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TEMPORARY ADMINISTRATIVE RULES

Department of Environmental Quality	340
Agency and Division	Administrative Rules Chapter Number
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RULE CAPTION

Air Quality 2016 Temporary Rules for Colored Art Glass Manufacturing

Not more than 15 words

RULEMAKING ACTION

ADOPT:

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: 340-244-0010

SUSPEND:

Stat. Auth. : ORS 468.020, 468A.025, 468A.040, 468A.310

Other Auth.:

Stats. Implemented: Stats. Implemented: ORS 468A.025, & 468A.040

RULE SUMMARY

Studies have found elevated and possibly unsafe levels of metals 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. This study used a new approach with no standard operating procedures. The study's results showed that the moss samples in areas near two colored art glass manufacturers contained high levels of the heavy metals cadmium and arsenic in Southeast Portland and cadmium in 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 and the Multnomah County Health Department.

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) 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.

DEQ established air toxics benchmarks in 2006 that set guidelines for 52 pollutants. 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. In 2005, with EPA funding, DEQ measured concentrations of air toxics, including metals, at six locations in the Portland area. DEQ found levels of many pollutants above clean air benchmarks.

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.

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

The proposed rules create two tiers of colored art glass manufacturers based on

production
and furnace type. By prohibiting use of chromium VI, cadmium and arsenic prior to installation of emission control devices at larger 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.

STATEMENT OF NEED AND JUSTIFICATION

Air Quality 2016 Temporary Rules for Colored Art Glass Manufacturing

In the Matter of

None

Documents Relied Upon, and where they are available

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 only to major sources which are 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.

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 these facilities from using chromium VI, cadmium and arsenic before they install emission control devices, the temporary rules would immediately decrease risk from airborne metal exposure to people nearby, including children and other sensitive or vulnerable individuals. By prohibiting these businesses from using 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.

Need for the Temporary Rule(s)

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. 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 VI.
Even though DEQ has signed, 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 these regulations may need to control 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 DEQ does not act immediately 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.

People worldwide who rely on colored art glass manufacturers for their livelihood and as a recreational activity.

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 Authority 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 IVI would eliminate any additional health risk from these metals.

DEQ recently requested clarification and interpretation from EPA on the applicability of the National Emissions Standards of Hazardous Air Pollutants (NESHAP) for Glass Manufacturing Area Sources, 40 CFR, Part 63, Subpart SSSSSS to facilities with equipment and operations comparable to those at Bullseye Glass and Uroboros. Subpart SSSSSS controls air emissions from glass manufacturing plants that are area sources that emit hazardous air pollutant metals (arsenic, cadmium, chromium, lead, manganese, and nickel) and that meet the relevant applicability criteria outlined in the rule. DEQ specifically asked for clarification on how EPA defines "continuous furnace" in the NESHAP.

In a letter to DEQ on April 12, 2016, EPA clarified that the types of furnaces used by both Bullseye and Uroboros should be considered to be continuously operating even though they go into an "idling" mode when not producing glass. DEQ will require each company to comply with Subpart SSSSSS, and apply for the appropriate permit. The Subpart includes requirements to install pollution control equipment on any subject furnaces.

DEQ is continuing to recommend that the EQC adopt the proposed temporary rules which are more stringent than EPA's rule and that regulate additional facilities and furnaces. The table below illustrates that DEQ's temporary rule will apply to three more facilities than EPA's rule and is both technology and risk-based. The proposed temporary rule also immediately protects public health from hexavalent chromium emissions, in particular, which would not be similarly addressed under Subpart SSSSSS. The public interest would still be prejudiced if the proposed temporary rules are not adopted in light of the clarification of Subpart SSSSSS applicability.

Comparison of EPA Rule Subpart SSSSSS and DEQ Temporary Rules

Applies to 6 metal HAPs

-EPA Rule
--Yes

-DEQ Rule
-- Yes

Affected furnace/facility

-EPA Rule
--Each furnace that produces at least 50 tons per year of glass containing metal HAP as raw materials

-DEQ Rule
--Each facility produces at least 10 tons per year of glass containing metal HAP as raw materials

Affected facilities in Oregon

-EPA rule
--2

DEQ Rule
--5

Chromium VI Regulated

-EPA Rule
--not directly

DEQ Rule
--addressed directly

Technology or risk-based

-EPA Rule
--technology only

-DEQ Rule
--technology and risk-based

Justification of Temporary Rules

Authorized Signer	Printed Name	Date
[signature]	Meyer Goldstein	4/21/16

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