

# EXHIBIT A

26-9135



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 10

1200 Sixth Avenue, Suite 900  
Seattle, WA 98101-3140

JUL 27 2010

OFFICE OF  
AIR, WASTE AND TOXICS

Mr. Eric Durrin  
Controller  
Bullseye Glass Company  
3722 Southeast 21<sup>st</sup> Avenue  
Portland, Oregon 97202

Re: Applicability of 40 CFR Part 61 Subpart N to Manufacture of Glass in Periodic Furnaces

Dear Mr. Durrin:

This letter is in response to a request submitted via e-mail, dated April 6, 2009, for an applicability determination of whether or not 40 CFR §61, National Emission Standards for Inorganic Arsenic Emissions from Glass Manufacturing, (Subpart N) applies to the Bullseye Glass Company's (Bullseye Glass), manufacture of colored art glass. This facility is located in Portland, Oregon. EPA has determined that Subpart N applies to the Bullseye Glass Company's manufacture of colored art glass in pot furnaces as described below.

Bullseye Glass manufactures colored art glass. In your request, you stated that you use a variety of furnaces to melt glass which you refer to as "pot" or "tank" furnaces. You state they are small furnaces that have raw materials charged into them, and after cooking, you ladle glass out of them. Your reported usage of arsenic trioxide is less than 2.5 tons/yr.

Applicability to Subpart N is stated at 40 CFR §61.160(a): "The source, to which this subpart applies too, is each glass melting furnace that uses commercial arsenic as a raw material. This subpart does not apply to pot furnaces." (Emphasis added). Pot furnaces are defined in Subpart N as "a glass melting furnace that contains one or more refractory vessels in which glass is melted by indirect heating. The openings of the vessels are in the outside wall of the furnace and are covered with refractory stoppers during melting." The term "pot furnaces" is further elaborated on in the preamble to the proposed rule in the Federal Register dated July 20, 1983, (48FR33153) "Because the glass is sealed off from the furnace atmosphere, no material from the glass melt can escape from the furnace with the furnace exhaust. Therefore, pot furnaces, as described here, would emit no arsenic emissions."

Bullseye Glass provided further information including photographs and diagrams to EPA by e-mail dated July 8, 2010. It is apparent from the photos, diagrams, and descriptions provided by Bullseye Glass that the vessels used for melting glass are not sealed off from the furnace atmosphere. It is possible for material from the glass melt to escape from the furnace with the furnace exhaust. It is EPA's conclusion that the furnaces used by Bullseye Glass at the Portland facility do not meet the definition of "Pot Furnaces" as that term is defined for the purposes of

40 CFR Part 61 Subpart N. Based on the use of commercial arsenic as a raw material in a glass melting furnace, Bullseye Glass is subject to 40 CFR Part 61 Subpart N.

If you have any further questions or concerns, please contact Heather Valdez of the Region 10 Office of Air, Waste and Toxics at (206) 553-6220.

Sincerely,

A handwritten signature in black ink, appearing to read "Nancy Helm".

Nancy Helm, Manager  
Federal and Delegated Air Programs Unit

cc: Kathy Amidon  
Air Permits and Compliance  
ODEQ

# EXHIBIT B

### Exposure Concentrations

Table 1: Air quality data in the air near Powell and SE 22nd Avenue in Portland – Source DEQ									
Sample date	Chromium (ng/m3)	Cobalt (ng/m3)	Arsenic (ng/m3)	Selenium (ng/m3)	Cadmium (ng/m3)	Lead (ng/m3)	Nickel (ng/m3)	Manganese (ng/m3)	Beryllium (ng/m3)
10/6/2015	406.7	2.3	75	9.8	13	66.9	17	50.5	0.062
10/7/2015	20.2	0.3	3	4.1	2.2	5.9	3.4	35.3	0.012
10/9/2015	24.4	0.9	8.8	45.6	13.8	7.6	8.3	13.1	0.018
10/10/2015	24.9	0.3	20.3	3	195.4	5.4	2.3	4	0.007
10/12/2015	25.5	0.9	20.1	13.2	8.6	32.5	8	14.2	0.015
10/14/2015	19	0.1	1.1	0	1.6	2.2	1.4	18.3	0.008
10/15/2015	17.4	0.4	1.1	0	2.7	6.3	3.5	44.2	0.03
10/17/2015	21	0.2	7.7	0.8	1.5	10.1	2.9	8.2	0.012
10/18/2015	20.1	0.4	6.7	8.3	4.4	7.6	7.4	8	0.008
10/20/2015	21.4	0.3	14.8	12.3	6.5	16.7	2.9	13.1	0.008
10/21/2015	22.8	1.1	101.1	13	11.6	60.7	6.8	24.2	0.02
10/23/2015	23.3	0.3	3	0	0.8	5.2	4.3	27.7	0.013
10/24/2015	439.5	0.8	3.5	2.7	1.1	8.1	7.1	23.5	0.029
10/26/2015	48	3.5	60.4	271.1	132.9	67.3	1.9	7.2	0.01
10/27/2015	24.4	0.8	15.9	15.6	10.8	10.2	9.2	21.1	0.019
10/29/2015	37.7	2.8	93.2	220	56.9	248.3	4.6	6	0.009
10/30/2015	38.5	0.4	97.3	136.5	41.7	124.4	1.4	3.4	0.007
11/2/2015	52.6	0.7	38.3	41.4	24.3	87.6	5	13.3	0.007
<b>Average</b>	71.5	0.9	31.7	44.3	29.4	42.9	5.4	18.6	0.016
<b>Maxium</b>	439.5	3.5	101.1	271.1	195.4	248.3	17	50.5	0.062
<b>Minimum</b>	17.4	0.1	1.1	0	0.8	2.2	1.4	3.4	0.007
<b>Range</b>	422.1	3.4	100	271.1	194.6	246.1	15.6	47.1	0.055
<b>Max. Val.</b>	439.50	3.50	101.10	271.10	195.40	248.30	17.00	50.50	0.06
<b>Min. Val.</b>	17.40	0.10	1.10	0.00	0.80	2.20	1.40	3.40	0.01
<b>Range</b>	422.10	3.40	100.00	271.10	194.60	246.10	15.60	47.10	0.06
<b>Standard Deviation</b>	128.42	0.96	36.37	80.42	52.35	62.38	3.83	13.63	0.01
<b>No. of Samples</b>	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00
<b>Confidence Level (95.0%)</b>	63.86	0.48	18.09	39.99	26.03	31.02	1.90	6.78	0.01
<b>95% Upper Con. Limit AM</b>	135.4	1.4	49.8	84.3	55.5	74.0	7.3	25.4	0.0
<b>95% Lower Con. Limit AM</b>	7.7	0.4	13.7	4.3	3.4	11.9	3.5	11.9	0.0
<b>Median</b>	24.40	0.55	15.35	11.05	9.70	10.15	4.45	13.75	0.01

# EXHIBIT C

<b>Table 2: Concentrations of Arsenic, Cadmium and Chromium found in the air in Portland Oregon Compared to Regulatory Standards.</b>						
	US EPA (Air) RSL <sup>1</sup>	OR DEQ Ambient Benchmark	OR DEQ Max. Sampled Concentration	OR DEQ Average Sampled Concentration	Maximal Exceedance of the Oregon DEQ Regulatory Level	Maximal Exceedance of the USEPA RSL (Regional Screening Level)
Arsenic ( $\mu\text{g}/\text{m}^3$ )	0.00065	0.0002 <sup>2</sup>	0.1011	0.0317	<b>506x</b>	<b>156x</b>
Cadmium ( $\mu\text{g}/\text{m}^3$ )	0.0016	0.0006	0.1954	0.0294	<b>325x</b>	<b>122x</b>
Chromium (VI) ( $\mu\text{g}/\text{m}^3$ )	0.000012	0.000083 <sup>3</sup>	0.4395	0.0715	<b>5,295x</b>	<b>36,625x</b>

<sup>1</sup> US EPA, "Residential Screening Levels," 2015, United States Environmental Protection Agency.

<sup>2</sup> Oregon DEQ, "Air quality data in the air near Powell and SE 22<sup>nd</sup> Ave in Portland," 2015. Oregon Department of Environmental Quality.

<sup>3</sup> Oregon DEQ, "Meeting Summary, Meeting #7," 2005, Air Toxics Program, Air Toxics Science Advisory Committee. Also:  
<http://www.deq.state.or.us/air/toxics/faq.htm>

# EXHIBIT D





