From: WESTERSUND Joe
To: GRUNOW Greg; EISELE Michael; KAUTH Dave
Cc: INAHARA Jill; FELDON Leah; artglass2016; PALERMO Jaclyn; DAVIS George
Subject: RE: clarifying required source test length for art glass rule
Date: Monday, June 06, 2016 5:36:14 PM

Thank you, Greg and Dave.

Mike, did you have any comments on this?

> 'If you're a Tier 1 with baghouse control on all furnaces using metal HAP, then the source test only has to determine whether you are meeting 99% control efficiency. For that test, the length of the test run does not have to be an entire batch cycle, as long as there is sufficient loading that (factoring in detection limits) the test can demonstrate that the baghouse is capturing 99+% of what's coming in.'

The Tier 1s would be happy with the extra clarity if we're able to give it to them.

-Joe

From: GRUNOW Greg
Sent: Monday, June 06, 2016 5:32 PM
To: WESTERSUND Joe <WESTERSUND.Joe@deq.state.or.us>
Cc: INAHARA Jill <INAHARA.Jill@deq.state.or.us>; FELDON Leah <FELDON.Leah@deq.state.or.us>; artglass2016 <artglass2016@deq.state.or.us>; PALERMO Jaclyn <PALERMO.Jaclyn@deq.state.or.us>; DAVIS George <DAVIS.George@deq.state.or.us>; EISELE Michael <EISELE.Michael@deq.state.or.us>; KAUTH Dave <KAUTH.Dave@deq.state.or.us>
Subject: RE: clarifying required source test length for art glass rule

Hi Joe,

Sorry, I was out sick last week, so I'm just getting to your e-mail now. And I need to thank Dave because he did an excellent speaking for both of us in summarizing the testing considerations for the Tier 1 & 2 facilities. Mike may have some additional thoughts on this.

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From: KAUTH Dave
Sent: Monday, June 06, 2016 5:16 PM
To: WESTERSUND Joe; DAVIS George; GRUNOW Greg; EISELE Michael
Cc: INAHARA Jill; FELDON Leah; artglass2016; PALERMO Jaclyn
Subject: RE: clarifying required source test length for art glass rule

Yes, that would be what they would need to meet to be in compliance with the Oregon CAGM rule.

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From: WESTERSUND Joe
Sent: Monday, June 06, 2016 5:00 PM
To: KAUTH Dave; DAVIS George; GRUNOW Greg; EISELE Michael
Cc: INAHARA Jill; FELDON Leah; artglass2016; PALERMO Jaclyn
Subject: RE: clarifying required source test length for art glass rule

Hi Dave,

Thank you for your response on this.

This question was coming mostly from the Tier 1 facilities. Would this be an accurate summary to give to them?

If you're a Tier 1 with baghouse control on all furnaces using metal HAP, then the source test only has to determine whether you are meeting 99% control efficiency. For that test, the length of the test run does not have to be an entire batch cycle, as long as there is sufficient loading that (factoring in detection limits) the test can demonstrate that the baghouse is capturing 99+% of what's coming in.

-Joe

From: KAUTH Dave
Sent: Thursday, June 02, 2016 5:26 PM
To: WESTERSUND Joe <WESTERSUND.Joe@deq.state.or.us>; DAVIS George <DAVIS.George@deq.state.or.us>; GRUNOW Greg <GRUNOW.Greg@deq.state.or.us>; EISELE Michael <EISELE.Michael@deq.state.or.us>
Cc: INAHARA Jill <INAHARA.Jill@deq.state.or.us>; FELDON Leah <FELDON.Leah@deq.state.or.us>; artglass2016 <artglass2016@deq.state.or.us>; PALERMO Jaclyn <PALERMO.Jaclyn@deq.state.or.us>
Subject: RE: clarifying required source test length for art glass rule

Joe,
I'll take a first shot at this and others can add or correct as needed.

There isn't going to be a one size fits all approach to source testing. Some facilities or individual control devices may be able to get away with three 1-hour runs, others may need to run for the full melt cycle or multiple melt cycles to get enough information to meet the regulations. Control efficiency (1-outlet/inlet) will depend on the particulate loading on both sides of the control device. Sufficient loading is needed to make a statistically relevant determination. If the PM levels is below

the detection limit, and the detection level is too high to demonstrate 99% control, the test will not give the information that is required.

The 1/3 start, 1/3 middle and 1/3 end of batch approach may work for shorter than full cycle melts if all of the furnaces are the same and making the same product during the source test.

Under the state CAGM rule:
Tier 1 sources only need to install a control device and show 99% control efficiency to use any of the metals. Metal specific testing is only required if they wish to use any of the HAP metals in uncontrolled furnaces. The two tier one facilities Greg Grunow and I visited last Wednesday plan to completely control their operations (BH control for all kilns). I didn't go to the third facility, so I don't know what their plan is.

Tier 2 facilities will need to conduct the control efficiency testing (99% control) and either not use chromium or test for Cr6 and conduct dispersion modeling to determine usage limits.

Under the federal 6S rules:
Tier 2 facilities with any furnace that produces 50 or more tons glass/yr will have to comply with the emission limits for particulate (0.2 lbs/ton of glass produced); or the HAP metal limit (0.02 lb/ton of glass produced). I read the HAP metal emission rate limit as all HAP metals combined, not individually. These are control device outlet levels.

Not sure this helps at all, but there it is.

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From: WESTERSUND Joe
Sent: Thursday, June 02, 2016 4:33 PM
To: KAUTH Dave; DAVIS George; GRUNOW Greg; EISELE Michael
Cc: INAHARA Jill; FELDON Leah; artglass2016; PALERMO Jaclyn
Subject: clarifying required source test length for art glass rule

Hi All,

At a fiscal advisory committee meeting for the permanent art glass rulemaking, the CAGMs present mentioned that they felt a lot of uncertainty about the source test requirements in the rule. Specifically, about how long each source test run would be required to be.

Is there a consensus that I can relay back to the CAGMs at the next advisory committee meeting?

From talking with David Monro and Katie McClintock, I heard these suggestions:

- If testing the 99% capture efficiency for a baghouse, three 1-hr runs may be enough. You just need enough PM coming in so that you can show that 'out' is less than 1% of the 'in', considering method reporting limits. No need to have the test last for an entire batch.
- If testing for metal emissions (Tier 2s testing chromium emissions or Tier 1s doing source test + model instead of a control device), emissions may vary in an unknown way over the course of a batch. So, the source test run needs to last for an entire batch. Katie suggested that if the stack includes multiple furnaces, perhaps a shorter source test run could still be representative if for example 1/3 of the furnaces were at the start of a batch, 1/3 were in the middle, and 1/3 were at the end of a batch during the source test run.

Those are the ideas I heard- what is DEQ requiring for the CAGM source testing?

If there is info I can relay to the CAGMs on the committee, I think it would be very appreciated by them. It would also help me with my fiscal estimate.

Thank you for any info you can provide,

-Joe

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