**Rule Caption:** Art Glass Permanent Rulemaking

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**Subject:** The Oregon Environmental Quality Commission adopted permanent rules for colored art glass manufacturers. These rules were 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 51 federal regulations for this source category were not sufficient to protect public health and the environment. The permanent rules that 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. The adopted permanent rules replace the temporary rules and make the requirements permanent, with modifications further described below.

Regulated parties

The adopted rules 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.

Changes from the temporary rules

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 made the following 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, the permanent rules include these elements that are different from the temporary rules:

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 receiving 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.