Tier 1) facilities.

To show 99.0% (or 99.9%) capture efficiency with a source test, a facility needs to test the inlet and the outlet of the baghouse. The inlet concentration would need to be at least 100x (or 1,000x) of the outlet concentration. Chemical tests are not accurate below a certain threshold (the method reporting limit, MRL) and if a reading is below the MRL then the sample concentration is assumed to be the MRL.

To show 99.0% capture efficiency, the source test must be run until the inlet sample is at least 100x the MRL. Unfortunately that takes a very long time, especially at Tier 1 facilities (~ one week per test run), because their baghouse systems pull in a lot of air from the room and are very dilute. Long test runs are expensive and prone to error. One facility, Northstar, reported that they were quoted a cost of $350,000 for a source test, which may be more than the cost of buying and installing a baghouse.

DEQ is proposing a rule revision that provides alternative ways to demonstrate that baghouses are working properly. One alternative is to meet a ‘grain loading’ emissions standard of 0.005 gr/dscf (grains of particulate per dry standard cubic foot of air). This is a common type of emissions testing for other facility types and will reduce source testing costs without sacrificing assurance that the control devices are appropriately working to limit emissions and protect public health and the environment. The other alternatives are to install bag leak detection systems or a high efficiency particulate arrestance (HEPA) afterfilter. Tier 2 facilities would have to perform the grain loading source test described above in addition to installing a baghouse leak detection system or HEPA afterfilter. Tier 1 facilities would be able to choose to either perform the grain loading source test, or install a baghouse leak detection system or HEPA afterfilter.

Comment: Grain loading

DEQ should replace the 99.0% capture efficiency test with a "grain loading" test at the baghouse outlet, with a limit on filterable particulate matter set at 0.005 grains per dry standard cubic feet.

Response

DEQ is recommending this change.

Comment: Limit run length of capture efficiency source test

The 99% capture efficiency test is unworkable. DEQ should set a limit for the run length and sampling volume, and specify that the facility passes if inlet PM is non-detect at that point.

Response

DEQ recognizes that determining compliance with the 99.0% capture efficiency standard can lead to unreasonably long and expensive source tests, particularly for Tier 1 facilities that have very dilute

emissions streams. DEQ is proposing to replace the 99.0% capture efficiency standard with other means to ensure that the baghouse is working. Tier 2 facilities would be required to meet a grain loading standard of 0.005 gr/dscf at the outlet of the control device and install either a baghouse leak detection device or a HEPA afterfilter. Tier 1 facilities would be required to meet the grain loading standard or install a baghouse leak detection device or install a HEPA afterfilter.

Comment: EPA Method 29 at outlet

DEQ should allow Tier 2 facilities to use Method 29 to measure total chromium at the baghouse outlet and assume all of it is hexavalent chromium, instead of using Method 0061 to measure hexavalent chromium or measuring at the baghouse inlet and estimating the outlet emissions based on capture efficiency.

Response

DEQ agrees that this method is conservative (because it assumes the worst case, that all chromium is in the hexavalent form) and is proposing a change to the rule language to allow this.

Comment: 0.2 lb/ton

DEQ should allow facilities to meet the NESHAP 6S limit (0.2 lb of particulate emitted per ton of glass produced) instead of demonstrating 99.0% capture efficiency from the baghouse.

Response

DEQ is proposing a change to the rule to eliminate the capture efficiency standard and replace it with an outlet PM grain loading limit of 0.005 gr/dscf. (Tier 2 facilities would be required to perform the outlet grain loading source test. Tier 1 facilities could perform the grain loading test or install a baghouse leak detection system or HEPA afterfilter.) The 0.2 lb/ton NESHAP limit would apply in addition to the grain loading standard at furnaces that are subject to NESHAP 6S.

Comment: EPA Method 5

The source test requirement at OAR 340-244-9070(2)(h) should require EPA Method 5, not DEQ Method 5.

Response

The requirement to test using DEQ Method 5 is deliberate. Although the baghouse test is based on EPA Method 5, DEQ sets Plant Site Emission Limits (PSELs) for particulate matter based on DEQ Method 5 and this method was specified to provide information that can be used to set PM PSELs.

Commenters

The table below lists people and organizations that submitted public comments about the proposed rules during the public comment period. Original comments are on file with DEQ.

List of Commenters

#	Name	Organization
1	Alicia Cohen	
2	Angela Cottingham	
3	April St. John	
4	Barbara Peters	
5	Bobbi Lolby	
6	Brian Jones	
7	Brittney Bieberich	
8	Carol Korfin	
9	Carol Rasmussen	
10	Celie Mayer	
11	Cindy Young	
12	Clarann Bjers	
13	Claudia Sportelli	
14	Craig Merriman	
15	Dawn LaBonte	
16	Donna McClaren	
17	Elizabeth Breitenstein	
18	Elizabeth LeDoux	
19	Emily Von W Gilbert	
20	Gayle Bamber	
21	Gayle Potter	
22	Glenda Melton	
23	James Ofsink	
24	Janet Davis	
25	Jennifer Francis	
26	Jill Mooney	
27	Judith Kiriazis	
28	Julia Gaddis	
29	Julia Young	
30	K Hamill	
31	Karen Price	
32	Karin Wagner	
33	Kate Lindley	
34	Kerry Ryan	
35	Kevin Kaufman	
36	Laura Raymond	
37	Leora Druckman	
38	Melody Roth	
39	Michael Aiello	

40	Michelle Galli	
41	Michelle Raine	
42	Nancy Brown	
43	Owen Kaufman	
44	Rebecca Dunbar	
45	Robert Thompson	
46	Sage Cohen	
47	Shawn Ingersoll	
48	Surah Hirsch	
49	Ted Whitney	
50	Theresa Bour	
51	Vivian Christensen	
52	Tanya Veit	AAE Glass LLC
53	Michael Aiello	Aiello Fine Art
54	Cheryl Forsman	American Citizen
55	Debbie James	Artist
56	Robin Houck	Artsajoy!
57	Carol Gault	Aspen Light Imaging
58	Cecilia Youngs	Attorney at Law
59	Beth Gershovich	BBG Artistry
60	Jen Davis	Bee Friendly Portland
61	Peggy Orosz-Boslar	Boslar Jewelry
62	Beth Ulrich	Chester County Art Glass
63	Laurie Adams	Citizen
64	Robert Clapp	Citizen
65	Vi Laux	Craftsmanship Guild of Pittsburgh
66	Chris Winter	CRAG Law Cener
67	Kim Smith	Creative adventures caravan
68	Dee Janssen	Dee Janssen GlassWorks
69	Barbara Domsky	Domsky Glass
70	Debbie Baudin	D's Designs, LLC
71	Amanda Jarman	Eastside Portland Air Coalition
72	Jennifer Jones	Eastside Portland Air Coalition
73	Jody Bleyle	Eastside Portland Air Coalition
74	Katharine Salzmann	Eastside Portland Air Coalition (EPAC)
75	Cindy Young	EPAC
76	Cynthia Eckersley	EPAC
77	Katharine Salzmann	EPAC
78	Jessica Applegate	EPAC/Concerned citizen and neighbor of Bullseye
79	MM Walter	from Ella Ross
80	Jack DeNina	Fused glass artist
81	Julie Sparks	Fused glass artist
82	Al Hooton	Glass Alchemy
83	Bonnie Sparlin	Glass artist

84	Danny Beinsberger	Glass artist
85	Karen Roussos	Glass artist
86	Kathleen White	Glass Class Art
87	Sherry Salito-Forsen	Glassics
88	Barbara Boals	Glassmakers
89	Debbie Harary	Harary Glass Studio. Owner
90	Helen Cowart	Helen Cowart
91	Karen Sharbo	Hilltop Studio
92	William Punch	Hobby Glassblower
93	Isa Dean	Humboldt Neighborhood Association
94	Josephine Geiger	J A GEIGER STUDIO, LLC
95	Marla Montgomery	Kiss My Glass Artist
96	Jan Simpson	Koru arts
97	Gloria Fuller	Lancaster High School
98	Susan Zarit	Mind and Soul Art
99	Mitch Hosford	Mitch Hosford Glass
100	Lenore Hemingway	Mosaic Madness
101	Marina Vrouvlianis	Mrs.
102	Joanne Fuller	Multnomah County Health Dept
103	Abe Fleishman	Northstar Glassworks
104	James Knox	Northstar Glassworks
105	Kathryn VanNatta	Northwest Pulp & Paper Assn.
106	Carolyn Sturdivant	Old House Glass Works
107	Jere High	Oregon Health Authority
108	Sarah Wilkinson	Parents of SE Portland
109	Jeffrey Hunter	Perkins Coie LLP
110	Greg Pourget	Portland Clean Air
111	James Wright	Recycled Iron and Glass
112	Donna Coffin	Red Heron Handprints and Glass art
113	Robin Denburg	Richmond community
114	Karin Wagner	Rolfing Portland
115	Professor Sandra Feder	Sacramento City College
116	Sage Cohen	Sage Communications
117	Paulette Marchand	SE Portland resident
118	Jim Scheller	Self
119	KATHLEEN Meadors	Self
120	Kenneth Cowan	Self-employed artist
121	Kristin Young	Short Fuse Glass
122	Charity Heroux	SOURGiRL glass art
123	Rob Nosse	State Representative
124	Thomas Wood	Stoel Rives LLP
125	Cheryl Dillon	student at AAE Glass
126	Eric Suevel	Suevel Studios, Inc.
127	Shawn Dolqan	Sustainable Skys

128	Christopher Mini	Tabby Glass
129	Terri Johanson	Terri Johanson Art Glass, member of the Oregon Glass Guild Gorge Chapter
130	Ruth Gundle	The Eighth Mountain Press
131	Vicki McPhail	The Glass Diva
132	Paul Trautman	Trautman Art Glass
133	Trisa Swerdlow	Trisa Swerdlow Studio
134	TJ Miller	Urban Glow Art Glass
135	Madonna Narvaez	USEPA, Region 10, Office of Air and Waste
136	Dennis Brady	Victrian Art Glass

Implementation

The details of rule implementation outlined below are under development and subject to change.

Notification

If approved, the proposed rules would become effective upon filing with the Secretary of State, on or soon after Sept. 29, 2016. DEQ would notify interested parties through the GovDelivery email list and would also post an announcement on the DEQ website. DEQ is also in regular contact with companies that are likely subject to this proposed rule.

Compliance and enforcement

Affected parties: DEQ anticipates that five facilities would be subject to the proposed rule. One of them, Bullseye Glass, currently has an Air Contaminant Discharge Permit (ACDP) and would need to apply for a Title V permit depending on NESHAP 6S applicability. The other four facilities do not have current DEQ air permits and would need to apply for ACDPs unless substantive requirements of NESHAP 6S apply to them. Once the requirements are incorporated into the permits, DEQ will inspect pollution control systems and prevention methods and review monitoring data and compliance reports as part of their routine compliance inspections. Inspections may identify violations of emission limits and standards.

DEQ staff: The permit writing team and enforcement staff will work together to develop training materials for permit writers and inspectors to implement the proposed rules.

Measuring, sampling, monitoring and reporting

Affected parties: Testing and monitoring requirements would be incorporated into the permits of affected parties.

DEQ staff: Would process and review compliance reports submitted by affected parties to determine compliance with the applicable requirements.

Systems

Website: DEQ's headquarters office would update its website with any new or amended permits, permit application forms and compliance reporting forms.

Database: DEQ would use its existing TRAACS database to implement the Title V and Air Contaminant Discharge Permit programs and track compliance with the amended applicable requirements.

Invoicing: DEQ would use its existing TRAACS database for invoicing.

Training

Affected parties: If the proposed rules are approved by EQC, permit writers and the rule-writing team will provide technical assistance to affected parties.

DEQ staff: DEQ permit writers and inspectors have been involved in the development of the rule and/or the information gathering and enforcement involved in the temporary rule for art glass facilities. DEQ could schedule internal trainings if needed.

Five-year review

ORS 183.405

Requirement

Oregon law requires DEQ to review new rules within five years after EQC adopts them. The law also exempts some rules from review. DEQ determined whether the rules described in this report are subject to the five-year review. DEQ based its analysis on the law in effect when EQC adopted these rules.

Exemption from five-year rule review

None of these proposed rules are exempt from the five-year review under ORS 183.405(4) and 183.405 (5) of the Administrative Procedures Act.

Five-year rule review required

No later than Sept. 29, 2021, DEQ will review the newly adopted rules for which ORS 183.405 (1) requires review to determine whether:

- The rule has had the intended effect
- The anticipated fiscal impact of the rule was underestimated or overestimated
- Subsequent changes in the law require that the rule be repealed or amended
- There is continued need for the rule.

DEQ will use “available information” to comply with the review requirement as allowed under ORS 183.405(2).

DEQ will provide the five-year rule review report to the advisory committee to comply with ORS 183.405(3)

DEPARTMENT OF ENVIRONMENTAL QUALITY

DIVISION 244

OREGON FEDERAL AND STATE HAZARDOUS AIR POLLUTANT PROGRAM

General Provisions for Stationary Sources

340-244-0010

Policy and Purpose

The Environmental Quality Commission finds that certain air contaminants for which there are no ambient air quality standards may cause or contribute to an identifiable and significant increase in mortality or to an increase in serious irreversible or incapacitating reversible illness or to irreversible ecological damage, and are therefore considered to be hazardous air pollutants. It ~~shall be~~is the policy of the Commission that no person may cause, allow, or permit emissions into the ambient air of any hazardous substance in such quantity, concentration, or duration determined by the Commission to be injurious to public health or the environment. The purpose of this Division is to establish emissions limitations on sources of these air contaminants. In order to reduce the release of these hazardous air pollutants and protect public health and the environment, it is the intent of the Commission to adopt by rule within this Division the source category specific requirements that are promulgated by the EPA, and state standards to reduce the release of these hazardous air pollutants. Furthermore, it is hereby declared the policy of the Commission that the standards contained in this Division are considered minimum standards, and as technology advances, protection of public health and the environment warrants, more stringent standards may be adopted and applied.

Stat. Auth.: ORS 468.020 & 468A.310
Stats. Implemented: ORS 468A.025
Hist.: DEQ 13-1993, f. & cert. ef. 9-24-93; DEQ 14-1999, f. & cert. ef. 10-14-99, Renumbered from 340-032-0100; DEQ 4-2016(Temp), f. & cert. ef. 4-21-16 thru 10-17-16

Colored Art Glass Manufacturing Facility Rules

340-244-9000

Applicability and Jurisdiction

Notwithstanding OAR 340 Division 246, OAR 340-244-9000 through 9090 apply to all facilities in the state of Oregon that:

(1) Manufacture glass from raw materials, or a combination of raw materials and cullet, for:

(a) Use in art, architecture, interior design and other similar decorative applications, or

(b) Use by glass manufacturers for use in art, architecture, interior design and other similar decorative applications; and

(2) Manufacture 5 tons per year or more of glass using raw materials that contain glassmaking HAPs.

(3) Subject to the requirements in this division and OAR 340-200-0010(3), LRAPA is designated by the EQC to implement OAR 340-244-9000 through 9090 within its area of jurisdiction.

Stat. Auth.: ORS 468.020, 468A.025, & 468A.040
Stats. Implemented: ORS 468A.025, & 468A.040
Hist.: DEQ 4-2016(Temp), f. & cert. ef. 4-21-16 thru 10-17-16

340-244-9010

Definitions

The definitions in OAR 340-200-0020 and this rule apply to OAR 340-244-9000 through 9090. If the same term is defined in this rule and 340-200-0020, the definition in this rule applies to this division.

(1) "Colored Art Glass Manufacturer" or "CAGM" means a facility that meets the applicability requirements in OAR 340-244-9000 and refers to the owner or operator of such a facility when the context requires.

(2) "Chromium III" means chromium in the +3 oxidation state, also known as trivalent chromium.

(3) "Chromium VI" means chromium in the +6 oxidation state, also known as hexavalent chromium.

(4) "Chromium", without a following roman numeral, means total chromium.

(5) "Controlled" means the glassmaking furnace emissions are treated by an emission control device approved by DEQ.

(6) "Cullet" means pieces of finished glass that, when mixed with raw materials and charged to a glassmaking furnace, is used to produce new glass. Cullet does not include frit as defined in subsection (9)(a). Cullet is not considered to be a raw material.

(7) "Emission control device" means control device as defined in OAR 340 Division 200.

(8) "Finished glass" means the final glass product that results from melting and refining materials in a glassmaking furnace. Finished glass that has been remelted without the addition of raw materials is still finished glass.

(9) “Frit” means both of the following:

(a) Granules of glassified or vitrified material that is not made from finished glass, and which contains a higher proportion of glassmaking HAP than would be found in a finished glass. The purpose of such material includes, but is not limited to, making powdered glassmaking HAPs safer to handle by combining them with silica or other oxides.

(b) Granules of crushed finished glass.

(10) “Glassmaking furnace” means a refractory-lined vessel in which raw materials are charged and melted at high temperature to produce molten glass.

(11) “Glassmaking HAP” means arsenic, cadmium, chromium, lead, manganese, nickel or selenium in any form, such as the pure chemical element, in compounds or mixed with other materials.

(12) “Raw material” means:

(a) Substances that are intentionally added to a glass manufacturing batch and melted in a glassmaking furnace to produce glass, including but not limited to:

(A) Minerals, such as silica sand, limestone, and dolomite;

(B) Inorganic chemical compounds, such as soda ash (sodium carbonate), salt cake (sodium sulfate), and potash (potassium carbonate);

(C) Oxides and other compounds of chemical elements, such as lead oxide, chromium oxide, and sodium antimonate; and

(D) Ores of chemical elements, such as chromite and pyrolusite.

(b) Glassmaking HAPs that are naturally-occurring trace constituents or contaminants of other substances are not considered to be raw materials.

(c) Raw material includes materials that contain glassmaking HAPs in amounts that materially affect the properties of the finished product, such as its color, texture or bubble content. Such materials may be powdered, frit, or in some other form. For the purpose of this definition, frit as described in subsection (9)(a) is a raw material, but frit as described in subsection (9)(b) is not a raw material.

(d) Cullet and material that is recovered from a glassmaking furnace control device for recycling into the glass formulation are not considered to be raw materials.

(13) “Tier 1 CAGM” means a CAGM that produces at least 5 tons per year, but less than 100 tons per year, of glass using raw materials that contain glassmaking HAPs in glassmaking furnaces that are only electrically heated.

(14) "Tier 2 CAGM" means:

(a) A CAGM that produces 5 tons per year or more of glass using raw materials that contain glassmaking HAPs in glassmaking furnaces, at least one of which is fuel-heated or combination fuel- and electrically-heated; or

(b) Produces 100 tons per year or more of glass using raw materials that contain glassmaking HAPs in any type of glassmaking furnace.

(15) "Uncontrolled" means the glassmaking furnace emissions are not treated by an emission control device approved by DEQ.

(16) "Week" means Sunday through Saturday.

Stat. Auth.: ORS 468.020, 468A.025, & 468A.040
Stats. Implemented: ORS 468A.025, & 468A.040
Hist.: DEQ 4-2016(Temp), f. & cert. ef. 4-21-16 thru 10-17-16

340-244-9015

Compliance Extensions

A Tier 1 CAGM may request, and DEQ may grant, one or more extensions, not to exceed a total of 12 months, to the compliance date for installation of emission control systems if the CAGM cannot meet the compliance date for reasons beyond its reasonable control. A Tier 1 CAGM that has been granted an extension:

(1) Is allowed to operate without the emission control device required by OAR 340-224-9050 until the required emission control device is installed and operational, or the extension expires, whichever is earlier; and

(2) Must comply with OAR 340-244-9020 and 9060(1) as applicable.

340-244-9020

Permit Required

(1) Not later than December 1, 2016, if located within the Portland AQMA, and not later than April 1, 2017, if located outside the Portland AQMA, all CAGMs not otherwise subject to a permitting requirement must apply for a permit under OAR 340-216-8010 Table 1, Part B, category #84.

(2) A CAGM that applies for a permit on or before the required date is not in violation of OAR 340-216-0020(3).

(3) CAGMs constructed after September 1, 2016 must obtain a permit prior to construction.

Stat. Auth.: ORS 468.020, 468A.025, & 468A.040
Stats. Implemented: ORS 468A.025, & 468A.040
Hist.: DEQ 4-2016(Temp), f. & cert. ef. 4-21-16 thru 10-17-16

340-244-9030

Requirements That Apply To Tier 2 CAGMs

(1) Tier 2 CAGMs located within the Portland AQMA may not use raw materials containing arsenic, cadmium, chromium, lead, manganese or nickel except in glassmaking furnaces that use an emission control device that meets the requirements of OAR 340-244-9070.

(2) Effective January 1, 2017, Tier 2 CAGMs located within the Portland AQMA may not use raw materials containing selenium except in glassmaking furnaces that use an emission control device that meets the requirements of OAR 340-244-9070.

(3) Tier 2 CAGMs located outside the Portland AQMA may not use raw materials containing arsenic, cadmium or chromium VI except in glassmaking furnaces that use an emission control device that meets the requirements of OAR 340-244-9070.

(4) Effective April 1, 2017, Tier 2 CAGMs located outside the Portland AQMA may not use raw materials containing chromium, lead, manganese, nickel or selenium except in glassmaking furnaces that use an emission control device that meets the requirements of OAR 340-244-9070.

Stat. Auth.: ORS 468.020, 468A.025, & 468A.040
Stats. Implemented: ORS 468A.025, & 468A.040
Hist.: DEQ 4-2016(Temp), f. & cert. ef. 4-21-16 thru 10-17-16

340-244-9040

Operating Restrictions That Apply To Tier 2 CAGMs

(1) Subject to the limitations in OAR 340-244-9030, and except as allowed in section (2), Tier 2 CAGMs may use raw materials containing chromium in glassmaking furnaces only if DEQ has established annual and daily maximum allowable chromium usage rates that will prevent the source from exceeding the chromium VI source impact levels described in paragraph (3)(b)(C) of this rule.

(2) Notwithstanding section (1) and OAR 340-244-9030(1), (3) and (4), raw materials containing chromium may be used in glassmaking furnaces for the purpose of conducting the emissions testing under sections (3) or (4). Such use must be limited to only the amounts needed to perform the testing.

(3) After DEQ establishes any maximum allowable chromium III or chromium VI usage rate for a CAGM's glassmaking furnace or glassmaking furnaces, the CAGM must comply with the

rates DEQ establishes. For the purpose of establishing any maximum allowable usage rate for chromium III or chromium VI, the following are required:

(a) A source test must be performed as specified below:

(A) Test using DEQ-approved protocols and methods for total chromium, or total chromium and chromium VI, and submit a source test plan detailing the approach to DEQ for approval;

(B) Test at the outlet of an uncontrolled glassmaking furnace, or at the outlet of the emission control device on a controlled glassmaking furnace;

(C) Test while making a glass that DEQ agrees is made under the most oxidizing combustion conditions and that contains a high percentage of the type of chromium for which a usage rate is being established, as compared to other formulas used by the CAGM;

(D) Keep records of the amount of chromium, by type, used in the formulations that are produced during the source test runs, as well as other operational parameters identified in the source test plan; and

(E) If the testing under this section is done for total chromium only, the CAGM must assume that all chromium emitted is in the form of chromium VI.

(b) The Tier 2 CAGM must perform dispersion modeling, using models and protocols approved by DEQ, to determine the annual average and daily maximum ambient concentrations that result from the Tier 2 CAGM's air emissions as follows:

(A) Submit a modeling protocol for DEQ approval;

(B) Use the maximum chromium VI emission rate;

(C) Establish a maximum chromium usage rate so that the source impact will not exceed either of the following:

(i) An annual acceptable source impact level for chromium VI concentration of 0.08 nanograms per cubic meter at the nearest sensitive receptor approved by DEQ. Sensitive receptors include, but are not limited to: residences, hospitals, schools, daycare facilities, elderly housing and convalescent facilities; and

(ii) A daily acceptable source impact level for chromium VI concentration of 5 nanograms per cubic meter at any off-site modeled receptor.

(c) Each Tier 2 CAGM must keep daily records of all glass formulations produced and, until such time as the Tier 2 CAGM has installed all emission control devices required under OAR 340-244-9030, provide to DEQ a weekly report of the daily amount of each glassmaking HAP used.

(4) Tier 2 CAGMs may apply source testing protocols equivalent to those in subsection (3)(a) to the use of chromium VI in a glassmaking furnace to establish maximum usage rates for chromium VI in controlled glassmaking furnaces that will prevent the source impact from exceeding an annual acceptable source impact level of 0.08 nanograms per cubic meter and a daily acceptable source impact level of 5 nanograms per cubic meter.

(5) Tier 2 CAGMs are not restricted on the raw materials that may be used in glassmaking furnaces that are controlled by an emission control device approved by DEQ, except that the use of raw materials containing chromium will be subject to maximum usage rates established by DEQ.

Stat. Auth.: ORS 468.020, 468A.025, & 468A.040
Stats. Implemented: ORS 468A.025, & 468A.040
Hist.: DEQ 4-2016(Temp), f. & cert. ef. 4-21-16 thru 10-17-16

340-244-9050

Requirements That Apply To Tier 1 CAGMs

(1) No later than October 1, 2016, if located within the Portland AQMA, and April 1, 2017, if located outside the Portland AQMA, each Tier 1 CAGM must comply with subsection (a), (b) or (c) for each glassmaking furnace or group of glassmaking furnaces that use raw material containing arsenic, cadmium, chromium, lead, manganese or nickel:

(a) Install an emission control device that meets the emission control device requirements in OAR 340-244-9070;

(b) Demonstrate that the glassmaking furnace or group of glassmaking furnaces meets the exemption in section (3) for arsenic, cadmium, chromium, lead, manganese or nickel; or

(c) Request a permit condition that prohibits the use of arsenic, cadmium, chromium, lead, manganese or nickel in the glassmaking furnace or group of glassmaking furnaces, and comply with that condition.

(2) No later than January 1, 2017, if located within the Portland AQMA, and April 1, 2017, if located outside the Portland AQMA, each Tier 1 CAGM must comply with subsection (a), (b) or (c) for each glassmaking furnace or group of glassmaking furnaces that use raw material containing selenium:

(a) Install an emission control device that meets the emission control device requirements in OAR 340-244-9070;

(b) Demonstrate that the glassmaking furnace or group of glassmaking furnaces meets the exemption in section (3) for selenium; or

(c) Request a permit condition that prohibits the use of selenium in the glassmaking furnace or group of glassmaking furnaces, and comply with that condition.

(3) A Tier 1 CAGM is exempt from the requirement to install emission controls under subsections (1)(a) or (2)(a) on a glassmaking furnace or group of glassmaking furnaces if that CAGM meets the requirements of subsection (a) for each of the individual glassmaking HAPs listed in paragraphs (a)(A) through (a)(G) below. This exemption is not allowed for a glassmaking furnace or group of glassmaking furnaces that use raw materials containing chromium VI.

(a) The CAGM shows through source testing and dispersion modeling if necessary, following the requirements of subsections (b) and (c), that the glassmaking HAP concentrations modeled at the nearest sensitive receptor do not exceed the applicable concentration listed in paragraphs (A) through (G). For chromium VI resulting from the use of chromium III, the CAGM may source test for and model chromium VI, or may source test for and model total chromium in lieu of chromium VI, to demonstrate that the ambient concentration is below the concentration listed in paragraph (C). If the modeled total chromium ambient concentration exceeds the concentration listed in paragraph (C), then the CAGM may conduct an additional source test to measure chromium VI and model to show that the ambient concentration of chromium VI does not exceed the concentration listed in paragraph (C).

(A) Arsenic, 0.2 nanograms per cubic meter annual average;

(B) Cadmium, 0.6 nanograms per cubic meter annual average;

(C) Chromium VI, 0.08 nanograms per cubic meter annual average;

(D) Lead, 15 nanograms per cubic meter annual average;

(E) Manganese, 90 nanograms per cubic meter annual average;

(F) Nickel, 4 nanograms per cubic meter annual average;

(G) Selenium, at a concentration that the CAGM demonstrates to the satisfaction of the Director is adequate to protect members of the public from suffering adverse health effects. The Director shall consult with the Oregon Health Authority when considering whether a proposed concentration will be adequately protective.

(b) Source testing for the purpose of demonstrating the exemption in this section must be performed as follows:

(A) Test using DEQ-approved protocols and methods for each glassmaking HAP listed in paragraphs (a)(A) through (a)(G) that the Tier 1 CAGM intends to use.

(B) Test for particulate matter using DEQ Method 5 or equivalent; HAPs using EPA Method 29, CARB Method M-436 or an equivalent method approved by DEQ; and if the Tier 1 CAGM chooses, chromium VI using a method approved by DEQ.

(C) Submit a source test plan to DEQ for approval at least 30 days before the test date.

(D) For each glassmaking HAP to be tested for, test while making a glass formulation that DEQ agrees has the highest potential emissions of that glassmaking HAP. More than one source test may be required if a single glass formulation cannot meet this requirement for all glassmaking HAPs to be tested for.

(E) Keep records of the amount of each glassmaking HAP regulated under this rule used in the formulations that are produced during the source test runs, as well as other operational parameters identified in the source test plan.

(c) Dispersion modeling for the purpose of demonstrating the exemption in this section is not required for any glassmaking HAP that the source testing under subsection (b) shows is not greater than the applicable concentration listed in paragraphs (a)(A) through (a)(G); otherwise, dispersion modeling must be performed as follows:

(A) Submit a modeling protocol for DEQ approval;

(B) Use the EPA-approved model AERSCREEN or other EPA-approved model;

(C) Use the maximum emission rate for each glassmaking HAP to be modeled as determined by the source testing required by subsection (b); and

(D) Model the ambient concentration at the nearest sensitive receptor approved by DEQ. Sensitive receptors include, but are not limited to: residences, hospitals, schools, daycare facilities, elderly housing and convalescent facilities.

Stat. Auth.: ORS 468.020, 468A.025, & 468A.040
Stats. Implemented: ORS 468A.025, & 468A.040
Hist.: DEQ 4-2016(Temp), f. & cert. ef. 4-21-16 thru 10-17-16

340-244-9060

Operating Restrictions That Apply To Tier 1 CAGMs

(1) Tier 1 CAGMs may not use raw materials that contain chromium VI in any uncontrolled glassmaking furnace.

(2) Tier 1 CAGMs are not restricted on the raw materials that may be used in glassmaking furnaces that are controlled by an emission control device approved by DEQ.

Stat. Auth.: ORS 468.020, 468A.025, & 468A.040
Stats. Implemented: ORS 468A.025, & 468A.040
Hist.: DEQ 4-2016(Temp), f. & cert. ef. 4-21-16 thru 10-17-16

340-244-9070

Emission Control Device Requirements

(1) CAGMs must comply with the requirements in subsection (a) or (b), as applicable, for each emission control device used to comply with this rule.

(a) Tier 1 CAGMs must comply with one of the requirements in paragraphs (A), (B) or (C):

(A) Conduct a source test as required under section (3) and demonstrate that the emission control device does not emit particulate matter in excess of 0.005 grains per dry standard cubic foot as measured by EPA Method 5 or an equivalent method approved by DEQ.

(B) If the emission control system is a fabric filter (baghouse), install a bag leak detection system that meets the requirements of section (4).

(C) If the emission control system is a fabric filter (baghouse), install an afterfilter that meets the requirements of section (5).

(b) Tier 2 CAGMs must:

(A) Conduct a source test as required under section (3) and demonstrate that the emission control device does not emit particulate matter in excess of 0.005 grains per dry standard cubic foot as measured by EPA Method 5 or an equivalent method approved by DEQ; and

(B) If a fabric filter (baghouse) is used, install either a bag leak detection system that meets the requirements of section (4) or an afterfilter that meets the requirements of section (5).

(2) Emission control device requirements:

(a) A CAGM must obtain DEQ approval of the design of all emission control devices before installation, as provided in this rule.

(b) A CAGM must submit a Notice of Intent to Construct as required by OAR 340-210-0205 through 340-210-0250 no later than 15 days before the date installation begins. If DEQ does not deny or approve the Notice of Intent to Construct within 10 days after receiving the Notice, the Notice will be deemed to be approved.

(c) Emission control devices may control emissions from more than one glassmaking furnace.

(d) Each emission control device must be equipped with the following monitoring equipment:

(A) An inlet temperature monitoring device;

(B) A differential pressure monitoring device if the emission control device is a baghouse; and

(C) Any other monitoring device or devices specified in DEQ's approval of the Notice of Intent to Construct.

(e) Each emission control device must be equipped with inlet ducting that provides the following:

(A) Sufficient cooling of exhaust gases to no more than the maximum design inlet temperature under worst-case conditions; and

(B) Provision for inlet emissions testing, including sufficient duct diameter, sample ports, undisturbed flow conditions, and access for testing.

(f) Each emission control device must be equipped with outlet ducting that provides for outlet emissions testing, including sufficient duct diameter, sample ports, undisturbed flow conditions, and access for testing.

(g) After commencing operation of any emission control device, the CAGM must monitor the emission control device as required by OAR 340-244-9080.

(3) If source testing is conducted under section (1), the CAGM must perform the following source testing on at least one emission control device. Source testing done under OAR 340-244-9040(3)(a) may be used in whole or in part to comply with this requirement.

(a) Within 60 days of commencing operation of the emission control devices, test control device outlet for particulate matter using DEQ Method 5 or equivalent method;

(b) The emission control device to be tested must be approved by DEQ;

(c) A source test plan must be submitted at least 30 days before conducting the source test; and

(d) The source test plan must be approved by DEQ before conducting the source test.

(4) If a bag leak detection system is installed under section (1), the requirements for the bag leak detection system are:

(a) The bag leak detection system must be installed and operational as soon as possible but not more than 90 days after the baghouse becomes operational or 90 days after the effective date of the rule, whichever is later.

(b) Each bag leak detection system must meet the specifications and requirements in paragraphs (A) through (H).

(A) The bag leak detection system must be certified by the manufacturer to be capable of detecting PM emissions at concentrations of 1 milligram per dry standard cubic meter (0.00044 grains per actual cubic foot) or less.

(B) The bag leak detection system sensor must provide output of relative PM loadings. The owner or operator must continuously record the output from the bag leak detection system using electronic or other means (e.g., using a strip chart recorder or a data logger).

(C) The bag leak detection system must be equipped with an alarm system that will sound when the system detects an increase in relative particulate loading over the alarm set point established according to paragraph (D), and the alarm must be located such that it can be heard by the appropriate plant personnel.

(D) In the initial adjustment of the bag leak detection system, the CAGM must establish, at a minimum, the baseline output by adjusting the sensitivity (range) and the averaging period of the device, the alarm set points, and the alarm delay time.

(E) Following initial adjustment, the CAGM may not adjust the averaging period, alarm set point, or alarm delay time without approval from DEQ except as provided in paragraph (F).

(F) Once per quarter, the CAGM may adjust the sensitivity of the bag leak detection system to account for seasonal effects, including temperature and humidity, according to the procedures identified in the site-specific monitoring plan required by OAR 340-224-9080(4).

(G) The CAGM must install the bag leak detection sensor downstream of the fabric filter.

(H) Where multiple bag leak detectors are required, the system's instrumentation and alarm may be shared among detectors.

(5) If an afterfilter is installed under section (1), the requirements for the afterfilter are:

(a) The afterfilter must be installed and operational as soon as possible but not more than 120 days after the baghouse becomes operational or 120 days after the effective date of the rule, whichever is later;

(b) The afterfilter must filter the entire exhaust flow from the fabric filter (baghouse); and

(c) The afterfilter must be equipped with:

(A) HEPA filters that have a Minimum Efficiency Reporting Value of 17 (MERV 17) or higher per American National Standards Institute (ANSI) Standard 52.2; and

(B) A differential pressure monitoring device.

Stat. Auth.: ORS 468.020, 468A.025, & 468A.040
Stats. Implemented: ORS 468A.025, & 468A.040

Hist.: DEQ 4-2016(Temp), f. & cert. ef. 4-21-16 thru 10-17-16; DEQ 6-2016(Temp), f. & cert. ef. 5-6-16 thru 10-17-16

340-244-9080

Emission Control Device Monitoring

(1) Each Tier 1 CAGM must perform the following monitoring on each emission control device it uses to comply with this rule:

(a) At least once each week, observe and record the inlet temperature and the fabric filter (baghouse) differential pressure and afterfilter differential pressure (as applicable); and

(b) At least once every 12 months:

(A) Inspect the ductwork and emission control device housing for leakage;

(B) Inspect the interior of the emission control device for structural integrity and, if a fabric filter (baghouse) is used, to determine the condition of the fabric filter; and

(C) Record the date, time and results of the inspection.

(2) Each Tier 2 CAGM must perform the following monitoring on each emission control device used to comply with this rule:

(a) At least once each day, observe and record the inlet temperature and the fabric filter (baghouse) differential pressure and afterfilter differential pressure (as applicable); and

(b) At least once every 12 months:

(A) Inspect the ductwork and emission control device housing for leakage;

(B) Inspect the interior of the emission control device for structural integrity and, and if a fabric filter (baghouse) is used, to determine the condition of the fabric filter; and

(C) Record the date, time and results of the inspection.

(3) CAGMs must observe and record any parameters specified in a DEQ approval of the Notice of Intent to Construct applicable to a control device.

(4) If a bag leak detection system is used, the CAGM must develop and submit to DEQ for approval a site-specific monitoring plan for each bag leak detection system. The CAGM must operate and maintain the bag leak detection system according to the site-specific monitoring plan at all times. Each monitoring plan must describe the items in subsections (a) through (f).

(a) Installation of the bag leak detection system;

(b) Initial and periodic adjustment of the bag leak detection system, including how the alarm set-point will be established;

(c) Operation of the bag leak detection system, including quality assurance procedures;

(d) How the bag leak detection system will be maintained, including a routine maintenance schedule and spare parts inventory list;

(e) How the bag leak detection system output will be recorded and stored; and

(f) Corrective action procedures as specified in section (5). In approving the site-specific monitoring plan, DEQ may allow owners and operators more than 3 hours to alleviate a specific condition that causes an alarm if the owner or operator identifies in the monitoring plan this specific condition as one that could lead to an alarm, adequately explains why it is not feasible to alleviate this condition within 3 hours of the time the alarm occurs, and demonstrates that the requested time will ensure alleviation of this condition as expeditiously as practicable.

(5) For each bag leak detection system, the CAGM must initiate procedures to determine the cause of every alarm within 1 hour of the alarm. Except as provided in subsection (4)(f), the CAGM must alleviate the cause of the alarm within 3 hours of the alarm by taking all necessary corrective actions. Corrective actions may include, but are not limited to the following:

(a) Inspecting the fabric filter for air leaks, torn or broken bags or filter media, or any other condition that may cause an increase in PM emissions;

(b) Sealing off defective bags or filter media;

(c) Replacing defective bags or filter media or otherwise repairing the control device;

(d) Sealing off a defective fabric filter compartment;

(e) Cleaning the bag leak detection system probe or otherwise repairing the bag leak detection system; and

(f) Shutting down the process producing the PM emissions.

(6) For each bag leak detection system, the CAGM must keep the following records:

(a) Records of the bag leak detection system output;

(b) Records of bag leak detection system adjustments, including the date and time of the adjustment, the initial bag leak detection system settings, and the final bag leak detection system settings; and

(c) The date and time of all bag leak detection system alarms, the time that procedures to determine the cause of the alarm were initiated, the cause of the alarm, an explanation of the

actions taken, the date and time the cause of the alarm was alleviated, and whether the alarm was alleviated within 3 hours of the alarm.

Stat. Auth.: ORS 468.020, 468A.025, & 468A.040
Stats. Implemented: ORS 468A.025, & 468A.040
Hist.: DEQ 4-2016(Temp), f. & cert. ef. 4-21-16 thru 10-17-16

340-244-9090

Other Glassmaking HAPs

(1) If DEQ determines that ambient concentrations of a glassmaking HAP in the area of a CAGM pose an unacceptable risk to human health and that emissions from a glassmaking furnace at the CAGM are a contributing factor, then DEQ must set a limit on the CAGM's use of the glassmaking HAP of concern, by agreement or in a permit, to reduce such risk. DEQ must consult with the Oregon Health Authority when applying this rule.

(2) Exceeding the limits established under the authority of this rule is a violation of this rule.

Stat. Auth.: ORS 468.020, 468A.025, & 468A.040
Stats. Implemented: ORS 468A.025, & 468A.040
Hist.: DEQ 4-2016(Temp), f. & cert. ef. 4-21-16 thru 10-17-16

DEPARTMENT OF ENVIRONMENTAL QUALITY

DIVISION 244

OREGON FEDERAL AND STATE HAZARDOUS AIR POLLUTANT PROGRAM

General Provisions for Stationary Sources

340-244-0010

Policy and Purpose

The Environmental Quality Commission finds that certain air contaminants for which there are no ambient air quality standards may cause or contribute to an identifiable and significant increase in mortality or to an increase in serious irreversible or incapacitating reversible illness or to irreversible ecological damage, and are therefore considered to be hazardous air pollutants. It is the policy of the Commission that no person may cause, allow, or permit emissions into the ambient air of any hazardous substance in such quantity, concentration, or duration determined by the Commission to be injurious to public health or the environment. The purpose of this Division is to establish emissions limitations on sources of these air contaminants. In order to reduce the release of these hazardous air pollutants and protect public health and the environment, it is the intent of the Commission to adopt by rule within this Division the source category specific requirements that are promulgated by the EPA, and state standards to reduce the release of these hazardous air pollutants. Furthermore, it is hereby declared the policy of the Commission that the standards contained in this Division are considered minimum standards, and as technology advances, protection of public health and the environment warrants, more stringent standards may be adopted and applied.

Stat. Auth.: ORS 468.020 & 468A.310
Stats. Implemented: ORS 468A.025
Hist.: DEQ 13-1993, f. & cert. ef. 9-24-93; DEQ 14-1999, f. & cert. ef. 10-14-99, Renumbered from 340-032-0100; DEQ 4-2016(Temp), f. & cert. ef. 4-21-16 thru 10-17-16

Colored Art Glass Manufacturing Facility Rules

340-244-9000

Applicability and Jurisdiction

Notwithstanding OAR 340 Division 246, OAR 340-244-9000 through 9090 apply to all facilities in the state of Oregon that:

(1) Manufacture glass from raw materials, or a combination of raw materials and cullet, for:

(a) Use in art, architecture, interior design and other similar decorative applications, or

(b) Use by glass manufacturers for use in art, architecture, interior design and other similar decorative applications; and

(2) Manufacture 5 tons per year or more of glass using raw materials that contain glassmaking HAPs.

(3) Subject to the requirements in this division and OAR 340-200-0010(3), LRAPA is designated by the EQC to implement OAR 340-244-9000 through 9090 within its area of jurisdiction.

Stat. Auth.: ORS 468.020, 468A.025, & 468A.040
Stats. Implemented: ORS 468A.025, & 468A.040
Hist.: DEQ 4-2016(Temp), f. & cert. ef. 4-21-16 thru 10-17-16

340-244-9010

Definitions

The definitions in OAR 340-200-0020 and this rule apply to OAR 340-244-9000 through 9090. If the same term is defined in this rule and 340-200-0020, the definition in this rule applies to this division.

(1) “Colored Art Glass Manufacturer” or “CAGM” means a facility that meets the applicability requirements in OAR 340-244-9000 and refers to the owner or operator of such a facility when the context requires.

(2) “Chromium III” means chromium in the +3 oxidation state, also known as trivalent chromium.

(3) “Chromium VI” means chromium in the +6 oxidation state, also known as hexavalent chromium.

(4) “Chromium”, without a following roman numeral, means total chromium.

(5) “Controlled” means the glassmaking furnace emissions are treated by an emission control device approved by DEQ.

(6) “Cullet” means pieces of finished glass that, when mixed with raw materials and charged to a glassmaking furnace, is used to produce new glass. Cullet does not include frit as defined in subsection (9)(a). Cullet is not considered to be a raw material.

(7) “Emission control device” means control device as defined in OAR 340 Division 200.

(8) “Finished glass” means the final glass product that results from melting and refining materials in a glassmaking furnace. Finished glass that has been remelted without the addition of raw materials is still finished glass.

(9) “Frit” means both of the following:

(a) Granules of glassified or vitrified material that is not made from finished glass, and which contains a higher proportion of glassmaking HAP than would be found in a finished glass. The purpose of such material includes, but is not limited to, making powdered glassmaking HAPs safer to handle by combining them with silica or other oxides.

(b) Granules of crushed finished glass.

(10) “Glassmaking furnace” means a refractory-lined vessel in which raw materials are charged and melted at high temperature to produce molten glass.

(11) “Glassmaking HAP” means arsenic, cadmium, chromium, lead, manganese, nickel or selenium in any form, such as the pure chemical element, in compounds or mixed with other materials.

(12) “Raw material” means:

(a) Substances that are intentionally added to a glass manufacturing batch and melted in a glassmaking furnace to produce glass, including but not limited to:

(A) Minerals, such as silica sand, limestone, and dolomite;

(B) Inorganic chemical compounds, such as soda ash (sodium carbonate), salt cake (sodium sulfate), and potash (potassium carbonate);

(C) Oxides and other compounds of chemical elements, such as lead oxide, chromium oxide, and sodium antimonate; and

(D) Ores of chemical elements, such as chromite and pyrolusite.

(b) Glassmaking HAPs that are naturally-occurring trace constituents or contaminants of other substances are not considered to be raw materials.

(c) Raw material includes materials that contain glassmaking HAPs in amounts that materially affect the properties of the finished product, such as its color, texture or bubble content. Such materials may be powdered, frit, or in some other form. For the purpose of this definition, frit as described in subsection (9)(a) is a raw material, but frit as described in subsection (9)(b) is not a raw material.

(d) Cullet and material that is recovered from a glassmaking furnace control device for recycling into the glass formulation are not considered to be raw materials.

(13) “Tier 1 CAGM” means a CAGM that produces at least 5 tons per year, but less than 100 tons per year, of glass using raw materials that contain glassmaking HAPs in glassmaking furnaces that are only electrically heated.

(14) “Tier 2 CAGM” means:

(a) A CAGM that produces 5 tons per year or more of glass using raw materials that contain glassmaking HAPs in glassmaking furnaces, at least one of which is fuel-heated or combination fuel- and electrically-heated; or

(b) Produces 100 tons per year or more of glass using raw materials that contain glassmaking HAPs in any type of glassmaking furnace.

(15) “Uncontrolled” means the glassmaking furnace emissions are not treated by an emission control device approved by DEQ.

(16) “Week” means Sunday through Saturday.

Stat. Auth.: ORS 468.020, 468A.025, & 468A.040
Stats. Implemented: ORS 468A.025, & 468A.040
Hist.: DEQ 4-2016(Temp), f. & cert. ef. 4-21-16 thru 10-17-16

340-244-9015

Compliance Extensions

A Tier 1 CAGM may request, and DEQ may grant, one or more extensions, not to exceed a total of 12 months, to the compliance date for installation of emission control systems if the CAGM cannot meet the compliance date for reasons beyond its reasonable control. A Tier 1 CAGM that has been granted an extension:

(1) Is allowed to operate without the emission control device required by OAR 340-224-9050 until the required emission control device is installed and operational, or the extension expires, whichever is earlier; and

(2) Must comply with OAR 340-244-9020 and 9060(1) as applicable.

340-244-9020

Permit Required

(1) Not later than December 1, 2016, if located within the Portland AQMA, and not later than April 1, 2017, if located outside the Portland AQMA, all CAGMs not otherwise subject to a permitting requirement must apply for a permit under OAR 340-216-8010 Table 1, Part B, category #84.

(2) A CAGM that applies for a permit on or before the required date is not in violation of OAR 340-216-0020(3).

(3) CAGMs constructed after September 1, 2016 must obtain a permit prior to construction.

Stat. Auth.: ORS 468.020, 468A.025, & 468A.040
Stats. Implemented: ORS 468A.025, & 468A.040
Hist.: DEQ 4-2016(Temp), f. & cert. ef. 4-21-16 thru 10-17-16

340-244-9030

Requirements That Apply To Tier 2 CAGMs

(1) Tier 2 CAGMs located within the Portland AQMA may not use raw materials containing arsenic, cadmium, chromium, lead, manganese or nickel except in glassmaking furnaces that use an emission control device that meets the requirements of OAR 340-244-9070.

(2) Effective January 1, 2017, Tier 2 CAGMs located within the Portland AQMA may not use raw materials containing selenium except in glassmaking furnaces that use an emission control device that meets the requirements of OAR 340-244-9070.

(3) Tier 2 CAGMs located outside the Portland AQMA may not use raw materials containing arsenic, cadmium or chromium VI except in glassmaking furnaces that use an emission control device that meets the requirements of OAR 340-244-9070.

(4) Effective April 1, 2017, Tier 2 CAGMs located outside the Portland AQMA may not use raw materials containing chromium, lead, manganese, nickel or selenium except in glassmaking furnaces that use an emission control device that meets the requirements of OAR 340-244-9070.

Stat. Auth.: ORS 468.020, 468A.025, & 468A.040
Stats. Implemented: ORS 468A.025, & 468A.040
Hist.: DEQ 4-2016(Temp), f. & cert. ef. 4-21-16 thru 10-17-16

340-244-9040

Operating Restrictions That Apply To Tier 2 CAGMs

(1) Subject to the limitations in OAR 340-244-9030, and except as allowed in section (2), Tier 2 CAGMs may use raw materials containing chromium in glassmaking furnaces only if DEQ has established annual and daily maximum allowable chromium usage rates that will prevent the source from exceeding the chromium VI source impact levels described in paragraph (3)(b)(C) of this rule.

(2) Notwithstanding section (1) and OAR 340-244-9030(1), (3) and (4), raw materials containing chromium may be used in glassmaking furnaces for the purpose of conducting the emissions testing under sections (3) or (4). Such use must be limited to only the amounts needed to perform the testing.

(3) After DEQ establishes any maximum allowable chromium III or chromium VI usage rate for a CAGM's glassmaking furnace or glassmaking furnaces, the CAGM must comply with the

rates DEQ establishes. For the purpose of establishing any maximum allowable usage rate for chromium III or chromium VI, the following are required:

(a) A source test must be performed as specified below:

(A) Test using DEQ-approved protocols and methods for total chromium, or total chromium and chromium VI, and submit a source test plan detailing the approach to DEQ for approval;

(B) Test at the outlet of an uncontrolled glassmaking furnace, or at the outlet of the emission control device on a controlled glassmaking furnace;

(C) Test while making a glass that DEQ agrees is made under the most oxidizing combustion conditions and that contains a high percentage of the type of chromium for which a usage rate is being established, as compared to other formulas used by the CAGM;

(D) Keep records of the amount of chromium, by type, used in the formulations that are produced during the source test runs, as well as other operational parameters identified in the source test plan; and

(E) If the testing under this section is done for total chromium only, the CAGM must assume that all chromium emitted is in the form of chromium VI.

(b) The Tier 2 CAGM must perform dispersion modeling, using models and protocols approved by DEQ, to determine the annual average and daily maximum ambient concentrations that result from the Tier 2 CAGM's air emissions as follows:

(A) Submit a modeling protocol for DEQ approval;

(B) Use the maximum chromium VI emission rate;

(C) Establish a maximum chromium usage rate so that the source impact will not exceed either of the following:

(i) An annual acceptable source impact level for chromium VI concentration of 0.08 nanograms per cubic meter at the nearest sensitive receptor approved by DEQ. Sensitive receptors include, but are not limited to: residences, hospitals, schools, daycare facilities, elderly housing and convalescent facilities; and

(ii) A daily acceptable source impact level for chromium VI concentration of 5 nanograms per cubic meter at any off-site modeled receptor.

(c) Each Tier 2 CAGM must keep daily records of all glass formulations produced and, until such time as the Tier 2 CAGM has installed all emission control devices required under OAR 340-244-9030, provide to DEQ a weekly report of the daily amount of each glassmaking HAP used.

(4) Tier 2 CAGMs may apply source testing protocols equivalent to those in subsection (3)(a) to the use of chromium VI in a glassmaking furnace to establish maximum usage rates for chromium VI in controlled glassmaking furnaces that will prevent the source impact from exceeding an annual acceptable source impact level of 0.08 nanograms per cubic meter and a daily acceptable source impact level of 5 nanograms per cubic meter.

(5) Tier 2 CAGMs are not restricted on the raw materials that may be used in glassmaking furnaces that are controlled by an emission control device approved by DEQ, except that the use of raw materials containing chromium will be subject to maximum usage rates established by DEQ.

Stat. Auth.: ORS 468.020, 468A.025, & 468A.040
Stats. Implemented: ORS 468A.025, & 468A.040
Hist.: DEQ 4-2016(Temp), f. & cert. ef. 4-21-16 thru 10-17-16

340-244-9050

Requirements That Apply To Tier 1 CAGMs

(1) No later than October 1, 2016, if located within the Portland AQMA, and April 1, 2017, if located outside the Portland AQMA, each Tier 1 CAGM must comply with subsection (a), (b) or (c) for each glassmaking furnace or group of glassmaking furnaces that use raw material containing arsenic, cadmium, chromium, lead, manganese or nickel:

(a) Install an emission control device that meets the emission control device requirements in OAR 340-244-9070;

(b) Demonstrate that the glassmaking furnace or group of glassmaking furnaces meets the exemption in section (3) for arsenic, cadmium, chromium, lead, manganese or nickel; or

(c) Request a permit condition that prohibits the use of arsenic, cadmium, chromium, lead, manganese or nickel in the glassmaking furnace or group of glassmaking furnaces, and comply with that condition.

(2) No later than January 1, 2017, if located within the Portland AQMA, and April 1, 2017, if located outside the Portland AQMA, each Tier 1 CAGM must comply with subsection (a), (b) or (c) for each glassmaking furnace or group of glassmaking furnaces that use raw material containing selenium:

(a) Install an emission control device that meets the emission control device requirements in OAR 340-244-9070;

(b) Demonstrate that the glassmaking furnace or group of glassmaking furnaces meets the exemption in section (3) for selenium; or

(c) Request a permit condition that prohibits the use of selenium in the glassmaking furnace or group of glassmaking furnaces, and comply with that condition.

(3) A Tier 1 CAGM is exempt from the requirement to install emission controls under subsections (1)(a) or (2)(a) on a glassmaking furnace or group of glassmaking furnaces if that CAGM meets the requirements of subsection (a) for each of the individual glassmaking HAPs listed in paragraphs (a)(A) through (a)(G) below. This exemption is not allowed for a glassmaking furnace or group of glassmaking furnaces that use raw materials containing chromium VI.

(a) The CAGM shows through source testing and dispersion modeling if necessary, following the requirements of subsections (b) and (c), that the glassmaking HAP concentrations modeled at the nearest sensitive receptor do not exceed the applicable concentration listed in paragraphs (A) through (G). For chromium VI resulting from the use of chromium III, the CAGM may source test for and model chromium VI, or may source test for and model total chromium in lieu of chromium VI, to demonstrate that the ambient concentration is below the concentration listed in paragraph (C). If the modeled total chromium ambient concentration exceeds the concentration listed in paragraph (C), then the CAGM may conduct an additional source test to measure chromium VI and model to show that the ambient concentration of chromium VI does not exceed the concentration listed in paragraph (C).

(A) Arsenic, 0.2 nanograms per cubic meter annual average;

(B) Cadmium, 0.6 nanograms per cubic meter annual average;

(C) Chromium VI, 0.08 nanograms per cubic meter annual average;

(D) Lead, 15 nanograms per cubic meter annual average;

(E) Manganese, 90 nanograms per cubic meter annual average;

(F) Nickel, 4 nanograms per cubic meter annual average;

(G) Selenium, at a concentration that the CAGM demonstrates to the satisfaction of the Director is adequate to protect members of the public from suffering adverse health effects. The Director shall consult with the Oregon Health Authority when considering whether a proposed concentration will be adequately protective.

(b) Source testing for the purpose of demonstrating the exemption in this section must be performed as follows:

(A) Test using DEQ-approved protocols and methods for each glassmaking HAP listed in paragraphs (a)(A) through (a)(G) that the Tier 1 CAGM intends to use.

(B) Test for particulate matter using DEQ Method 5 or equivalent; HAPs using EPA Method 29, CARB Method M-436 or an equivalent method approved by DEQ; and if the Tier 1 CAGM chooses, chromium VI using a method approved by DEQ.

(C) Submit a source test plan to DEQ for approval at least 30 days before the test date.

(D) For each glassmaking HAP to be tested for, test while making a glass formulation that DEQ agrees has the highest potential emissions of that glassmaking HAP. More than one source test may be required if a single glass formulation cannot meet this requirement for all glassmaking HAPs to be tested for.

(E) Keep records of the amount of each glassmaking HAP regulated under this rule used in the formulations that are produced during the source test runs, as well as other operational parameters identified in the source test plan.

(c) Dispersion modeling for the purpose of demonstrating the exemption in this section is not required for any glassmaking HAP that the source testing under subsection (b) shows is not greater than the applicable concentration listed in paragraphs (a)(A) through (a)(G); otherwise, dispersion modeling must be performed as follows:

(A) Submit a modeling protocol for DEQ approval;

(B) Use the EPA-approved model AERSCREEN or other EPA-approved model;

(C) Use the maximum emission rate for each glassmaking HAP to be modeled as determined by the source testing required by subsection (b); and

(D) Model the ambient concentration at the nearest sensitive receptor approved by DEQ. Sensitive receptors include, but are not limited to: residences, hospitals, schools, daycare facilities, elderly housing and convalescent facilities.

Stat. Auth.: ORS 468.020, 468A.025, & 468A.040
Stats. Implemented: ORS 468A.025, & 468A.040
Hist.: DEQ 4-2016(Temp), f. & cert. ef. 4-21-16 thru 10-17-16

340-244-9060

Operating Restrictions That Apply To Tier 1 CAGMs

(1) Tier 1 CAGMs may not use raw materials that contain chromium VI in any uncontrolled glassmaking furnace.

(2) Tier 1 CAGMs are not restricted on the raw materials that may be used in glassmaking furnaces that are controlled by an emission control device approved by DEQ.

Stat. Auth.: ORS 468.020, 468A.025, & 468A.040
Stats. Implemented: ORS 468A.025, & 468A.040
Hist.: DEQ 4-2016(Temp), f. & cert. ef. 4-21-16 thru 10-17-16

340-244-9070

Emission Control Device Requirements

(1) CAGMs must comply with the requirements in subsection (a) or (b), as applicable, for each emission control device used to comply with this rule.

(a) Tier 1 CAGMs must comply with one of the requirements in paragraphs (A), (B) or (C):

(A) Conduct a source test as required under section (3) and demonstrate that the emission control device does not emit particulate matter in excess of 0.005 grains per dry standard cubic foot as measured by EPA Method 5 or an equivalent method approved by DEQ.

(B) If the emission control system is a fabric filter (baghouse), install a bag leak detection system that meets the requirements of section (4).

(C) If the emission control system is a fabric filter (baghouse), install an afterfilter that meets the requirements of section (5).

(b) Tier 2 CAGMs must:

(A) Conduct a source test as required under section (3) and demonstrate that the emission control device does not emit particulate matter in excess of 0.005 grains per dry standard cubic foot as measured by EPA Method 5 or an equivalent method approved by DEQ; and

(B) If a fabric filter (baghouse) is used, install either a bag leak detection system that meets the requirements of section (4) or an afterfilter that meets the requirements of section (5).

(2) Emission control device requirements:

(a) A CAGM must obtain DEQ approval of the design of all emission control devices before installation, as provided in this rule.

(b) A CAGM must submit a Notice of Intent to Construct as required by OAR 340-210-0205 through 340-210-0250 no later than 15 days before the date installation begins. If DEQ does not deny or approve the Notice of Intent to Construct within 10 days after receiving the Notice, the Notice will be deemed to be approved.

(c) Emission control devices may control emissions from more than one glassmaking furnace.

(d) Each emission control device must be equipped with the following monitoring equipment:

(A) An inlet temperature monitoring device;

(B) A differential pressure monitoring device if the emission control device is a baghouse; and

(C) Any other monitoring device or devices specified in DEQ's approval of the Notice of Intent to Construct.

(e) Each emission control device must be equipped with inlet ducting that provides the following:

(A) Sufficient cooling of exhaust gases to no more than the maximum design inlet temperature under worst-case conditions; and

(B) Provision for inlet emissions testing, including sufficient duct diameter, sample ports, undisturbed flow conditions, and access for testing.

(f) Each emission control device must be equipped with outlet ducting that provides for outlet emissions testing, including sufficient duct diameter, sample ports, undisturbed flow conditions, and access for testing.

(g) After commencing operation of any emission control device, the CAGM must monitor the emission control device as required by OAR 340-244-9080.

(3) If source testing is conducted under section (1), the CAGM must perform the following source testing on at least one emission control device. Source testing done under OAR 340-244-9040(3)(a) may be used in whole or in part to comply with this requirement.

(a) Within 60 days of commencing operation of the emission control devices, test control device outlet for particulate matter using DEQ Method 5 or equivalent method;

(b) The emission control device to be tested must be approved by DEQ;

(c) A source test plan must be submitted at least 30 days before conducting the source test; and

(d) The source test plan must be approved by DEQ before conducting the source test.

(4) If a bag leak detection system is installed under section (1), the requirements for the bag leak detection system are:

(a) The bag leak detection system must be installed and operational as soon as possible but not more than 90 days after the baghouse becomes operational or 90 days after the effective date of the rule, whichever is later.

(b) Each bag leak detection system must meet the specifications and requirements in paragraphs (A) through (H).

(A) The bag leak detection system must be certified by the manufacturer to be capable of detecting PM emissions at concentrations of 1 milligram per dry standard cubic meter (0.00044 grains per actual cubic foot) or less.

(B) The bag leak detection system sensor must provide output of relative PM loadings. The owner or operator must continuously record the output from the bag leak detection system using electronic or other means (e.g., using a strip chart recorder or a data logger).

(C) The bag leak detection system must be equipped with an alarm system that will sound when the system detects an increase in relative particulate loading over the alarm set point established according to paragraph (D), and the alarm must be located such that it can be heard by the appropriate plant personnel.

(D) In the initial adjustment of the bag leak detection system, the CAGM must establish, at a minimum, the baseline output by adjusting the sensitivity (range) and the averaging period of the device, the alarm set points, and the alarm delay time.

(E) Following initial adjustment, the CAGM may not adjust the averaging period, alarm set point, or alarm delay time without approval from DEQ except as provided in paragraph (F).

(F) Once per quarter, the CAGM may adjust the sensitivity of the bag leak detection system to account for seasonal effects, including temperature and humidity, according to the procedures identified in the site-specific monitoring plan required by OAR 340-224-9080(4).

(G) The CAGM must install the bag leak detection sensor downstream of the fabric filter.

(H) Where multiple bag leak detectors are required, the system's instrumentation and alarm may be shared among detectors.

(5) If an afterfilter is installed under section (1), the requirements for the afterfilter are:

(a) The afterfilter must be installed and operational as soon as possible but not more than 120 days after the baghouse becomes operational or 120 days after the effective date of the rule, whichever is later;

(b) The afterfilter must filter the entire exhaust flow from the fabric filter (baghouse); and

(c) The afterfilter must be equipped with:

(A) HEPA filters that have a Minimum Efficiency Reporting Value of 17 (MERV 17) or higher per American National Standards Institute (ANSI) Standard 52.2; and

(B) A differential pressure monitoring device.

Stat. Auth.: ORS 468.020, 468A.025, & 468A.040
Stats. Implemented: ORS 468A.025, & 468A.040

Hist.: DEQ 4-2016(Temp), f. & cert. ef. 4-21-16 thru 10-17-16; DEQ 6-2016(Temp), f. & cert. ef. 5-6-16 thru 10-17-16

340-244-9080

Emission Control Device Monitoring

(1) Each Tier 1 CAGM must perform the following monitoring on each emission control device it uses to comply with this rule:

(a) At least once each week, observe and record the inlet temperature and the fabric filter (baghouse) differential pressure and afterfilter differential pressure (as applicable); and

(b) At least once every 12 months:

(A) Inspect the ductwork and emission control device housing for leakage;

(B) Inspect the interior of the emission control device for structural integrity and, if a fabric filter (baghouse) is used, to determine the condition of the fabric filter; and

(C) Record the date, time and results of the inspection.

(2) Each Tier 2 CAGM must perform the following monitoring on each emission control device used to comply with this rule:

(a) At least once each day, observe and record the inlet temperature and the fabric filter (baghouse) differential pressure and afterfilter differential pressure (as applicable); and

(b) At least once every 12 months:

(A) Inspect the ductwork and emission control device housing for leakage;

(B) Inspect the interior of the emission control device for structural integrity and, and if a fabric filter (baghouse) is used, to determine the condition of the fabric filter; and

(C) Record the date, time and results of the inspection.

(3) CAGMs must observe and record any parameters specified in a DEQ approval of the Notice of Intent to Construct applicable to a control device.

(4) If a bag leak detection system is used, the CAGM must develop and submit to DEQ for approval a site-specific monitoring plan for each bag leak detection system. The CAGM must operate and maintain the bag leak detection system according to the site-specific monitoring plan at all times. Each monitoring plan must describe the items in subsections (a) through (f).

(a) Installation of the bag leak detection system;

(b) Initial and periodic adjustment of the bag leak detection system, including how the alarm set-point will be established;

(c) Operation of the bag leak detection system, including quality assurance procedures;

(d) How the bag leak detection system will be maintained, including a routine maintenance schedule and spare parts inventory list;

(e) How the bag leak detection system output will be recorded and stored; and

(f) Corrective action procedures as specified in section (5). In approving the site-specific monitoring plan, DEQ may allow owners and operators more than 3 hours to alleviate a specific condition that causes an alarm if the owner or operator identifies in the monitoring plan this specific condition as one that could lead to an alarm, adequately explains why it is not feasible to alleviate this condition within 3 hours of the time the alarm occurs, and demonstrates that the requested time will ensure alleviation of this condition as expeditiously as practicable.

(5) For each bag leak detection system, the CAGM must initiate procedures to determine the cause of every alarm within 1 hour of the alarm. Except as provided in subsection (4)(f), the CAGM must alleviate the cause of the alarm within 3 hours of the alarm by taking all necessary corrective actions. Corrective actions may include, but are not limited to the following:

(a) Inspecting the fabric filter for air leaks, torn or broken bags or filter media, or any other condition that may cause an increase in PM emissions;

(b) Sealing off defective bags or filter media;

(c) Replacing defective bags or filter media or otherwise repairing the control device;

(d) Sealing off a defective fabric filter compartment;

(e) Cleaning the bag leak detection system probe or otherwise repairing the bag leak detection system; and

(f) Shutting down the process producing the PM emissions.

(6) For each bag leak detection system, the CAGM must keep the following records:

(a) Records of the bag leak detection system output;

(b) Records of bag leak detection system adjustments, including the date and time of the adjustment, the initial bag leak detection system settings, and the final bag leak detection system settings; and

(c) The date and time of all bag leak detection system alarms, the time that procedures to determine the cause of the alarm were initiated, the cause of the alarm, an explanation of the

actions taken, the date and time the cause of the alarm was alleviated, and whether the alarm was alleviated within 3 hours of the alarm.

Stat. Auth.: ORS 468.020, 468A.025, & 468A.040
Stats. Implemented: ORS 468A.025, & 468A.040
Hist.: DEQ 4-2016(Temp), f. & cert. ef. 4-21-16 thru 10-17-16

340-244-9090

Other Glassmaking HAPs

(1) If DEQ determines that ambient concentrations of a glassmaking HAP in the area of a CAGM pose an unacceptable risk to human health and that emissions from a glassmaking furnace at the CAGM are a contributing factor, then DEQ must set a limit on the CAGM's use of the glassmaking HAP of concern, by agreement or in a permit, to reduce such risk. DEQ must consult with the Oregon Health Authority when applying this rule.

(2) Exceeding the limits established under the authority of this rule is a violation of this rule.

Stat. Auth.: ORS 468.020, 468A.025, & 468A.040
Stats. Implemented: ORS 468A.025, & 468A.040
Hist.: DEQ 4-2016(Temp), f. & cert. ef. 4-21-16 thru 10-17-16

DEQ Art Glass Permanent Rule
Fiscal Impact Estimate for proposed rule- Bullseye Glass Company

Bullseye - Tier 2			
Requirements summary	Install control device on all furnaces using glassmaking HAPs. If using chrome: source test & modeling to develop daily & annual max usage Then follow the max usage limits		
	Cost Estimate		
	low	**high**	
Permitting costs			
NESHAP 6S applies?	Y		
Needs Title V permit because of 6S	Y		
Cost of Title V application (including DEQ fees + consultant to prepare)	$25,000	$100,000	If a facility needs a Title V due to NESHAP 6S, that is independent of this art glass rule, so this cost isn't included in the totals.
Annual DEQ Title V permit costs	$10,310	$11,510	If a facility needs a Title V due to NESHAP 6S, that is independent of this art glass rule, so this cost isn't included in the totals.
Incremental extra cost of Title V application due to art glass rule	$0	$5,000	Assume preparing the permit application would cost 0% to 5% more because of the incremental addition of the proposed rules.
Incremental extra cost of Title V annual permit fees due to art glass rule	$0	$0	The proposed rules would not increase the annual permit fees if the facility would have a Title V anyway.
Number of Control Devices			
# of additional baghouses installed, over and above what would have been installed due to NESHAP 6S alone	0	2	This is uncertain because changes to comply with NESHAP 6S are happening at the same time as efforts to comply with this rule.
Cost Per Control Device			
Install baghouse	$250,000	$400,000	
Install baghouse leak detection system or HEPA afterfilter	$10,000	$30,000	
One-time 'grain loading' source test to demonstrate baghouse is working	$4,000	$15,000	Assume length of run depends on detection limits, does not have to be entire production run.
Annual operation	$15,000	$70,000	Electricity, bag replacement etc
Annual cost to monitor and report on baghouse to DEQ	$12,000	$17,000	
Total one-time costs per baghouse	$264,000	$445,000	
Total annual costs per baghouse	$27,000	$87,000	
Source Testing Costs			
One-time source test to measure Cr6 emissions when making products containing Cr3 or Cr6	$60,000	$65,000	Assume 16 hr test runs. May be able to run concurrently with grain loading test, reducing cost. $10-15k if test can be done in 1-3 hr runs. If 16hr runs, $65k. If 4-day runs, $100k.
Modeling Costs			
One-time modeling to find max production rate that results in acceptable source impact level			

Bullseye - Tier 2		
Requirements summary	Install control device on all furnaces using glassmaking HAPs. If using chrome: source test & modeling to develop daily & annual max usage Then follow the max usage limits	
	Cost Estimate	
	low	**high**
AERSCREEN model only	$10,000	-
AERSCREEN followed by AERMOD model	-	$30,000

Total Costs

If 0 additional baghouses installed

One-time costs	$70,000	$100,000
Annual costs	$0	$0

If 2 additional baghouses installed

One-time costs	$598,000	$990,000
Annual costs	$54,000	$174,000

DEQ Art Glass Permanent Rule
Fiscal Impact Estimate for proposed rule - Uroboros Glass Studios, Inc.

Uroboros - Tier 2			
Requirements summary	Install control device on all furnaces using glassmaking HAPs. If using chrome: source test & modeling to develop daily & annual max usage Then follow the max usage limits		
	Cost Estimate		
	low	**high**	
Permitting costs			
NESHAP 6S applies?	Y		
Needs Title V permit because of 6S?	Y		
Cost of Title V application (including DEQ fees + consultant to prepare)	$15,000	$55,000	If a facility needs a Title V due to NESHAP 6S, that is independent of this art glass rule, so this cost isn't included in the totals.
Annual DEQ Title V permit costs	$8,500	$8,500	If a facility needs a Title V due to NESHAP 6S, that is independent of this art glass rule, so this cost isn't included in the totals.
Incremental extra cost of Title V application due to art glass rule	$0	$3,000	Assume preparing the permit application would cost 0% to 5% more because of the incremental addition of the proposed rules. (Rounded to the nearest thousand.)
Incremental extra cost of Title V annual permit fees due to art glass rule	$0	$0	The proposed rules would not increase the annual permit fees if the facility would have a Title V anyway.
Number of Control Devices			
# of additional baghouses installed, over and above what would have been installed due to NESHAP 6S alone	0	1	This is uncertain because changes to comply with NESHAP 6S are happening at the same time as efforts to comply with this rule.
Cost Per Control Device			
Install baghouse	$355,000	$610,000	
Install baghouse leak detection system or HEPA afterfilter	$10,000	$30,000	
One-time 'grain loading' source test to demonstrate baghouse is working	Included in source testing cost below		Assume length of run depends on detection limits, does not have to be entire production run.
Annual operation	$15,000	$70,000	Electricity, bag replacement etc
Annual cost to monitor and report on baghouse to DEQ	$12,000	$17,000	
Total one-time costs per baghouse	$365,000	$640,000	
Total annual costs per baghouse	$27,000	$87,000	
Source Testing Costs			
One-time source test to measure Cr6 emissions when making products containing Cr3 or Cr6	$56,000	$56,000	
Modeling Costs			
One-time modeling to find max production rate that results in acceptable source impact level			
AERSCREEN model only	$10,000	-	

Uroboros - Tier 2		
Requirements summary	Install control device on all furnaces using glassmaking HAPs. If using chrome: source test & modeling to develop daily & annual max usage Then follow the max usage limits	
	Cost Estimate	
	low	**high**
AERSCREEN followed by AERMOD model	-	$30,000

Total Costs

If 0 additional baghouses installed

One-time costs	$66,000	$89,000
Annual costs	$0	$0

If 1 additional baghouse installed

One-time costs	$431,000	$729,000
Annual costs	$27,000	$87,000

DEQ Art Glass Permanent Rule
Fiscal Impact Estimate for proposed rule - Tier 1 CAGM

Tier 1 (Northstar, Trautman and Glass Alchemy)						
Requirements summary	Do 1 of these at all furnaces: Install control device, OR source test & modeling to show impact below limits, OR request permit condition to not use metal HAPs					
	Cost Estimate					
	If installing control device		**If doing source test and modeling only**		**If taking permit condition to stop using metal HAPs**	
	low	high	low	high	low	high
Permitting costs						
NESHAP 6S applies?	N		N		N	
Rule would require facility to get new permit	Yes, ACDP		Yes, ACDP		Yes, ACDP	
Application Fee	$7,200	$7,200	$7,200	$7,200	$7,200	$7,200
Consultant to prepare application	-	-	-	-	-	-
Annual Permit Fee (applies at time of application and each year after)	$4,608	$4,608	$4,608	$4,608	$4,608	$4,608
Control Device Costs						
Install baghouse	$250,000	$400,000	-	-	-	-
Install baghouse leak detection system or HEPA afterfilter	Optional, can do this instead of grain loading test					
Annual operation (electricity, bag replacement, etc)	$15,000	$70,000	-	-	-	-
Reporting Costs						
Annual cost to monitor and report on baghouse to DEQ	$12,000	$17,000	-	-	-	-
Source Testing Costs						
One-time source test to measure metal emissions including total Cr. (Total Cr can be used as a proxy for Cr6)	-	-	$15,000	$25,000	-	-
One-time source test to measure Cr6 emissions when making products containing Cr3 (optional)	If Tier 1 and using control device, don't have to test for Cr6		$0	$65,000	-	-
One-time 'grain loading' source test to demonstrate baghouse is working	$4,000	$15,000	-	-	-	-
Modeling Costs						
One-time modeling to find max production rate that results in acceptable source impact level						
AERSCREEN model only	-	-	$10,000	-	-	-
AERSCREEN followed by AERMOD model	-	-	-	$30,000	-	-
Cost of reduced production						
Stopping production of materials containing Cr6 (required to take source test + modeling exemption)	-	-	unknown	unknown	About 1/2 of products contain metal HAPs. There may not be workable substitute formulations. Facilities may choose to phase out one or a few metal HAPs but are likely to choose source test & modeling or installation of a control device.	
Reduced production if source testing shows it's needed to meet receptor conc limits	-	-	unknown	unknown		
Total Costs						
One-time costs	$261,200	$422,200	$32,200	$127,200	$7,200	$7,200
Annual costs	$31,608	$91,608	$4,608	$4,608	50% of facility profit (?)	

One-time costs (rounded)	$261,000	$422,000	$32,000	$127,000	$7,000	$7,000
Annual costs (rounded)	$32,000	$92,000	$5,000	$5,000	50% of facility profit (?)	

DEPARTMENT OF ENVIRONMENTAL QUALITY

DIVISION 244

OREGON FEDERAL AND STATE HAZARDOUS AIR POLLUTANT PROGRAM

General Provisions for Stationary Sources

340-244-0010

Policy and Purpose

The Environmental Quality Commission finds that certain air contaminants for which there are no ambient air quality standards may cause or contribute to an identifiable and significant increase in mortality or to an increase in serious irreversible or incapacitating reversible illness or to irreversible ecological damage, and are therefore considered to be hazardous air pollutants. It ~~shall be~~is the policy of the Commission that no person may cause, allow, or permit emissions into the ambient air of any hazardous substance in such quantity, concentration, or duration determined by the Commission to be injurious to public health or the environment. The purpose of this Division is to establish emissions limitations on sources of these air contaminants. In order to reduce the release of these hazardous air pollutants and protect public health and the environment, it is the intent of the Commission to adopt by rule within this Division the source category specific requirements that are promulgated by the EPA, and state standards to reduce the release of these hazardous air pollutants. Furthermore, it is hereby declared the policy of the Commission that the standards contained in this Division are considered minimum standards, and as technology advances, protection of public health and the environment warrants, more stringent standards may be adopted and applied.

Stat. Auth.: ORS 468.020 & 468A.310
Stats. Implemented: ORS 468A.025
Hist.: DEQ 13-1993, f. & cert. ef. 9-24-93; DEQ 14-1999, f. & cert. ef. 10-14-99, Renumbered from 340-032-0100; DEQ 4-2016(Temp), f. & cert. ef. 4-21-16 thru 10-17-16

Colored Art Glass Manufacturing Facility Rules

340-244-9000

Applicability and Jurisdiction

Notwithstanding OAR 340 Division 246, OAR 340-244-9000 through 9090 apply to all facilities in the state of Oregon~~located within the Portland Air Quality Maintenance Area~~ that:

(1)~~(a)~~ Manufacture ~~colored~~ glass from raw materials, or a combination of raw materials and cullet, for:

(a) ~~u~~Use in art, architecture, interior design and other similar decorative applications, or

(b) ~~Manufacture colored glass products from raw materials, or a combination of raw materials and cullet, for u~~Use by ~~colored~~ glass manufacturers for use in art, architecture, interior design and other similar decorative applications; and

(2) Manufacture ~~10~~ 5 tons per year or more of ~~colored~~ glass using raw materials that contain ~~any of the following metal~~ glassmaking HAPs~~: arsenic, cadmium, chromium, lead, manganese and nickel~~.

(3) Subject to the requirements in this division and OAR 340-200-0010(3), LRAPA is designated by the EQC to implement OAR 340-244-9000 through 9090 within its area of jurisdiction.

Stat. Auth.: ORS 468.020, 468A.025, & 468A.040
Stats. Implemented: ORS 468A.025, & 468A.040
Hist.: DEQ 4-2016(Temp), f. & cert. ef. 4-21-16 thru 10-17-16

340-244-9010

Definitions

The definitions in OAR 340-200-0020 and this rule apply to OAR 340-244-9000 through 9090. If the same term is defined in this rule and 340-200-0020, the definition in this rule applies to this division.

(1) “Colored Art Glass Manufacturer” or “CAGM” means a facility that meets the applicability requirements in OAR 340-244-9000 and refers to the owner or operator of such a facility when the context requires.

(2) “Chromium III” means chromium in the +3 oxidation state, also known as trivalent chromium.

(3) “Chromium VI” means chromium in the +6 oxidation state, also known as hexavalent chromium.

(4) “Chromium”, without a following roman numeral, means total chromium.

(5) “Controlled” means the ~~glass-making~~glassmaking furnace emissions are treated by an emission control device approved by DEQ.

(6) “Cullet” means ~~recycled~~ pieces of finished glass that, when ~~is~~ mixed with raw materials and charged to a ~~glass-making~~glassmaking furnace, is used to produce new glass. Cullet does not include frit as defined in subsection (9)(a)~~glass materials that contain metal HAPs in amounts that materially affect the color of the finished product and that are used as coloring agents; such materials are considered raw materials~~. Cullet is not considered to be a raw material.

(7) “Emission control device” means control device as defined in OAR 340 Division 200.

(8) “Finished glass” means the final glass product that results from melting and refining materials in a glassmaking furnace. Finished glass that has been remelted without the addition of raw materials is still finished glass.

(9) “Frit” means both of the following:

(a) Granules of glassified or vitrified material that is not made from finished glass, and which contains a higher proportion of glassmaking HAP than would be found in a finished glass. The purpose of such material includes, but is not limited to, making powdered glassmaking HAPs safer to handle by combining them with silica or other oxides.

(b) Granules of crushed finished glass.

(10~~8~~) “~~Glass-making~~Glassmaking furnace” means a refractory-lined vessel in which raw materials are charged and melted at high temperature to produce molten glass.

(11~~9~~) “~~Metal~~ Glassmaking HAP” means arsenic, cadmium, chromium, lead, manganese, ~~or~~ nickel or selenium in any form, such as the pure ~~metal~~chemical element, in compounds or mixed with other materials.

(12~~0~~) “Raw material” means:

(a) Substances that are intentionally added to a glass manufacturing batch and melted in a ~~glass-making~~glassmaking furnace to produce glass, including but not limited to:

(A) Minerals, such as silica sand, limestone, and dolomite;

(B) Inorganic chemical compounds, such as soda ash (sodium carbonate), salt cake (sodium sulfate), and potash (potassium carbonate);

(C) ~~Metal o~~Oxides and other ~~metal-based~~ compounds of chemical elements, such as lead oxide, chromium oxide, and sodium antimonate; and

(D) ~~Metal o~~Ores of chemical elements, such as chromite and pyrolusite.

(b) ~~Metals~~ Glassmaking HAPs that are naturally-occurring trace constituents or contaminants of other substances are not considered to be raw materials.

(c) Raw material includes ~~glass~~ materials that contain ~~metal~~ glassmaking HAPs in amounts that materially affect the ~~color~~ properties of the finished product, such as its color, texture or bubble content ~~and that are used as coloring agents~~. Such materials may be powdered, frit, or in some other form. For the purpose of this definition, frit as described in subsection (9)(a) is a raw material, but frit as described in subsection (9)(b) is not a raw material.

(d) Cullet and material that is recovered from a ~~glass-making~~glassmaking furnace control device for recycling into the glass formulation are not considered to be raw materials.

(1~~3~~1) "Tier 1 CAGM" means a CAGM that produces at least 5~~1~~0 tons per year ~~or more of colored art glass~~, but ~~not more~~less than 100 tons per year, of glass using raw materials that contain glassmaking HAPs~~and produces colored art glass~~ in ~~glass-making~~glassmaking furnaces that are only electrically heated.

(1~~4~~2) "Tier 2 CAGM" means:

(a) A CAGM that produces ~~10-~~5 tons per year or more of ~~colored art~~ glass using raw materials that contain glassmaking HAPs in glassmaking furnaces, at least one of which is fuel-heated or combination fuel- and electrically-heated ~~glass-making furnaces~~; or

(b) Produces 100 tons per year or more of ~~colored art~~ glass using raw materials that contain glassmaking HAPs in any type of ~~glass-making~~glassmaking furnace.

(1~~5~~3) "Uncontrolled" means the ~~glass-making~~glassmaking furnace emissions are not treated by an emission control device approved by DEQ.

(1~~6~~4) "Week" means Sunday through Saturday.

Stat. Auth.: ORS 468.020, 468A.025, & 468A.040
Stats. Implemented: ORS 468A.025, & 468A.040
Hist.: DEQ 4-2016(Temp), f. & cert. ef. 4-21-16 thru 10-17-16

340-244-9015

Compliance Extensions

A Tier 1 CAGM may request, and DEQ may grant, one or more extensions, not to exceed a total of 12 months, to the compliance date for installation of emission control systems if the CAGM cannot meet the compliance date for reasons beyond its reasonable control. A Tier 1 CAGM that has been granted an extension:

(1) Is allowed to operate without the emission control device required by OAR 340-224-9050 until the required emission control device is installed and operational, or the extension expires, whichever is earlier; and

(2) Must comply with OAR 340-244-9020 and 9060(1) as applicable.

340-244-9020

Permit Required

(1) Not later than ~~September~~ December 1, 2016, if located within the Portland AQMA, and not later than April 1, 2017, if located outside the Portland AQMA, all CAGMs not otherwise subject to a permitting requirement must apply for a permit under OAR 340-216-8010 Table 1, Part B, category #84.

(2) A CAGM that applies for a permit on or before the required date is not in violation of OAR 340-216-0020(3).

(3) CAGMs constructed after September 1, 2016 must obtain a permit prior to construction.

Stat. Auth.: ORS 468.020, 468A.025, & 468A.040
Stats. Implemented: ORS 468A.025, & 468A.040
Hist.: DEQ 4-2016(Temp), f. & cert. ef. 4-21-16 thru 10-17-16

340-244-9030

Requirements That Apply To Tier 2 CAGMs

(1) ~~Effective September 1, 2016,~~ Tier 2 CAGMs located within the Portland AQMA may not use raw materials containing arsenic, cadmium, chromium, lead, manganese or nickel ~~any metal HAPs~~ except in ~~glass-making~~glassmaking furnaces that use an emission control device that meets the requirements of OAR 340-244-9070.

(2) Effective January 1, 2017, Tier 2 CAGMs located within the Portland AQMA may not use raw materials containing selenium except in glassmaking furnaces that use an emission control device that meets the requirements of OAR 340-244-9070.

(3) Tier 2 CAGMs located outside the Portland AQMA may not use raw materials containing arsenic, cadmium or chromium VI except in glassmaking furnaces that use an emission control device that meets the requirements of OAR 340-244-9070.

(4) Effective April 1, 2017, Tier 2 CAGMs located outside the Portland AQMA may not use raw materials containing chromium, lead, manganese, nickel or selenium except in glassmaking furnaces that use an emission control device that meets the requirements of OAR 340-244-9070.

Stat. Auth.: ORS 468.020, 468A.025, & 468A.040
Stats. Implemented: ORS 468A.025, & 468A.040
Hist.: DEQ 4-2016(Temp), f. & cert. ef. 4-21-16 thru 10-17-16

340-244-9040

Operating Restrictions That Apply To Tier 2 CAGMs

~~(1) Tier 2 CAGMs may not use raw materials containing arsenic, cadmium or chromium VI except in glass-making furnaces that are controlled by an emission control device approved by DEQ.~~

~~(2) A Tier 2 CAGM may use raw materials containing chromium III in a glass-making furnace (controlled or uncontrolled) if DEQ has established annual and daily maximum allowable chromium III usage rates for the glass-making furnace or group of glass-making furnaces that will prevent the source impact from exceeding an annual acceptable source impact level of 0.08 nanograms per cubic meter of chromium VI and a daily acceptable source impact level of 36 nanograms per cubic meter of chromium VI.~~

(1) Subject to the limitations in OAR 340-244-9030, and except as allowed in section (2), Tier 2 CAGMs may use raw materials containing chromium in glassmaking furnaces only if DEQ has established annual and daily maximum allowable chromium usage rates that will prevent the source from exceeding the chromium VI source impact levels described in paragraph (3)(b)(C) of this rule.

(2) Notwithstanding section (1) and OAR 340-244-9030(1), (3) and (4), raw materials containing chromium may be used in glassmaking furnaces for the purpose of conducting the emissions testing under sections (3) or (4). Such use must be limited to only the amounts needed to perform the testing.

(3) After DEQ establishes ~~the~~ any maximum allowable chromium III or chromium VI usage rate~~s~~ for a CAGM's ~~glass-making~~glassmaking furnace or ~~glass-making~~glassmaking furnaces, the CAGM must comply with the rates DEQ establishes. For the purpose of establishing any maximum allowable usage rate for chromium III or chromium VI ~~usage rates~~, the following are required:

(a) A source test must be performed as specified below:

(A) Test using DEQ-~~-~~approved protocols and methods for total chromium, or total chromium and chromium VI, ~~and particulate matter using DEQ Method 5 or a DEQ-approved equivalent method~~ and submit a source test plan detailing the approach to DEQ for approval;

(B) Test ~~for chromium, chromium VI and particulate matter~~ at the outlet of an uncontrolled ~~glass-making~~glassmaking furnace, or at the outlet of the emission control device on a controlled glassmaking furnace; ~~or test for chromium, chromium VI and particulate matter at the inlet of an emission control device and for particulate matter at the outlet of the emission control device;~~

(C) Test while making a glass that DEQ agrees is made under the most oxidizing combustion conditions and that contains a high percentage of the type of chromium ~~III~~ for which a usage rate is being established, as compared to other formulas used by the CAGM; ~~and~~

(D) Keep records of the amount of chromium, by type, ~~III~~ used in the formulations that are produced during the source test runs, as well as other operational parameters identified in the source test plan~~.~~; and

(E) If the testing under this section is done for total chromium only, the CAGM must assume that all chromium emitted is in the form of chromium VI.

(b) The Tier 2 CAGM must perform dispersion modeling, using models and protocols approved by DEQ, to determine the annual average and daily maximum ambient concentrations that result from the Tier 2 CAGM's air emissions as follows:

(A) Submit a modeling protocol for DEQ approval;

(B) Use the maximum chromium VI emission rate;

(C) Establish a maximum chromium ~~III~~ usage rate so that the source impact will not exceed either of the following:

(i) An annual acceptable source impact level for chromium VI concentration of 0.08 nanograms per cubic meter at the nearest sensitive receptor approved by DEQ. Sensitive receptors include, but are not limited to: residences, hospitals, schools, daycare facilities, elderly housing and convalescent facilities; and

(ii) A daily acceptable source impact level for chromium VI concentration of 5~~36~~ nanograms per cubic meter at any off-site modeled receptor.

(c) Each Tier 2 CAGM must keep daily records of all glass formulations produced and, until such time as the Tier 2 CAGM has installed all emission control devices required under OAR 340-244-9030, provide to DEQ a weekly report of the daily amount of each glassmaking~~metal~~ HAP used.

(4) Tier 2 CAGMs may apply source testing protocols equivalent to those in subsection (3)(a) to the use of chromium VI in a ~~glass making~~glassmaking furnace to establish maximum usage rates for chromium VI in controlled ~~glass making~~glassmaking furnaces that will prevent the source impact from exceeding an annual acceptable source impact level of 0.08 nanograms per cubic meter and a daily acceptable source impact level of 5~~36~~ nanograms per cubic meter.

(5) Tier 2 CAGMs are not restricted on the raw materials that may be used in ~~glass making~~glassmaking furnaces that are controlled by an emission control device approved by DEQ, except that the use of raw materials containing chromium ~~III and chromium VI~~ will be subject to maximum usage rates ~~determined~~ established by DEQ.

Stat. Auth.: ORS 468.020, 468A.025, & 468A.040
Stats. Implemented: ORS 468A.025, & 468A.040
Hist.: DEQ 4-2016(Temp), f. & cert. ef. 4-21-16 thru 10-17-16

340-244-9050

Requirements That Apply To Tier 1 CAGMs

(1) No later than October 1, 2016, if located within the Portland AQMA, and April 1, 2017, if located outside the Portland AQMA, each Tier 1 CAGM must comply with subsection (a), (b) or

(c) for each ~~glass-making~~glassmaking furnace or group of ~~glass-making~~glassmaking furnaces that use raw material containing arsenic, cadmium, chromium, lead, manganese or nickel:

(a) Install an emission control device ~~to control a glass-making furnace or group of glass-making furnaces that uses raw material containing metal HAPs, and~~ that meets the emission control device requirements in OAR 340-244-9070;

(b) Demonstrate that the ~~glass-making~~glassmaking furnace or group of ~~glass-making~~glassmaking furnaces meets the exemption in section (3~~2~~) for arsenic, cadmium, chromium, lead, manganese or nickel; or

(c) Request a permit condition that prohibits the use of arsenic, cadmium, chromium, lead, manganese or nickel~~metal HAPs~~ in the ~~glass-making~~glassmaking furnace or group of ~~glass-making~~glassmaking furnaces, and comply with that condition.

(2) No later than January 1, 2017, if located within the Portland AQMA, and April 1, 2017, if located outside the Portland AQMA, each Tier 1 CAGM must comply with subsection (a), (b) or (c) for each glassmaking furnace or group of glassmaking furnaces that use raw material containing selenium:

(a) Install an emission control device that meets the emission control device requirements in OAR 340-244-9070;

(b) Demonstrate that the glassmaking furnace or group of glassmaking furnaces meets the exemption in section (3) for selenium; or

(c) Request a permit condition that prohibits the use of selenium in the glassmaking furnace or group of glassmaking furnaces, and comply with that condition.

(3~~2~~) A Tier 1 CAGM is exempt from the requirement to install emission controls under subsections (1)(a) or (2)(a) on a ~~glass-making~~glassmaking furnace or group of ~~glass-making~~glassmaking furnaces if that CAGM meets the requirements of subsection (a) for each of the individual ~~metal~~ glassmaking HAPs listed in paragraphs (a)(A) through (a)(G~~F~~) below. This exemption is not allowed for a ~~glass-making~~glassmaking furnace or group of ~~glass-making~~glassmaking furnaces that use raw materials containing chromium VI.

(a) The CAGM shows through source testing and dispersion modeling if necessary, following the requirements of subsections (b) and (c), that the ~~metal~~ glassmaking HAP concentrations modeled at the nearest sensitive receptor do not exceed the applicable concentration listed in paragraphs (A) through (G~~F~~). For chromium VI resulting from the use of chromium III, the CAGM may source test for and model chromium VI, or may source test for and model total chromium in lieu of chromium VI, to demonstrate that the ambient concentration is below the concentration listed in paragraph (C). If the modeled total chromium ambient concentration exceeds the concentration listed in paragraph (C), then the CAGM may conduct an additional source test to measure chromium VI and model to show that the ambient concentration of chromium VI does not exceed the concentration listed in paragraph (C).

(A) Arsenic, 0.2 nanograms per cubic meter annual average;

(B) Cadmium, 0.6 nanograms per cubic meter annual average;

(C) Chromium VI, 0.08 nanograms per cubic meter annual average;

(D) Lead, 15 nanograms per cubic meter annual average;

(E) Manganese, 90 nanograms per cubic meter annual average;

(F) Nickel, 4 nanograms per cubic meter annual average;.

(G) Selenium, at a concentration that the CAGM demonstrates to the satisfaction of the Director is adequate to protect members of the public from suffering adverse health effects. The Director shall consult with the Oregon Health Authority when considering whether a proposed concentration will be adequately protective.

(b) Source testing for the purpose of demonstrating the exemption in this section must be performed as follows:

(A) Test using DEQ--approved protocols and methods for each metal glassmaking HAP listed in paragraphs (a)(A) through (a)(GF) that the Tier 1 CAGM intends to use.

(B) Test for particulate matter using DEQ Method 5 or equivalent; HAPsmetals using EPA Method 29, CARB Method M-436 or an equivalent method approved by DEQ; and if the Tier 1 CAGM chooses, chromium VI using a method approved by DEQ.

(C) Submit a source test plan to DEQ for approval at least 30 days before the test date.

(D) For each metal glassmaking HAP to be tested for, test while making a glass formulation that DEQ agrees has the highest potential emissions of that metal glassmaking HAP. More than one source test may be required if a single glass formulation cannot meet this requirement for all metal glassmaking HAPs to be tested for.

(E) Keep records of the amount of each metal glassmaking HAP regulated under this rule used in the formulations that are produced during the source test runs, as well as other operational parameters identified in the source test plan.

(c) Dispersion modeling for the purpose of demonstrating the exemption in this section is not required for any glassmaking HAP metal that the source testing under subsection (b) shows is not greater than the applicable concentration listed in paragraphs (a)(A) through (a)(GF); otherwise, dispersion modeling must be performed as follows:

(A) Submit a modeling protocol for DEQ approval;

(B) Use the EPA-approved model AERSCREEN or other EPA--approved model;

(C) Use the maximum emission rate for each ~~metal~~ glassmaking HAP to be modeled as determined by the source testing required by subsection (b); and

(D) Model the ambient concentration at the nearest sensitive receptor approved by DEQ. Sensitive receptors include, but are not limited to: residences, hospitals, schools, daycare facilities, elderly housing and convalescent facilities.

Stat. Auth.: ORS 468.020, 468A.025, & 468A.040
Stats. Implemented: ORS 468A.025, & 468A.040
Hist.: DEQ 4-2016(Temp), f. & cert. ef. 4-21-16 thru 10-17-16

340-244-9060

Operating Restrictions That Apply To Tier 1 CAGMs

(1) Tier 1 CAGMs may not use raw materials that contain chromium VI in any uncontrolled ~~glass-making~~glassmaking furnace.

(2) Tier 1 CAGMs are not restricted on the raw materials that may be used in ~~glass-making~~glassmaking furnaces that are controlled by an emission control device approved by DEQ.

Stat. Auth.: ORS 468.020, 468A.025, & 468A.040
Stats. Implemented: ORS 468A.025, & 468A.040
Hist.: DEQ 4-2016(Temp), f. & cert. ef. 4-21-16 thru 10-17-16

340-244-9070

Emission Control Device Requirements

(1) ~~Each emission control device used to comply with this rule must meet 99.0 percent or more removal efficiency for particulate matter as measured by EPA Method 5 or an equivalent method approved by DEQ.~~CAGMs must comply with the requirements in subsection (a) or (b), as applicable, for each emission control device used to comply with this rule.

(a) Tier 1 CAGMs must comply with one of the requirements in paragraphs (A), (B) or (C):

(A) Conduct a source test as required under section (3) and demonstrate that the emission control device does not emit particulate matter in excess of 0.005 grains per dry standard cubic foot as measured by EPA Method 5 or an equivalent method approved by DEQ.

(B) If the emission control system is a fabric filter (baghouse), install a bag leak detection system that meets the requirements of section (4).

(C) If the emission control system is a fabric filter (baghouse), install an afterfilter that meets the requirements of section (5).

(b) Tier 2 CAGMs must:

(A) Conduct a source test as required under section (3) and demonstrate that the emission control device does not emit particulate matter in excess of 0.005 grains per dry standard cubic foot as measured by EPA Method 5 or an equivalent method approved by DEQ; and

(B) If a fabric filter (baghouse) is used, install either a bag leak detection system that meets the requirements of section (4) or an afterfilter that meets the requirements of section (5).

(2) Emission control device requirements:

(a) A CAGM must obtain DEQ approval of the design of all emission control devices before installation, as provided in this rule.

(b) A CAGM must submit a Notice of Intent to Construct as required by OAR 340-210-0205 through 340-210-0250 no later than 15 days before the date installation begins. If DEQ does not deny or approve the Notice of Intent to Construct within 10 days after receiving the Notice, the Notice will be deemed to be approved.

(c) Emission control devices may control emissions from more than one ~~glass-making~~glassmaking furnace.

(d) Each emission control device must be equipped with the following monitoring equipment:

(A) An inlet temperature monitoring device;

(B) A differential pressure monitoring device if the emission control device is a baghouse; and

(C) Any other monitoring device or devices specified in DEQ's approval of the Notice of Intent to Construct.

(e) Each emission control device must be equipped with inlet ducting that provides the following:

(A) Sufficient cooling of exhaust gases to no more than the maximum design inlet temperature under worst-case conditions; and

(B) Provision for inlet emissions testing, including sufficient duct diameter, sample ports, undisturbed flow conditions, and access for testing.

(f) Each emission control device must be equipped with outlet ducting that provides for outlet emissions testing, including sufficient duct diameter, sample ports, undisturbed flow conditions, and access for testing.

(g) After commencing operation of any emission control device, the CAGM must monitor the emission control device as required by OAR 340-244-9080.

(3~~h~~) If source testing is conducted under section (1), the~~A~~ CAGM must perform the following source testing on at least one emission control device. Source testing done under OAR 340-244-9040(3~~2~~)(a) may be used in whole or in part to comply with this requirement.

(a~~A~~) Within 60 days of commencing operation of the emission control devices, test control device ~~inlet and~~ outlet for particulate matter using DEQ Method 5 or equivalent method;

(b~~B~~) The emission control device to be tested must be approved by DEQ;

(c~~C~~) A source test plan must be submitted at least 30 days before conducting the source test; and

(d~~D~~) The source test plan must be approved by DEQ before conducting the source test.

(4) If a bag leak detection system is installed under section (1), the requirements for the bag leak detection system are:

(a) The bag leak detection system must be installed and operational as soon as possible but not more than 90 days after the baghouse becomes operational or 90 days after the effective date of the rule, whichever is later.

(b) Each bag leak detection system must meet the specifications and requirements in paragraphs (A) through (H).

(A) The bag leak detection system must be certified by the manufacturer to be capable of detecting PM emissions at concentrations of 1 milligram per dry standard cubic meter (0.00044 grains per actual cubic foot) or less.

(B) The bag leak detection system sensor must provide output of relative PM loadings. The owner or operator must continuously record the output from the bag leak detection system using electronic or other means (e.g., using a strip chart recorder or a data logger).

(C) The bag leak detection system must be equipped with an alarm system that will sound when the system detects an increase in relative particulate loading over the alarm set point established according to paragraph (D), and the alarm must be located such that it can be heard by the appropriate plant personnel.

(D) In the initial adjustment of the bag leak detection system, the CAGM must establish, at a minimum, the baseline output by adjusting the sensitivity (range) and the averaging period of the device, the alarm set points, and the alarm delay time.

(E) Following initial adjustment, the CAGM may not adjust the averaging period, alarm set point, or alarm delay time without approval from DEQ except as provided in paragraph (F).

(F) Once per quarter, the CAGM may adjust the sensitivity of the bag leak detection system to account for seasonal effects, including temperature and humidity, according to the procedures identified in the site-specific monitoring plan required by OAR 340-224-9080(4).

(G) The CAGM must install the bag leak detection sensor downstream of the fabric filter.

(H) Where multiple bag leak detectors are required, the system's instrumentation and alarm may be shared among detectors.

(5) If an afterfilter is installed under section (1), the requirements for the afterfilter are:

(a) The afterfilter must be installed and operational as soon as possible but not more than 120 days after the baghouse becomes operational or 120 days after the effective date of the rule, whichever is later;

(b) The afterfilter must filter the entire exhaust flow from the fabric filter (baghouse); and

(c) The afterfilter must be equipped with:

(A) HEPA filters that have a Minimum Efficiency Reporting Value of 17 (MERV 17) or higher per American National Standards Institute (ANSI) Standard 52.2; and

(B) A differential pressure monitoring device.

Stat. Auth.: ORS 468.020, 468A.025, & 468A.040
Stats. Implemented: ORS 468A.025, & 468A.040
Hist.: DEQ 4-2016(Temp), f. & cert. ef. 4-21-16 thru 10-17-16; DEQ 6-2016(Temp), f. & cert. ef. 5-6-16 thru 10-17-16

340-244-9080

Emission Control Device Monitoring

(1) Each Tier 1 CAGM must perform the following monitoring on each emission control device it uses to comply with this rule:

(a) At least once each week, observe and record the inlet temperature and the fabric filter (baghouse) differential pressure and afterfilter differential pressure (asif applicable); and

(b) At least once every 12 months:

(A) Inspect the ductwork and emission control device housing for leakage;

(B) Inspect the interior of the emission control device for structural integrity and, if a fabric filter (baghouse) is used, to determine the condition of the fabric filter; and

(C) Record the date, time and results of the inspection.

(2) Each Tier 2 CAGM must perform the following monitoring on each emission control device used to comply with this rule:

(a) At least once each day, observe and record the inlet temperature and the fabric filter (baghouse) differential pressure and afterfilter differential pressure (as~~if~~ applicable); and

(b) At least once every 12 months:

(A) Inspect the ductwork and emission control device housing for leakage;

(B) Inspect the interior of the emission control device for structural integrity and, and if a fabric filter (baghouse) is used, to determine the condition of the fabric filter; and

(C) Record the date, time and results of the inspection.

(3) CAGMs must observe and record any parameters specified in a DEQ approval of the Notice of Intent to Construct applicable to a control device.

(4) If a bag leak detection system is used, the CAGM must develop and submit to DEQ for approval a site-specific monitoring plan for each bag leak detection system. The CAGM must operate and maintain the bag leak detection system according to the site-specific monitoring plan at all times. Each monitoring plan must describe the items in subsections (a) through (f).

(a) Installation of the bag leak detection system;

(b) Initial and periodic adjustment of the bag leak detection system, including how the alarm set-point will be established;

(c) Operation of the bag leak detection system, including quality assurance procedures;

(d) How the bag leak detection system will be maintained, including a routine maintenance schedule and spare parts inventory list;

(e) How the bag leak detection system output will be recorded and stored; and

(f) Corrective action procedures as specified in section (5). In approving the site-specific monitoring plan, DEQ may allow owners and operators more than 3 hours to alleviate a specific condition that causes an alarm if the owner or operator identifies in the monitoring plan this specific condition as one that could lead to an alarm, adequately explains why it is not feasible to alleviate this condition within 3 hours of the time the alarm occurs, and demonstrates that the requested time will ensure alleviation of this condition as expeditiously as practicable.

(5) For each bag leak detection system, the CAGM must initiate procedures to determine the cause of every alarm within 1 hour of the alarm. Except as provided in subsection (4)(f), the CAGM must alleviate the cause of the alarm within 3 hours of the alarm by taking all necessary corrective actions. Corrective actions may include, but are not limited to the following:

(a) Inspecting the fabric filter for air leaks, torn or broken bags or filter media, or any other condition that may cause an increase in PM emissions;

(b) Sealing off defective bags or filter media;

(c) Replacing defective bags or filter media or otherwise repairing the control device;

(d) Sealing off a defective fabric filter compartment;

(e) Cleaning the bag leak detection system probe or otherwise repairing the bag leak detection system; and

(f) Shutting down the process producing the PM emissions.

(6) For each bag leak detection system, the CAGM must keep the following records:

(a) Records of the bag leak detection system output;

(b) Records of bag leak detection system adjustments, including the date and time of the adjustment, the initial bag leak detection system settings, and the final bag leak detection system settings; and

(c) The date and time of all bag leak detection system alarms, the time that procedures to determine the cause of the alarm were initiated, the cause of the alarm, an explanation of the actions taken, the date and time the cause of the alarm was alleviated, and whether the alarm was alleviated within 3 hours of the alarm.

Stat. Auth.: ORS 468.020, 468A.025, & 468A.040
Stats. Implemented: ORS 468A.025, & 468A.040
Hist.: DEQ 4-2016(Temp), f. & cert. ef. 4-21-16 thru 10-17-16

340-244-9090

Other ~~Metal~~ Glassmaking HAPs

(1) If DEQ determines that ambient concentrations of a ~~metal~~ glassmaking HAP in the area of a CAGM pose an unacceptable risk to human health and that emissions from a~~n uncontrolled glass making~~glassmaking furnace at the CAGM are a contributing factor, then DEQ must set a limit on the CAGM's use of the ~~metal~~ glassmaking HAP of concern ~~in uncontrolled glass making furnaces~~, by agreement or in a permit, to reduce such risk. DEQ must consult with the Oregon Health Authority when applying this rule.

(2) Exceeding the limits established under the authority of this rule is a violation of this rule.

Stat. Auth.: ORS 468.020, 468A.025, & 468A.040
Stats. Implemented: ORS 468A.025, & 468A.040
Hist.: DEQ 4-2016(Temp), f. & cert. ef. 4-21-16 thru 10-17-16