From:	Thomas Benke
To:	INAHARA Jill
Subject:	Re: Comments on Glass-Making Proposed Rules
Date:	Monday, March 28, 2016 18:18:38
Attachments:	ECOCommentsGlassRule.pdf

Jill,

You and your colleagues are in a tough spot. I just read through the many, many comments on the DEQ website. They are predominantly comments from employees or customers who are parroting the Bullseye post in which Dr. LaCourse is cited for the proposition that trivalent chromium does not convert to hexavalent chromium in Bullseye's furnaces. At least one commenter besides me has noted that its what happens in the combustion gasses that is at issue (not in the glass melt). And as I point out in my written comments, the question is not whether Bullseye emits hexavalent chromium (and other toxic and carcinogenic metals) but at what rate.

I have spent the last week researching and thinking about these issues even though I am only "interested" as an impacted citizen of Portland. When I left the Texas Water Commission in September 1989 I had just testified in support of a proposed hazardous waste incinerator in Port Arthur, Texas (Chemical Waste Management). I had taken over for Joe Gingerich as permit writer when he left TWC to come to work for DEQ (he works on solid waste landfills for DEQ now). On my last day, the attorney who had represented the surrounding community found me standing at the elevator and said to me "Have you rubber stamped any more hazardous waste incinerators lately?" Without answering I got on the elevator and came to Oregon to go to law school. The sting of that comment has never gone away. As I have become more experienced I am more and more embarrassed at how unprepared I and my colleagues were during that initial period of HW facility permitting 1984-1989. Joe and I, and our fellow permit writers, were just out of university with our bachelors degrees in Mechanical and Chemical Engineering, and Geology. We were thrown on the front lines without any real support and we did our best. But we failed, by today's standards. So if I offended you this morning with my questions and criticisms please accept my apology. I don't know how much experience you have in this area but I have to believe that we all still have a steep learning curve ahead of us (even for me, 25 years into this.)

Here is a copy of the written comments I just submitted. You please call me if you see anything I need to be corrected on.

Regards,
TRB

On Mar 28, 2016, at 5:28 PM, INAHARA Jill wrote:

> Hi Thomas,
> Thank you very much for this follow-up email along with the attachments you sent regarding the partitioning of heavy metals in a combustion chamber and the need for wet scrubbers to control volatilized metals. I have forwarded your emails

on to the permit engineer who is reviewed the Notice of Intent to Construct for Bullseye. I'm not sure how much contact he has had with the company that is installing the baghouse. I apologize for not having enough time to talk with you this morning. I may be available to talk Tuesday afternoon so please call if you have further questions.
Thank you,
Jill Inahara

From: Thomas Benke [mailto:trbenke@environmental-compliance.com]
Sent: Monday, March 28, 2016 10:48 AM
To: INAHARA Jill
Cc: PALERMO Jaclyn
Subject: Comments on Glass-Making Proposed Rules

Ms. Inahara,

This is Thomas Benke. Thank you for taking a few minutes to talk to me this morning. I was disappointed that you could not make time to talk to me when I could be at my desk with my notes at hand (you called at 8:36 am) and that you could only talk to me for about 11 minutes. I was disappointed that you did not have the proposed rules at hand yourself when you called me. I was disappointed that you could not answer my question about the Department's objective in allowing the two "options" included in the rule. I was particularly disappointed to hear from you that the Department was relying solely on representations by the glass-making facilities that installation of an emissions control device designed to remove 99% of particulate would likely remove most of the heavy metals from the facility's glass-making furnaces. (I am paraphrasing here and I would appreciate being corrected as necessary.) I asked if you had called the manufacturer of the proposed device to confirm that representation and you responded that you had not, and did not indicate that you would.

As I told you, I struggled with these same technical problems when I drafted Part B permits for commercial hazardous waste incinerators in 1989. The following year, as a result of what we had learned in Texas and other permitting states, the USEPA proposed new rules for Hazardous Waste incinerators. In its April 27, 1990 proposal (55 FR 17862, 17868) (attached) USEPA wrote:

> *The existing regulations control metal and some organic emissions through the performance standard for particulates. Metals can be contained in particulates or condense out onto particulates and are then captured by air pollution control devices. The present particulate standard of 180 milligrams per dry standard cubic meter may not provide adequate protection if a substantial percentage of the particulate is composed of toxic metals. <u>Further, in the case of volatile metals such as arsenic, mercury, and chlorides of lead and cadmium, the particulate standard may provide little control.</u>*

I urge you to study that rules proposal thoroughly. In the case of the Portland

glass-making facilities, which use natural gas to fire the furnaces, I assume that there is little or no particulate matter, and so very little metal associated with particulate. In any event, the heavy metals that are emitted will be predominantly in the gaseous phase, volatilized, and so a standard that requires removal of particulate will do nothing to reduce emissions of toxic metals from Bullseye and Uroboros. I will send you in a following email two technical articles that support this contention.

Putting a baghouse on the Bullseye and Uroboros stacks will do little or nothing to inhibit the discharge of toxic metals from the those facilities, so adoption of the proposed rule is tantamount to a declaration by the State that Bullseye and Uroboros can return to business as usual while the Department plays catchup with the science of combustion and adoption of new, efficacious rules. If the EQC adopts the proposed temporary rules then I anticipate that those rules will remain in effect for at least a year, and perhaps longer if the regulated facilities oppose new permanent rules that will undoubtedly require limits on how much heavy metal they can use in their formulations and that will require the facilities to install expensive wet scrubbers or other devices specifically designed to capture volatile metals.

I understand that the Department's lawyers and administrators may prefer a compromise with Bullseye and Uroboros rather than a fight over whether the Department's existing authority is sufficient to regulate emissions of toxic metals from those facilities. In my view, given the moss, air and soil samples available to date, DEQ has ample justification and authority to shut those facilities down unless and until they prove through actual testing and dispersion modeling that their operations are not causing, or substantially contributing to, nuisance conditions in the surrounding neighborhood. I urge the Department to rewrite the rules so that glass-makers are required to prove through stack testing and dispersion modeling that their operations are safe for the neighborhood before they are allowed to continue using toxic metals in their formulations.

I will be following up with more carefully written comments, but please consider this email as a formal submission of comments with regard to the proposed rulemaking.

TRB