

Archived: Thursday, May 31, 2012 3:59:41 PM
From: [Larry Baronowsky](#)
Sent: Thursday, June 23, 2011 11:28:00 AM
To: [Eric M. Robeson](#)
Subject: FW: BMCD Chat
Response requested: No
Importance: Normal
Attachments: [6591\[1\].pdf](#) ; [EP2011+--Widico\[1\].pdf](#) ;

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FYI

From: Strawn, Scott [<mailto:sstrawn@burnsmcd.com>]
Sent: Tuesday, June 21, 2011 8:46 AM
To: Larry Baronowsky
Cc: Andrews, Block; Bob Berry
Subject: RE: BMCD Chat

Larry,

Please see below from Block Andrews, our Lead Environmental Strategist. Block is at 816-349-6796; please let us know if you have any additional questions.

Scott,

Comparing Big Rivers' air pollution controls to the average similarly controlled units from EPA's ICR bituminous database on mercury, the most problematic unit is likely Reid Station which has only an ESP for controls. The average ESP only controlled unit has roughly a 8 lb/TBtu Hg rate and it will need to be reduced to 1.2 lb/TBtu to meet the proposed UMACT limits. It would likely require some dry sorbent injection to reduce SO3 emissions (Trona, hydrated lime) to a 5 to 10 ppm level first. You still need some SO3 to optimize ash resistivity for ESP performance. Secondly, it would need activated carbon injection as well. Depending on the quantity of ACI needed, it is possible to have an increase in PM emissions. Some field testing would be recommended to determine the impacts and capability of the sorbents injected. There was no ICR test data for a DFGD/ESP combination such as Green Station. There is also no DFGD/SCR/ESP combination such as Wilson's configuration. The average ICR data would tell us that Coleman Station is borderline for Hg and that HMPL should be ok. We would recommend testing to verify those Hg emissions. The ICR data would also tell us that a baghouse is going to perform significantly better than an ESP for Hg and PM control. I have attached 2 presentations from Electric Power 2011. One paper shows techniques to optimize mercury removal, the other paper is on ESP optimization.

To specifically answer Big Rivers questions:

- Experience: Yes, we have experience with activated carbon injection systems. Many of our clients have installed them for compliance with the now-vacated CAMR as well as state mercury rules and state permits.
- Testing: I know that some carbon suppliers have testing equipment that can be brought on-site for test runs. They have also tested fuel additives for mercury control.
- Cost: A rough idea of capital for a 500-MW unit is about \$4.5 million. Rough estimate of O&M (mostly ACI reagent cost) is about \$3 to \$5 million/yr. Hydrated lime/Trona could be additional cost.
- Monitoring: CEMS and sorbent traps are acceptable means of monitoring under the proposed Utility Boiler MACT. My understanding is that these instruments are not perfected and still require significant staff efforts to operate them. Many utilities installed Mercury CEMS for CAMR, operated the monitoring for a few months to learn the system then stopped operating the CEMS once CAMR was vacated.

Block

Scott

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-----Original Appointment-----

From: Larry Baronowsky [<mailto:Larry.Baronowsky@bigrivers.com>]

Sent: Wednesday, June 15, 2011 7:42 AM

To: Strawn, Scott

Subject: Accepted: BMCD Chat

When: Thursday, June 16, 2011 10:00 AM-10:30 AM (UTC-06:00) Central Time (US & Canada).

Where: Larry's Office

Something for us to discuss tomorrow!! Have you had any experience with activated carbon injection for mercury capture? Have any of your clients tested the process? Any idea how much capital investment is required for the necessary equipment, and ongoing O&M cost for a 500 MW unit? Has the online mercury monitor been perfected or is the sorbent tube still the preferred method to measure mercury emissions?

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