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October 15, 2018

By First Class Mail
Ms. Jennifer MacDonald
U.S. Environmental Protection Agency, Region 10
1200 Sixth Avenue, Suite 155
Seattle, WA 98101

Re: ***Scott Meeker, et al. v. Bullseye Glass Co.,***
Multnomah County Circuit Court; Case No. 16-CV-07002

Dear Ms. MacDonald:

Thank you again for agreeing to accept service of the enclosed subpoena. We also appreciate your willingness to arrange for Katie McClintock's deposition on November 15, 2018 in Seattle. Please note that we have identified a location for Ms. McClintock's deposition but it is subject to change if we can identify a more convenient office location. We know that the EPA has agreed to accept service of the subpoena subject to the agency's *Touhy* evaluation. Toward that end, we are providing this letter to explain, in part, EPA's interest in allowing Ms. McClintock's deposition.

Bullseye seeks to depose EPA Air Enforcement Officer Katie McClintock in the referenced case. We recognize and appreciate that 40 C.F.R. § 2.404 governs EPA's response when an agency employee is subpoenaed. It is in EPA's interest to produce Ms. McClintock for deposition. When news of Bullseye's air emissions came to light in February 2016, Ms. McClintock was brought in to assist the Oregon Department of Environmental Quality (DEQ) in investigating the matter from an air enforcement perspective. Ms. McClintock conducted an inspection of Bullseye on February 10, 2016 and identified concerns about the potential for hazardous air pollutant emissions (HAPs) stemming from metal colorants used in the glass melts. (*See generally* 02/10/16 Email from K. McClintock to M. Nrvaez, et al., attached as Exhibit 1). On learning of air emissions, EPA moved swiftly to assist DEQ in assessing the problem and deployed its best resources to investigate the matter and develop a method for addressing the emissions. It would serve EPA's interest to provide information about its investigation and the manner in which it assisted DEQ in addressing an emerging air emissions issue that DEQ was under-equipped and ill-prepared to handle.

Bullseye seeks Ms. McClintock's testimony to develop evidence about the state of understanding and knowledge of HAPs air emissions from colored art glass manufacturers (CAGMs) before February 2016. Because there was no nationwide or state regulation that required small colored art glass manufacturers (CAGMs) to install pollution control devices neither Bullseye nor other CAGMs had taken steps to control HAPs emissions. It was not until April 2016 that EPA provided what it termed a non-binding regulatory interpretation of the difference between continuous and periodic furnaces. Contrary to prior understanding, the EPA had now concluded based on information DEQ provided and information the EPA gathered that Bullseye has been operating continuous furnaces and was therefore subject to 40 CFR 63 subpart SSSSSS ("6S"). Specifically, EPA Director Edward Messina wrote to DEQ on April 12, 2016 to explain the basis for its interpretation and also acknowledged the confusion in the industry on this point:

> Consequently, based on the information provided and our understanding of operations at the facilities in question, we believe that, consistent with the intent of the definitions in Subpart SSSSSS, the art glass tank furnaces in question are "continuous furnaces" and are therefore subject to Subpart SSSSSS.
>
> We recognize that there may be some confusion within the art glass industry about this rule. As a result, we encourage you to work with affected companies to ensure that they take appropriate steps to comply with the rule following today's clarification.

(*See* 04/12/16 Letter from E. Messina to J. Hammond, attached as Exhibit 2). Importantly, Ms. McClintock can and should on behalf of the EPA clear up this confusion. Indeed, the EPA has an interest in offering a clear, unambiguous definition of continuous furnace, which can be applied nationwide, particularly as there are other CAGMs in the country who are not presently operating under 6S regulations. So, while Bullseye was compelled to obtain a Title V permit (based on the recent and unexpected conclusion that its operations fall within the ambit of 6S), the same is not true of other CAGMs. The EPA has an interest in ensuring that the Clean Air Act rules and regulations are applied uniformly. Ms. McClintock's testimony would assist the EPA in ensuring that uniformity is promoted by stating authoritatively to whom and under what circumstances 6S applies.

Sincerely yours,

Carrie Menikoff

CM:ams
Encl.

EXHIBIT 1

From: Koprowski, Paul [Koprowski.Paul@epa.gov]
Sent: 2/11/2016 9:05:49 AM
To: David Monro (MONRO.David@deq.state.or.us) [MONRO.David@deq.state.or.us]; grunow.greg@deq.state.or.us
Subject: FW: ENFORCEMENT CONFIDENTIAL - EPA Bullseye Glass Inspection 2/10/16 - Brief download

Here's Katie's initial report about the visit to Bullseye yesterday.

Paul

Paul Koprowski
U.S. EPA; Oregon Operations Office
805 SW Broadway, Suite 500
Portland, Oregon 97205
(503) 326-6363

From: McClintock, Katie
Sent: Wednesday, February 10, 2016 11:48 PM
To: Narvaez, Madonna <Narvaez.Madonna@epa.gov>; Koprowski, Paul <Koprowski.Paul@epa.gov>; Wroble, Julie <Wroble.Julie@epa.gov>; Hedgpeth, Zach <Hedgpeth.Zach@epa.gov>; Downey, Scott <Downey.Scott@epa.gov>; Fairchild, Susan <Fairchild.Susan@epa.gov>; Smith, Judy <Smith.Judy@epa.gov>; Elleman, Robert <Elleman.Robert@epa.gov>; Bray, Dave <Bray.Dave@epa.gov>; Dossett, Donald <Dossett.Donald@epa.gov>; Franklin, Richard <Franklin.Richard@epa.gov>; Dagseth, Renee <Dagseth.Renee@epa.gov>; Moon, Wally <Moon.Wally@epa.gov>; McArthur, Lisa <McArthur.Lisa@epa.gov>; Leefers, Kristin <Leefers.Kristin@epa.gov>; Skadowski, Suzanne <Skadowski.Suzanne@epa.gov>; Schuster, Cindy <Schuster.Cindy@epa.gov>
Cc: Kowalski, Ed <Kowalski.Edward@epa.gov>; Hastings, Janis <Hastings.Janis@epa.gov>
Subject: EPA Bullseye Glass Inspection 2/10/16 - Brief download - Enforcement Confidential

Note: This email is being sent to all epa contacts I have for bullseye including upper management so let's not respond a ton to this list, but I wanted you to all have access to the inspection we did late this afternoon. Paul Koprowski, can you please forward to anyone I missed? We intended it to be announced but because of technical and other glitches, it was unannounced.

Bullseye Inspection Initial (brief-ish) Summary: Enforcement Confidential
Date: 2/10/16, Time 4:00 – 6:00 pm
Inspectors: Zach Hedgpeth (EPA), Katie McClintock (EPA), Greg Grunow (DEQ)

Quick overview of facility and inspection notes:

- They have 20 furnaces. 3 are pots and 17 are tank furnaces. All tank furnaces are oxyfuel (oxygen is used instead of ambient air in combustion) except 1. They were almost all converted about a decade ago to reduce nox emissions. They are currently operating 15 of the 17 tank furnaces, there are always 2 that are being rebricked. The furnaces each have their own stack through the roof and to atmosphere.
- The furnace refractory DOES NOT contain chromium (they are going to send us purchase records for refractory back 3 yrs to prove no chromium based refractory has come into their shop). They don't use chromium refractory because once there is any degredation to a furnace and the furnace starts to break off into the batch, the batch will no longer have the consistent thermal expansion properties. Basically every glass they sell can be mixed together and there is a careful glass chemistry that goes into this that is essential to their business. If a refractory wears, then they must replace. As a result, they aren't trying to run these furnaces massively past the time where you'd expert deterioration and hope for a brick that could tough it out longer. I looked inside a cold furnace ready for rebuild (one of their two largest for clear glass) and there was only minor damage where the refractory contacts the glass and only a few visible cracks and no damage to the crown and superstructure. Chromium based refractory costs more and it makes sense why it doesn't buy them as much here as it does for glasses with different spec requirements.

EXHIBIT 1

- Raw material handling appeared well controlled with a baghouse. The capture system takes air from the batch mixing process, the two batch blenders, and the color adding room. The batch mixing and blenders appeared to have a good capture system. There was the most potential for uncontrolled emissions in the color room and the staff in their wear complete face mask respirators at all time (though we and the plant managers went in and out without and there was no noticeable dust issue). They weren't actively mixing when we were there, but you could see dust on the ground. They mix small batch of colors here and then bring it out to the main batch mixing area to add it to the larger batch.
- The "Frit" process where they crush and grind finished glass into different sized powders (called "frit") was also very well controlled. In fact the frit room appeared at first glance to be a Permanent Total Enclosure. Everything from the room is routed to the baghouse and the frit crushing is hard piped as well. This was the focus of the recent mercury article, which definitely confused many air pollution issues, but this process appears it is likely controlled the maximum level currently.
- Bullseye uses metals in two different forms as colorants. They buy frit that has the metals (like a lead frit or cadmium frit) which is made in Mexico. They also add regular metal raw material. Both are added as raw material to distribute color throughout the batch. Bullseye wasn't sure if they add cadmium that wasn't frit, but they are going to look into it. This raises a few questions, see below.

Important Information:

- No chromium refractory according to Bullseye and my review of their material (AZS in tank and Flux mullite in superstructure) confirms that it is all silica based.
- No current use of arsenic or cadmium currently (even in frit). They have enough stock to sell for a bit and then will have trouble. Because of glass chemistry customers can't mix different competitors easily and it is a big issue for them and their business to not offer the whole rainbow.
- They are reformulating all of their arsenic containing glass and they think they will be able to eliminate arsenic in almost all. Cadmium has no alternative.
- They have hired an environmental consulting firm to design a control device to control 3 furnaces where they would make their cadmium products. We suggested they work closely with deq and epa on the design of this.
- They are clearly very surprised and shocked about all of this and want to do the right thing. They are scared and upset, but genuine and cooperative. The owner built this company from the ground up and passionately believes in the craft and hires staff who love glass too and does a glass show with all employee-artists.

Records requested: I asked for the following records. They are going to get me examples of the first 3 and hopefully the complete response to the last 3 by Friday and discuss a date for the remaining records based on the examples at that time. They understand that this information is more helpful to all as soon as possible. I suggested they might be interested in certifying their response as true and accurate and I could provide a form if that would be helpful.

- Plant Diagram – already received
- Refractory materials for tank and superstructure purchased for the last 3 years. Invoices from the supplier with MSDS on the material. (note: Since furnaces are all rebricked by every two years this will ensure it covers all material currently in use. They don't track which bricks go in each furnace.)
- Backwall temperature readings for each furnace back to 10/1/15 (note: useful for temperature that trivalent chromium could oxidize to hexavalent).
- Products run with all furnaces since 10/1/15. For each include the batch ticket, the furnace used and the date. (note: The batch ticket has the full recipe with all ingredient. We may want to ask for more dates but this seemed like a good start).
- Batch recipes with MSDS for each raw material for all products made since 10/1/15.
- Size of each furnace – holding capacity by furnace number on schematic.
- Schematic of a furnace (note: they are all the same except the one pot)

Conclusions/Questions:

EXHIBIT 1

- Part 63 SSSSSS applies to furnaces that "operate continuously." These furnaces are hot continuously for a year and a half and then go down to rebrick. They are constantly in use and only have a few hours to heat back up to peak temperature between each new bath. It doesn't say glass has to be produced continuously. I think that may have been what they intended but maybe they really did mean smaller crucible furnaces that could heat and cool more than these can. I will check with the rule writer tomorrow.
- We need to investigate if the metals in frit will be emitted when the glass is melted. There is a paper from 2012 which says that once chromium is part of the glass, it is rigidly held in the silica structure and would not be released, even if the glass is later remelted. Since frit is ground finished glass we verify this fact for chromium and look at it for other metals in frit. If emissions are lower from frit, they could potentially switch to using all frit for metals addition. This theory may be disproved based on batch records if all they use is frit but we can correlate to ambient monitor readings. We will see.
- We should look into their compliance with CFR 61 subpart N. I don't doubt that they are in compliance with the limit but they may not be calculating emissions correctly.
- They brought up the level playing field many times and their concern that if they have problems, so do every one of their customers. We told him we understood and also suggested that a list of competitors might be helpful if they wanted to give it to us to speed up our process of separating to the smaller glass melters from the large ones. Given the levels we may have to look at all, but it would give us a priority list. He mentioned a few in virginia and north Carolina, I think but I didn't catch the names. He of course is most concerned locally with Uroboror in Portland as well as Spectrum in Woodinville.
- We need to investigate chrome use generally both the hexavalent chromium added to the batch and also trivalent chromium that can oxidize in the high temperatures in an oxygen furnace.

Next Steps:

- In a perfect world we would have had time to go to Uroboros too and I think we should plan to send a 114 to them asap. We would have to coordinate this with DEQ. I think we should have equal info for both.
- I think Zach and I should go inspect Spectrum as soon as possible.
- I will look forward to an update on the batch records on Frirday. Oregon also has msds for some raw materials already and we should try to get those. I've emailed Greg tonight.

Katie McClintock
Air Enforcement Officer
EPA Region 10
1200 Sixth Avenue, Suite 900, OCE-101
Seattle, WA 98101
Phone: 206-553-2143
Fax: 206-553-4743
Mcclintock.katie@epa.gov

EXHIBIT 2

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

APR 1 2 2016

OFFICE OF
ENFORCEMENT AND
COMPLIANCE ASSURANCE

Ms. Joni Hammond, Deputy Director
Oregon Department of Environmental Quality
811 SW Sixth Avenue
Portland, OR 97204

Dear Ms. Hammond:

On March 9, 2016, you requested that the Environmental Protection Agency (EPA) provide a regulatory interpretation regarding the applicability of the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Glass Manufacturing Area Sources, 40 CFR, Part 63, Subpart SSSSSS (Subpart SSSSSS) to tank furnaces at art glass manufacturers in Portland, Oregon. Based on your description of the operation of these tank furnaces, and information gathered by EPA, we believe that these furnaces would be subject to Subpart SSSSSS, absent any relevant considerations not mentioned in your letter. Our understanding of the facts and our reasoning are set out below.

As you described in your letter, although there are three criteria for whether a furnace is an affected facility, you are only seeking guidance on the criteria that the furnace is a "continuous furnace." Our definition of "continuous furnace" is "a glass manufacturing furnace that operates continuously except during periods of maintenance, malfunction, control device installation, reconstruction, or rebuilding." (40 CFR, §63.11459)

The day tanks you described at Uroboros and Bullseye are similar to those used at other facilities in the colored glass industry. They are refractory furnaces that melt glass in a batch process but are continuously operated. Once a furnace is built and brought up to temperature, it is continuously operated at around 2000° F or higher until the end of the furnace's refractory life when it is cooled to ambient temperatures and rebricked prior to the start of a new campaign. During the life of the furnace, glass is produced in 24 hour melt cycles and generally on a production schedule (either part time or full time). During glass production, the furnaces operate generally around 2500° F. Depending on the facility, the furnaces may not hold or melt glass for a day or two on the weekend or intermittently based on demand. They also may idle to closer to 2000° F during holidays or production breaks. However, natural gas is fired and the furnace stays at a high temperature at all times, with only the exemptions outlined in the definition of "continuous furnace" in Subpart SSSSSS.

EXHIBIT 2

In response to stained glass company commenters on Subpart SSSSSS who indicated they operate "small periodic furnaces", the EPA stated:

> *Therefore, we have revised § 63.11448 to specify that periodic or pot furnaces are not subject to the final Glass Manufacturing Area Source NESHAP. We believe this revision will address most of the concerns of the stained glass manufacturing sector as well as other sectors and organizations, such as artisans, schools, studios, and other small facilities that produce glass using periodic furnaces. 72 FR 73186 (December 26, 2007)*

In choosing to exempt non-continuous furnaces, the EPA focused on their operation being periodic. A furnace that shuts down seasonally or is only operated for portions of the year would not be considered a continuous furnace. This revision was meant to address the concerns of small operators or artisanal shops which may turn kilns/furnaces on and off regularly. The furnaces you describe are kept hot (operated) for a year or more between rebrickings and produce glass on a routine schedule.

Consequently, based on the information provided and our understanding of operations at the facilities in question, we believe that, consistent with the intent of the definitions in Subpart SSSSSS, the art glass tank furnaces in question are "continuous furnaces" and are therefore subject to Subpart SSSSSS.

We recognize that there may be some confusion within the art glass industry about this rule. As a result, we encourage you to work with affected companies to ensure that they take appropriate steps to comply with the rule following today's clarification.

Please note that this response is a non-binding regulatory interpretation based on the information provided by Oregon Department of Environmental Quality (Oregon DEQ) and information gathered by EPA. This response should not be considered an applicability determination, nor does it represent final Agency action, since it is not in response to a facility request. Oregon DEQ may, in its discretion, consider this interpretation and any other relevant information it has in determining the applicability of Subpart SSSSSS to any facilities in its state.

If you have further questions, please contact Patrick Yellin of my staff at (202) 564-2970, or yellin.patrick@epa.gov.

Sincerely,

Edward J. Messina

Edward J. Messina, Director
Monitoring, Assistance, and Media Programs Division
Office of Compliance