



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.