Oregon Department of Environmental Quality

March 15, 2016

Oregon Environmental Quality Commission Meeting

Temporary Rulemaking Action Item: A

Air Quality 2016 Temporary Rules

DEQ recommendation to the EQC

DEQ recommends that the Environmental Quality Commission:

Determine that failure to act promptly would result in serious prejudice to the public interest or the interests of the parties concerned as provided under the Justification section of this staff report.

Adopt TEMPORARY rules as proposed in Attachment A as part of chapter 340 of the Oregon Administrative Rules to be effective on filing with the Oregon Secretary of State.

Overview

Elevated and possibly unsafe levels of metals have been found in the air around two glass manufacturing facilities in Portland. In May 2015, DEQ received the initial results of a study, using a new approach with no standard operating procedures, the U.S. Forest Service conducted looking at moss samples as an indicator or screening tool for contaminants in the air. The results of that study showed that the moss samples in the areas near two colored art glass manufacturers contained high levels of the heavy metals cadmium and arsenic in Southeast and North Portland.

This pilot study prompted DEQ to set up air monitoring systems near a glass company in Southeast Portland. The study collected 24-hour air samples every few days over a 30-day period in October 2015. The results of DEQ's air monitoring confirmed that the glass company was the likely source of metals air emissions. DEQ completed its quality assurance and quality control review of those samples in late January 2016. DEQ then shared its analysis of the findings with the Oregon Health Authority (OHA) and the Multnomah County Health Department.

The DEQ also identified a second area of concern near a 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 is not required to have a permit.

The U.S. Congress amended the Clean Air Act In 1990 to allow EPA to oversee the control of 188 hazardous air pollutants (HAPs) in order to protect human health. The EPA works with local and state governments to implement technologies that control the emission of these chemicals.

For glass manufacturing, the industry standards focus on emissions for large facilities, such as those that make beer bottles.

In 2005, with EPA funding, DEQ measured concentrations of air toxics, including metals, at six locations in the Portland area, finding levels of many pollutants above clean air benchmarks. Benchmarks are Oregon's protective "clean air" goals that DEQ developed to address toxic air pollutants. There are no direct regulatory requirements associated with benchmarks. DEQ established air toxics benchmarks in 2006 that set guidelines for 52 pollutants.

DEQ's work in 2006 and since then has identified levels of some toxic air pollutants that are still above Oregon's air toxics benchmarks. This is a significant problem because toxic air pollutants are connected with serious health effects like cancer, respiratory problems and organ damage. DEQ's air toxics benchmarks are very protective air concentrations that people could breathe for a lifetime without increasing their cancer risk beyond a chance of one in a million.

Air toxics emissions from certain types of industrial businesses like small art glass manufacturers are not regulated under federal requirements. Based on sampling DEQ undertook last October, and in recent weeks, DEQ has concluded that uncontrolled furnaces used in such small art glass manufacturing are more likely than not to emit potentially unsafe levels of certain metals, including arsenic, cadmium, hexavalent chromium and nickel. The temporary rules that DEQ proposes for EQC adoption are intended to immediately protect the public health and the environment by ensuring the air emissions from small art glass facilities do not cause unsafe levels of metals in the air nearby.

Statement of need

What need is DEQ trying to address?

DEQ is addressing the urgent need to control metals emissions from small colored art glass manufacturing facilities. As DEQ recently determined through air monitoring and facility inspections, uncontrolled glass furnaces processing colored glass to which arsenic, cadmium, chromium and nickel are added likely emit these metals at levels that can pose an immediate threat to the health of people nearby. Recent monitoring close to a colored art glass facility with uncontrolled furnace emissions showed metals concentrations at levels that can significantly increase risks of cancer and other health problems.

These rules are necessary to address a regulatory gap. No other state or federal standards currently apply to limit potentially unsafe levels of metal emissions from small colored art glass facilities. Waiting for longer-term state or federal solutions could result in unacceptably long periods of additional health risk for people living nearby.

National Emission Standards for Hazardous Air Pollutants (NESHAP) are stationary source standards for hazardous air pollutants. Hazardous air pollutants (HAPs) are those pollutants that are known or suspected to cause cancer or other serious health effects, such as reproductive effects or birth defects, or adverse environmental effects.

Many times the NESHAPs apply to only major sources (sources with 25 tons per year of total HAPs or 10 tons per year of an individual HAP). In some cases the NESHAPs regulate some smaller or area sources of HAPs. But in cases where there is no NESHAP for smaller sources,

or where a source is too small to be regulated by an area source NESHAP, DEQ does not have air toxics regulations that apply. The category of small colored art glass facilities operating uncontrolled furnaces are below applicable NESHAP size thresholds and therefore not covered by federal standards.

How would the proposed rule address the need?

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

By prohibiting use of chromium VI, cadmium and arsenic prior to installation of emission control devices at small colored art glass facilities, the temporary rules would immediately decrease risk from airborne metal exposure to people nearby, including children and other sensitive or vulnerable individuals. By prohibiting use of chromium III until DEQ establishes a maximum allowable usage rate, the temporary rules will ensure that facilities are not emitting potentially dangerous amounts of chromium VI.

Justification ORS 183.335(5)

What would the consequences be of not taking immediate action:

The consequences of the EQC not taking immediate action to adopt the proposed rules would be that emissions from colored art glass manufacturers could continue to cause elevated and possibly unsafe levels of metals in the Portland area.

The two colored art glass manufacturers entering into agreements with DEQ have been operating for 36 and 42 years respectively. Now that DEQ has verified monitoring and inspection data to show that the facilities have uncontrolled furnace emissions that can significantly increase risk of cancer and other diseases, the emissions must be controlled immediately to prevent any additional health burden to those already exposed and any unacceptable health risk to all people nearby. DEQ is concerned about all potentially unsafe levels of metals, but in particular cadmium and chromium VI. Cadmium remains in the body for about 28 years and any additional accumulation can contribute to cancer risk or kidney damage. It is imperative to avoid any additional exposure to cadmium for children at nearby childcare facilities and schools. Since chromium III heated in furnaces can produce some percentage of chromium VI, and this compound is acutely toxic and carcinogenic, the proposed rules to test for and set up an allowable usage rate of chromium III are immediately necessary to avoid any further public exposure to chromium VI.

The proposed action is to adopt rules to require colored art glass manufacturers to install emission control devices on glass-making furnaces. The proposed rules also prohibit using arsenic, cadmium and chromium VI and establish procedures to set levels of allowable chromium III usage that would protect public health. Under the conditions in glass production furnaces, some percentage of chromium III transforms to chromium IV.

Even though DEQ has or plans to sign agreements with two colored art glass manufacturers, these temporary rules provide a regulatory backstop in case there are issues with compliance or it takes time to process enforcement actions. In addition, DEQ is currently investigating several other small art glass manufacturing facilities in the Portland area that may also need to be controlled by these regulations to protect public health.

Who are the affected parties:

The affected parties are the public and colored art glass manufacturers.

The public would suffer the consequences if immediate action was not taken since elevated levels of metals are connected with serious health effects like cancer, respiratory problems and organ damage.

Colored art glass manufacturers will incur expenses to obtain air permits that will require regular reporting, install emission control devices and testing of those devices to ensure optimum operation and compliance with standards.

How will the temporary rule avoid or mitigate the consequences of not taking immediate action:

A temporary rule would avoid or mitigate consequences by requiring emission control devices on glass-making furnaces to reduce the metal emissions.

The control devices that the colored art glass manufacturers will probably install are known to have removal efficiencies of 99% or higher. The requirement to install emission control devices would reduce metal emissions to levels that DEQ and the Oregon Health Association believe would be safe for the public. If colored art glass manufacturers choose not to install emission control devices on glass-making furnaces, the prohibition to use arsenic, cadmium and chromium IV would eliminate any additional health risk from these metals.

Rules affected, authorities, supporting documents

Lead division - Operations

Program or activity – Program Operations

Chapter 340 action

Adopt	OAR 340-244-9000, 340-244-9010, 340-244-9020, 340-244-9030, 340-244-9040, 340-244-9050
Amend	OAR 340-244-0010

Statutory authority ORS 468.020, 468A.025, 468A.040, 468A.310

Statute implemented ORS 468A.025, & 468A.040

Documents relied on for rulemaking - None

Housing costs - ORS 183.534

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 the proposed rules could affect the development costs if the homeowner wanted colored art glass installed in the dwelling. The costs for additional permits, emission control or process equipment could be passed through by businesses providing products and services for such development and construction. DEQ cannot quantify the impact at this time because the available information does not indicate whether the costs would be passed on to consumers and any such estimate would be speculative.

EQC Prior Involvement

There has been no prior EQC involvement because this is a temporary rule.

Implementation

Notification

If approved, the proposed rules would become effective upon filing with Secretary of State, approximately March 16, 2016. DEQ would notify affected parties by sending information to all affected permit holders and other potentially affected facilities by email. DEQ would also post the announcement of the adopted rules on the DEQ website.

Compliance and enforcement

Affected parties - Current DEQ rules require that DEQ place new and amended standards into Title V and Air Contaminant Discharge Permit permits. Once the new and amended standards are incorporated into a permit, DEQ is required to inspect pollution control systems or prevention methods and to 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 would develop internal compliance and enforcement guidance on the proposed rules for permit writers and inspectors.

Measuring, sampling, monitoring and reporting

Affected parties – The proposed rules will require affected parties to source test either uncontrolled glass-making furnaces or the emission control device on a glass-making furnace and report those results to DEQ. The records of the daily amount of arsenic, beryllium, cadmium, chromium III, chromium VI, cobalt, lead, manganese, nickel, and selenium used in all batches produced must be reported each week.

DEQ staff – DEQ staff will review the source test results for accuracy and the daily usage reports to ensure compliance with the proposed temporary rules.

Systems

Website - If the proposed rules are approved by EQC, DEQ's headquarters office would update its website with information about the proposed rules.

Invoicing – If new or modified permits are required, DEQ would invoice the affected facilities.

Training

Affected parties - If the proposed rules are approved by EQC, DEQ plans to contact affected facilities to explain the rule changes.

DEQ staff – The permit writing team staff would develop internal guidance on the proposed rules for permit writers and inspectors. If additional training is needed, training meetings would be held before or in conjunction with those for affected facilities.

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 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 & ORS 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

Colored Art Glass Manufacturing Facility Rules

340-244-9000

Applicability

Notwithstanding OAR 340 Division 246, OAR 340-244-9000 through 9050 apply to facilities located within the Portland Air Quality Maintenance Area that:

(1) Manufacture colored glass for use in art, architecture, interior design and other similar decorative applications,~~;~~ or manufacture colored glass products for use by manufacturers of

colored glass for use in art, architecture, interior design and other similar decorative applications; and

(2) Manufacture 10 tons per year or more of colored glass using raw materials that contain metal compounds.

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

340-244-9010

Definitions

The definitions in OAR 340-200-0020 and this rule apply to OAR 340-244-9000 through 9050. 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 chromium in any oxidation state;

(5) "Controlled" means the glass-making furnace emissions are treated by an emission control device approved by DEQ;

(6) "Cullet" means recycled glass that is mixed with raw materials and charged to glass melting furnace to produce glass. Cullet is not considered to be a raw material;

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

(8) "Glass-making furnace" means a unit comprising a refractory-lined vessel in which raw materials are charged and melted at high temperature to produce molten glass.

(9) "Raw material" means minerals, such as silica sand, limestone, and dolomite; inorganic chemical compounds, such as soda ash (sodium carbonate), salt cake (sodium sulfate), and potash (potassium carbonate); metal oxides and other metal-based compounds, such as lead oxide, chromium oxide, and sodium antimonate; metal ores, such as chromite and pyrolusite; and other substances that are intentionally added to a glass manufacturing batch and melted in glass melting furnace to produce glass. Metals that are naturally-occurring trace constituents or

contaminants of other substances are not considered to be raw materials. Cullet and material that is recovered from a furnace control device for recycling into the glass formulation are not considered to be raw materials;

(10) "Uncontrolled" means the glass-making furnace emissions are not treated by an emission control device approved by DEQ; and

(11) "Week" means Sunday through Saturday.

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

340-244-9020

Permit Required

Not later than September 1, 2016, 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.

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

340-244-9030

Emission Control Devices

No later than September 1, 2016:

(1) Each CAGM must install one or more emission control devices to control all glass-making furnaces that use raw material containing any of the following metals: arsenic, cadmium, chromium or nickel; and

(2) Each emission control device must meet either of the following requirements: 99.0% removal efficiency for particulate matter as measured by DEQ Method 5 or 0.2 pounds of particulate matter per ton of glass produced as measured by EPA Method 5.

(3) Emission control device requirements:

(a) DEQ must approve the design of all emission control devices before installation.

(b) Each CAGM must submit a Notice of Intent to Construct as OAR 340-210-0205 through 340-210-0250 require 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 furnace.

(d) Each emission control device must be equipped with the monitoring device or devices DEQ specified in DEQ's approval of the Notice of Intent to Construct subsection (b) requires.

(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.

(A) After commencing operation of any emission control device, each CAGM must observe and record the parameters DEQ specified in DEQ's approval of the Notice of Intent to Construct, that subsection (b) requires.

(B) Each CAGM must perform the following source testing on at least one controlled glass-making furnace DEQ approved to demonstrate compliance with either requirement in section (2). Source testing done under OAR 340-244-9040(4) may be used in whole or in part to comply with this paragraph.

(i) 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 comparable method;

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

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

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

340-244-9040

Operating Restrictions

(1) CAGMs may not use arsenic, cadmium or chromium VI in raw materials in any glass-making furnace that is not controlled by an emission control device DEQ approved.

(2) Each CAGM must comply with either section (3) (Option 1) or section (4) (Option 2), and may comply with both, but is not required to comply with both.

(3) Option 1: The CAGM may not use chromium III in uncontrolled glass-making furnaces until DEQ establishes a maximum allowable chromium III usage rate for uncontrolled glass-making furnaces that will not result in ambient concentrations that exceed 1.6 ng/m^3 of chromium VI. Thereafter, the CAGM must comply with the maximum allowable chromium III usage rate for uncontrolled glass-making furnaces DEQ established. For the purpose of establishing a maximum allowable chromium III usage rate, the following are required:

(a) Performing a source test in an uncontrolled furnace or at the inlet of an emission control device as specified below:

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

(B) Test while making a glass that DEQ agrees is made under the most oxidizing combustion conditions and that contains a high percentage of chromium III as compared to other formulas the CAGM uses;

(C) Keep records of the amount of chromium III used in the batches that are produced during the source test runs, as well as other operational parameters identified in the source test plan; and

(D) Prior to the source test, clean the furnace stack in a manner that DEQ has approved and that complies with applicable OSHA standards, or replace the furnace stack to be tested.

(b) Performing dispersion modeling to determine the ambient concentrations of the CAGM's air emissions at nearby and adjacent receptors as follows:

(A) Submit a modeling protocol for DEQ approval;

(B) Use the maximum chromium VI emission rate;

(C) Determine the impact at receptors DEQ approved; and

(D) Establish a maximum chromium III usage so as not to exceed an ambient concentration of 1.6 ng/m3 of chromium VI.

(c) The CAGM must keep daily records of all batches produced and provide to DEQ, each week, the daily amount of arsenic, beryllium, cadmium, chromium III, chromium VI, cobalt, lead, manganese, nickel, and selenium used.

(4) Option 2: The CAGM may not use chromium III in controlled or uncontrolled glass-making furnaces until DEQ establishes maximum allowable chromium III usage rates for uncontrolled or controlled glass-making furnaces that will not result in ambient concentrations that exceed 1.6 ng/m^3 of chromium VI. After DEQ establishes the maximum allowable chromium III usage rates for uncontrolled or controlled glass-making furnaces, the CAGM must comply with the rates DEQ establishes. For the purpose of establishing maximum allowable chromium III usage rates, the following are required:

(a) Performing a source test as specified below:

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

(B) Test for chromium and chromium VI at the outlet of the emission control device, and test for particulate matter at both the inlet and 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 chromium III as compared to other formulas used by the CAGM;

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

(b) Performing dispersion modeling to determine the ambient concentrations of the CAGM's air emissions at nearby and adjacent receptors as follows:

(A) Submit a modeling protocol for DEQ approval;

(B) Use the maximum chromium VI emission rate;

(C) Determine the impact at receptors DEQ approved; and

(D) Establish a maximum chromium III usage so as not to exceed an ambient concentration of 1.6 ng/m3 of chromium VI.

(c) The CAGM must keep daily records of all batches produced and provide to DEQ, each week, the daily amount of arsenic, beryllium, cadmium, chromium III, chromium VI, cobalt, lead, manganese, nickel, and selenium used.

(5) CAGMs may apply source testing protocols equivalent to those in section (4) to the use of chromium VI in a glass-making furnace to establish maximum usage rates for chromium VI in controlled glass-making furnaces that will not result in ambient concentrations that exceed 1.6 ng/m^3 of chromium VI.

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

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

340-244-9050

Other Metals

(1) If DEQ determines that ambient concentrations of a metal in the area of a CAGM pose an unacceptable risk to human health and that emissions from an uncontrolled furnace at the CAGM are a contributing factor, then DEQ must limit the CAGM's use of the metal of concern in uncontrolled 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

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 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 & ORS 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

Colored Art Glass Manufacturing Facility Rules

340-244-9000

Applicability

Notwithstanding OAR 340 Division 246, OAR 340-244-9000 through 9050 apply to facilities located within the Portland Air Quality Maintenance Area that:

(1) Manufacture colored glass for use in art, architecture, interior design and other similar decorative applications, or manufacture colored glass products for use by manufacturers of colored glass for use in art, architecture, interior design and other similar decorative applications; and

(2) Manufacture 10 tons per year or more of colored glass using raw materials that contain metal compounds.

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

340-244-9010

Definitions

The definitions in OAR 340-200-0020 and this rule apply to OAR 340-244-9000 through 9050. 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 chromium in any oxidation state;

(5) "Controlled" means the glass-making furnace emissions are treated by an emission control device approved by DEQ;

(6) "Cullet" means recycled glass that is mixed with raw materials and charged to glass melting furnace to produce glass. Cullet is not considered to be a raw material;

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

(8) "Glass-making furnace" means a unit comprising a refractory-lined vessel in which raw materials are charged and melted at high temperature to produce molten glass.

(9) "Raw material" means minerals, such as silica sand, limestone, and dolomite; inorganic chemical compounds, such as soda ash (sodium carbonate), salt cake (sodium sulfate), and potash (potassium carbonate); metal oxides and other metal-based compounds, such as lead oxide, chromium oxide, and sodium antimonate; metal ores, such as chromite and pyrolusite; and other substances that are intentionally added to a glass manufacturing batch and melted in glass melting furnace to produce glass. Metals that are naturally-occurring trace constituents or contaminants of other substances are not considered to be raw materials. Cullet and material that is recovered from a furnace control device for recycling into the glass formulation are not considered to be raw materials;

(10) “Uncontrolled” means the glass-making furnace emissions are not treated by an emission control device approved by DEQ; and

(11) “Week” means Sunday through Saturday.

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

340-244-9020

Permit Required

Not later than September 1, 2016, 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.

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

340-244-9030

Emission Control Devices

No later than September 1, 2016:

(1) Each CAGM must install one or more emission control devices to control all glass-making furnaces that use raw material containing any of the following metals: arsenic, cadmium, chromium or nickel; and

(2) Each emission control device must meet either of the following requirements: 99.0% removal efficiency for particulate matter as measured by DEQ Method 5 or 0.2 pounds of particulate matter per ton of glass produced as measured by EPA Method 5.

(3) Emission control device requirements:

(a) DEQ must approve the design of all emission control devices before installation.

(b) Each CAGM must submit a Notice of Intent to Construct as OAR 340-210-0205 through 340-210-0250 require 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 furnace.

(d) Each emission control device must be equipped with the monitoring device or devices DEQ specified in DEQ’s approval of the Notice of Intent to Construct subsection (b) requires.

(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.

(A) After commencing operation of any emission control device, each CAGM must observe and record the parameters DEQ specified in DEQ's approval of the Notice of Intent to Construct, that subsection (b) requires.

(B) Each CAGM must perform the following source testing on at least one controlled glass-making furnace DEQ approved to demonstrate compliance with either requirement in section (2). Source testing done under OAR 340-244-9040(4) may be used in whole or in part to comply with this paragraph.

(i) 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 comparable method;

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

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

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

340-244-9040

Operating Restrictions

(1) CAGMs may not use arsenic, cadmium or chromium VI in raw materials in any glass-making furnace that is not controlled by an emission control device DEQ approved.

(2) Each CAGM must comply with either section (3) (Option 1) or section (4) (Option 2), and may comply with both, but is not required to comply with both.

(3) Option 1: The CAGM may not use chromium III in uncontrolled glass-making furnaces until DEQ establishes a maximum allowable chromium III usage rate for uncontrolled glass-making furnaces that will not result in ambient concentrations that exceed 1.6 ng/m^3 of chromium VI. Thereafter, the CAGM must comply with the maximum allowable chromium III usage rate for

uncontrolled glass-making furnaces DEQ established. For the purpose of establishing a maximum allowable chromium III usage rate, the following are required:

(a) Performing a source test in an uncontrolled furnace or at the inlet of an emission control device as specified below:

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

(B) Test while making a glass that DEQ agrees is made under the most oxidizing combustion conditions and that contains a high percentage of chromium III as compared to other formulas the CAGM uses;

(C) Keep records of the amount of chromium III used in the batches that are produced during the source test runs, as well as other operational parameters identified in the source test plan; and

(D) Prior to the source test, clean the furnace stack in a manner that DEQ has approved and that complies with applicable OSHA standards, or replace the furnace stack to be tested.

(b) Performing dispersion modeling to determine the ambient concentrations of the CAGM's air emissions at nearby and adjacent receptors as follows:

(A) Submit a modeling protocol for DEQ approval;

(B) Use the maximum chromium VI emission rate;

(C) Determine the impact at receptors DEQ approved; and

(D) Establish a maximum chromium III usage so as not to exceed an ambient concentration of 1.6 ng/m3 of chromium VI.

(c) The CAGM must keep daily records of all batches produced and provide to DEQ, each week, the daily amount of arsenic, beryllium, cadmium, chromium III, chromium VI, cobalt, lead, manganese, nickel, and selenium used.

(4) Option 2: The CAGM may not use chromium III in controlled or uncontrolled glass-making furnaces until DEQ establishes maximum allowable chromium III usage rates for uncontrolled or controlled glass-making furnaces that will not result in ambient concentrations that exceed 1.6 ng/m^3 of chromium VI. After DEQ establishes the maximum allowable chromium III usage rates for uncontrolled or controlled glass-making furnaces, the CAGM must comply with the rates DEQ establishes. For the purpose of establishing maximum allowable chromium III usage rates, the following are required:

(a) Performing a source test as specified below:

(A) Test using DEQ-approved protocols and methods for total chromium, chromium VI, and

particulate matter (DEQ Method 5) and submit a source test plan detailing the approach to DEQ for approval;

(B) Test for chromium and chromium VI at the outlet of the emission control device, and test for particulate matter at both the inlet and 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 chromium III as compared to other formulas used by the CAGM;

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

(b) Performing dispersion modeling to determine the ambient concentrations of the CAGM's air emissions at nearby and adjacent receptors as follows:

(A) Submit a modeling protocol for DEQ approval;

(B) Use the maximum chromium VI emission rate;

(C) Determine the impact at receptors DEQ approved; and

(D) Establish a maximum chromium III usage so as not to exceed an ambient concentration of 1.6 ng/m3 of chromium VI.

(c) The CAGM must keep daily records of all batches produced and provide to DEQ, each week, the daily amount of arsenic, beryllium, cadmium, chromium III, chromium VI, cobalt, lead, manganese, nickel, and selenium used.

(5) CAGMs may apply source testing protocols equivalent to those in section (4) to the use of chromium VI in a glass-making furnace to establish maximum usage rates for chromium VI in controlled glass-making furnaces that will not result in ambient concentrations that exceed 1.6 ng/m^3 of chromium VI.

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

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

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Other Metals

(1) If DEQ determines that ambient concentrations of a metal in the area of a CAGM pose an

unacceptable risk to human health and that emissions from an uncontrolled furnace at the CAGM are a contributing factor, then DEQ must limit the CAGM's use of the metal of concern in uncontrolled 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