



BULLSEYE

GLASS CO.

3722 SE 21st
Portland OR
9 7 2 0 2
U S A

TELEPHONE
503 232*8887

FACSIMILE
503 238*9963

January 25, 2017

Mr. Dave Kauth
Oregon Department of Environmental Quality
Northwestern Region – Portland Office
700 NE Multnomah St., Suite 600
Portland, OR 97232

Mr. Michael Eisele, P.E.
Oregon Department of Environmental Quality
Western Region – Salem Office
4026 Fairview Industrial Drive
Salem, OR 97302

**Re: Bullseye Glass Company
Source Testing**

Messrs. Kauth and Eisele

Enclosed with this submission is a Source Test Plan prepared by Montrose Air Quality Services (“MAQS”) addressing upcoming stack testing at our Portland, Oregon facility. As described in the MAQS source test plan, testing will be conducted to demonstrate compliance with 40 CFR Part 63 Subpart SSSSSS¹ (“NESHAP 6S”), a recently adopted grain loading standard applicable to Colored Art Glass Manufacturers (“CAGMs”)(OAR 340-244-9070(1)(b)(A)), and to develop a maximum chromium usage allowance under OAR 340-244-9040(1).

Neither NESHAP 6S nor the CAGM rules have historically applied to Bullseye or other CAGMs. NESHAP 6S has historically applied to large continuous glass making furnaces and the CAGM rules were adopted in late 2016. As such, we are providing this letter as an addendum to the Source Test Plan to include supplemental technical information related to facility operating conditions, testing activities and data interpretation.

NESHAP 6S Testing

NESHAP 6S requires performance testing of each affected furnace unless multiple identical furnaces are operated in which case the rule allows testing of one each identical furnace (40 CFR 63.11452(a)(3)). Bullseye’s facility makes glass in batch fed furnaces with 14 furnaces potentially subject to 6S. All furnaces are connected to a single control device. Bullseye has five groups of identical furnaces as shown in the table below.

¹ Bullseye does not believe that NESHAPs 6S applies to its furnaces. Bullseye reserves the right to petition the EPA for a determination regarding the applicability of NESHAPs 6S.

Group	Furnace Unit	Potentially Subject to 6S*	Design	Manufacturer	Dimensions	Production Capacity	Charging Method	Operating Temperature	Fuel Type	Burner Configuration	Exhaust System
1	8	Yes	Discontinuous	Bullseye Glass	600	600	Screw Charger	2250F-2525F	Natural Gas	Corner/O2	BHW
	9	Yes	Discontinuous	Bullseye Glass	600	600	Screw Charger	2250F-2525F	Natural Gas	Corner/O2	BHW
2	1	Yes	Discontinuous	Bullseye Glass	850	850	Screw Charger	2250F-2525F	Natural Gas	Corner/O2	BHW
	12	Yes	Discontinuous	Bullseye Glass	850	850	Screw Charger	2250F-2525F	Natural Gas	Corner/O2	BHW
3	3	Yes	Discontinuous	Bullseye Glass	950	950	Screw Charger	2250F-2525F	Natural Gas	Corner/O2	BHW
	20	Yes	Discontinuous	Bullseye Glass	950	950	Screw Charger	2250F-2525F	Natural Gas	Corner/O2	BHW
4	2	Yes	Discontinuous	Bullseye Glass	1050	1050	Screw Charger	2250F-2525F	Natural Gas	Corner/O2	BHW
	5	Yes	Discontinuous	Bullseye Glass	1050	1050	Screw Charger	2250F-2525F	Natural Gas	Corner/O2	BHW
	6	Yes	Discontinuous	Bullseye Glass	1050	1050	Screw Charger	2250F-2525F	Natural Gas	Corner/O2	BHW
5	4	Yes	Discontinuous	Bullseye Glass	1550	1550	Screw Charger	2250F-2525F	Natural Gas	Corner/O2	BHW
	7	Yes	Discontinuous	Bullseye Glass	1550	1550	Screw Charger	2250F-2525F	Natural Gas	Corner/O2	BHW
	11	Yes	Discontinuous	Bullseye Glass	1550	1550	Screw Charger	2250F-2525F	Natural Gas	Corner/O2	BHW
	13	Yes	Discontinuous	Bullseye Glass	1550	1550	Screw Charger	2250F-2525F	Natural Gas	Corner/O2	BHW
	14	Yes	Discontinuous	Bullseye Glass	1550	1550	Screw Charger	2250F-2525F	Natural Gas	Corner/O2	BHW

*Bullseye does not believe that NESHAPs 6S applies to its furnaces. Bullseye reserves the right to petition the EPA for a determination regarding the applicability of NESHAPs 6S.

A NESHAP 6S compliance determination is production based. Table 1 to NESHAP 6S identifies the following emission limits:

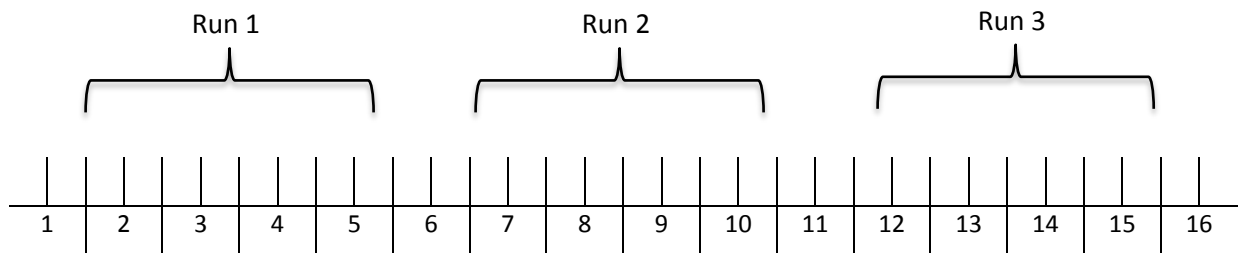
- The 3-hour block average production-based PM mass emission rate must not exceed 0.1 gram per kilogram (g/kg) (0.2 pound per ton (lb/ton)) of glass produced; OR
- The 3-hour block average production-based metal HAP mass emission rate must not exceed 0.01 g/kg (0.02 lb/ton) of glass produced.

Further, 63.11452(3)(b)(4) requires conducting at least three separate test runs with a minimum duration of 1 hour for each test run.

The 6S testing regime and compliance demonstration is designed for continuous processes whereby material inputs, production, and emissions occur contemporaneously and at a practically steady-state. As noted above, Bullseye's facility makes various styles of glass in batch fed furnaces.

To resolve the differences between the 6S compliance demonstration/testing regime designed for continuous furnaces and Bullseye's batch furnaces, Bullseye proposes to conduct the 6S compliance source test as follows:

- o 5 non-identical furnaces (one from each group of identical furnaces subject to 6S) will be charged within an approximately one hour window.
- o Glass formulations representing formulations with the greatest potential to emit metal HAPs (have significantly higher quantities of metal HAPs compared to other glass formulations) will be used.
- o Glass formulations will include all six metal HAPs subject to 6S plus cobalt and selenium
- o Concurrent outlet testing using EPA Method 5 and EPA Method 29
- o Total chromium from Method 29 will be assumed to be hexavalent chromium for the purposes of establishing a maximum chromium usage rate (OAR 340-244-9040(3)(a)).
- o Three approximately 3 to 4-hour test runs equally spaced across a 16 hour charge/refine cycle as shown graphically below.



- o Furnaces, glass styles and metal HAP constituents proposed for NESHAP 6S testing are shown in the table below. Batch amounts will be charged to normal maximum furnace capacity.

Furnace Unit	Tank Size	Potentially Subject to 6S**	Source Test Glass	As	Cd	Co	Cr	Mn	Ni	Pb	Se
1	850	Yes	1311	X						X	
2	1,050	Yes	0100			X		X	X		
3	950	Yes	1122		X						X
4	1,550	Yes	Idle								
5	1,050	Yes	Idle								
6	1,050	Yes	Down								
7	1,550	Yes	1445				X				
8	600	Yes	Idle								
9	600	Yes	1234	X						X	
11	1,550	Yes	Down								

Furnace Unit	Tank Size	Potentially Subject to 6S**	Source Test Glass	As	Cd	Co	Cr	Mn	Ni	Pb	Se
12	850	Yes	Down								
13	1,550	Yes	Idle								
14	1,550	Yes	Idle								
20	950	Yes	Idle								

**Bullseye does not believe that NESHAPs 6S applies to its furnaces. Bullseye reserves the right to petition the EPA for a determination regarding the applicability of NESHAPs 6S.

Data reduction to demonstrate compliance with 6S production-based limit (PM or total 6S metal HAPs) will generally follow 63.11452 as follows:

Determine average hourly emission rate:

$$\frac{\text{Run 1 } \frac{\text{lb}}{\text{hr}} + \text{Run 2 } \frac{\text{lb}}{\text{hr}} + \text{Run 3 } \frac{\text{lb}}{\text{hr}}}{3}$$

Determine mass emissions across 16 hour production cycle:

$$\text{Total Emissions} = \text{Average Hourly Emission Rate} \times 16$$

Determine production-based emission rate:

$$\text{Production Based Emissions} = \frac{\text{Total Emissions (lb)}}{\text{Total Glass Produced from 5 Furnaces (tons)}}$$

CAGM Particulate Matter Grain Loading Rule PM Compliance Testing

OAR 340-244-9070(1)(b)(A) requires Tier 2 CAGMs to conduct a source test to demonstrate that the emission control device does not emit particulate matter in excess of 0.005 grains per dry standard cubic foot. Source testing at Bullseye for this purpose includes the following characteristics:

- Bullseye proposes to conduct outlet PM testing on BHW over the course of one approximately 16 hour period including three test runs of sufficient duration to collect sample masses above MDL, as feasible.
- Factory will be operated under normal operating conditions operating up to 11 furnaces containing the 7 glassmaking HAPs identified in OAR 340-244-9010(11) (As, Cd, Cr, Pb, Mn, Ni, & Se) and cobalt.

D. Kauth, M. Eisele

January 25, 2017

Page 5

A testing and melt schedule proposed for the PM compliance testing is attached to this letter.

If you have any questions, please give me a call at 503-232-8887 x103 or email me at ericdurrin@bullseyeglass.com.

Sincerely,



Eric E. Durrin

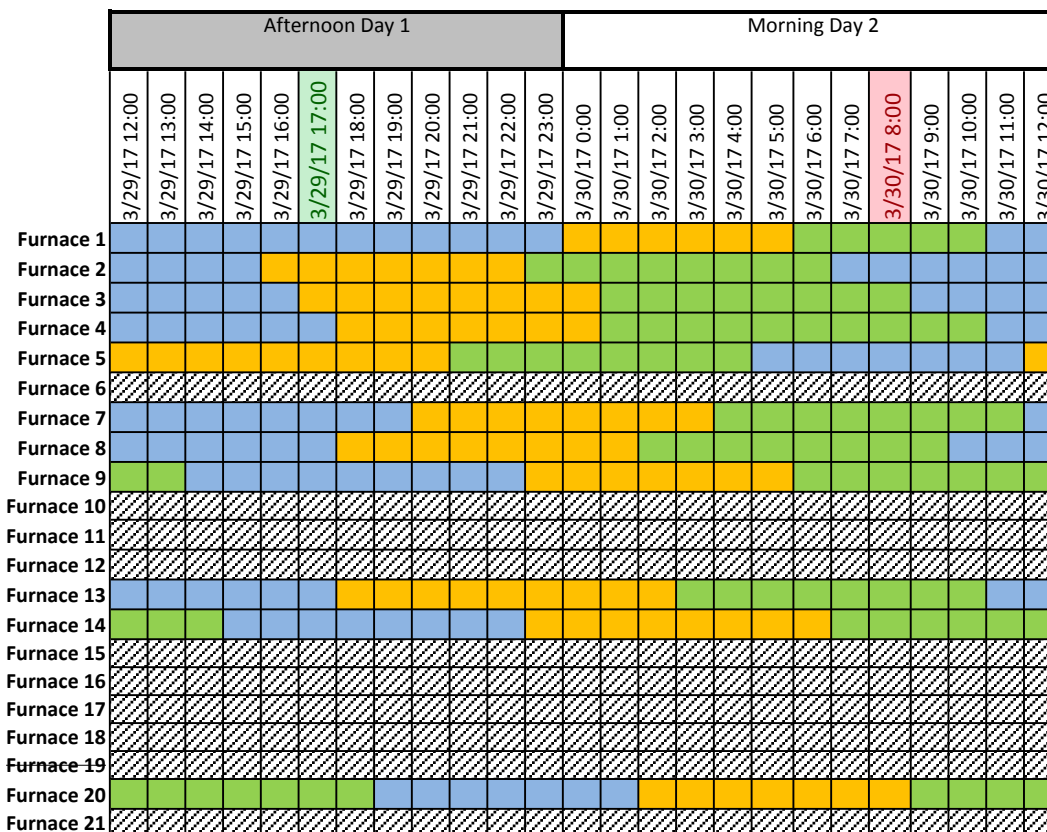
Controller

cc: J. Browning/Bridgewater Group

Attachments (1)

Encl. (1)

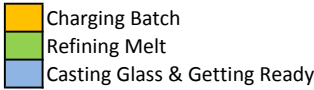
Tank Size	Source Test Glass	As	Cd	Co	Cr	Mn	Ni	Pb	Se
850	1311	X						X	
1,050	0100			X		X	X		
950	1122		X						X
1,550	1120		X						
1,050	1429					X	X		
1,050	Down								
1,550	1445				X				
600	1105					X			
600	1234	X						X	
Pot Furnace									
1,550	Down								
850	Down								
1,550	1834								X
1,550	1428			X		X			
Non-HAP Furnace									
Non-HAP Furnace									
Pot Furnace									
Pot Furnace									
No Furnace 19									
950	1129					X	X		
Pot Furnace									



Metal HAP usage during source test includes formulations with significantly higher quantities of metal HAPs compared to other formulations.

Normal production day includes operating ~ 8 furnaces using metal HAPs. Source test day includes 11 furnaces operating & using metal HAPs

16 Hour Sample Window



Factory Melt Schedule
PM Compliance Testing
Bullseye Glass Company

1/24/17