

Archived: Thursday, May 31, 2012 3:59:41 PM
From: [Larry Baronowsky](#)
Sent: Thursday, June 16, 2011 11:37:35 AM
To: [Bob Berry](#)
Subject: FW: Mercury Capture
Response requested: No
Importance: Normal

FYI

-----Original Message-----

From: Burnett, Thomas A [<mailto:taburnett@tva.gov>]
Sent: Thursday, June 16, 2011 11:32 AM
To: Dale T Bradshaw; Larry Baronowsky
Subject: RE: Mercury Capture

We have seen some work by others, but have no internal experience with ACI. In fact, the Burnett philosophy for the last decade is the ABC plan, i.e., Anything BUT Carbon. That said, if one has an existing baghouse, capital costs will be relatively low, as will operating costs. If one has an ESP, it's a far different situation since the carbon injection rate goes up by a factor of 4-6 and then, one has to worry about ESP performance and the potential for increased particulate emissions--can you say, "NSR?" (Under the Illinois law, if the utility injected up to 5 lb/Macf (where M is metric million), it didn't matter what the mercury removal was. However, the federal law is going to be more stringent and I don't know what the Illinois utilities are going to do.

As Dale indicated, one of the reasons that we at TVA are interested in Shaw's EMO is there are indications that it can enhance mercury removal by the fly ash and collected in the ESP. In addition, most of our larger units are going to be scrubbed and some are going to be borderline on mercury emissions under the EGU HAPs MACT. We would prefer NOT to put activated carbon in to remove mercury, most of which we are already removing downstream in the existing FGD system. Instead, we think that the EMO will give us a boost in mercury oxidation and removal in the FGD system and want to have this proven and in our back pocket in the future.

Feel free to email if you have further questions.

-----Original Message-----

From: Dale T Bradshaw [<mailto:dtbradshaw@electrivation.com>]
Sent: Wednesday, June 15, 2011 10:28 PM
To: 'Larry Baronowsky'; Burnett, Thomas A
Subject: RE: Mercury Capture

Larry, I have had a little experience, but I would rather defer your questions to Tom Burnett of TVA. I am not aware of anyone on the GFE MAG that has tested ACI or have ACI installed. I believe I will also send this out anonymously to the GFE MAG to get input. By the way, one of the key

reasons other G&Ts have joined the CRN MPC demonstration program is because the Shaw EMO (HBr injection) operating costs are 80% cheaper than ACI, is much more reliable, the HgBr does not reemit the Hg, and the capital costs are about the same if not cheaper. Plus the Shaw EMO has consistently oxidized and ESPs plus scrubbers removed >90% of the Hg.

With best regards,

Dale T Bradshaw

Senior Program Manager and Consultant

Generation, Fuels, and Environment (GFE)

Membership Advisory Group (MAG)

Cooperative Research Network (CRN)

National Rural Electric Cooperative Association (NRECA)

Cell number (1-423-304-9284)

-----Original Message-----

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

Sent: Wednesday, June 15, 2011 9:33 AM

To: Dale T Bradshaw

Subject: Mercury Capture

Dale,

Have you had any experience with activated carbon injection for mercury capture? Have any of the GFE-MAG members 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?

Thanks

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