

From: TGraumann@otpc.com
Sent: Wednesday, May 27, 2009 8:01 AM
To: Lee Gribovicz
Cc: tbachman@nd.gov
Subject: EC/R Inc. Four Factors Analysis

Mr. Gribovicz: Based on previous correspondence from Tom Bachman of the North Dakota Department of Health, it is my understanding that North Dakota must develop Regional Haze Reasonable Progress Goals for the Class I areas in North Dakota. As part of developing the Reasonable Progress Goals, North Dakota is required to evaluate the potential for air pollution controls (or additional controls) at sources that were not subject to Best Available Retrofit Technology (BART) requirements. EC/R, Inc. prepared a draft analysis of those facilities for the WRAP. One of the facilities that is included in the analyses is Coyote Station, which is a co-owned facility that is operated by Otter Tail Power Company. I have reviewed the draft report "Supplementary Information for Four-Factor Analyses for Selected Individual Facilities in North Dakota" and I offer the following comments for your consideration.

Section 3 Page 3-2. The fourth line from the bottom of the page references a coal sulfur content of 0.6% as a basis for estimating uncontrolled emissions. The average coal sulfur content for fuel burned at Coyote Station during the last five years (2004-2008) is 1.01%. We suggest using 1.01% for estimating the uncontrolled emissions for Coyote Station.

Section 3 Page 3-3 Table 3-2. The table reflects unrealistically low uncontrolled SO₂ emissions and, when compared to the annual emissions, it gives the appearance that Coyote Station is removing less than 50% of the uncontrolled emissions. The table also attributes a greater incremental potential emissions reduction based a 90% control efficiency when compared to current removals. The attached table illustrates our concern **[2009-05_Ottertail Comment; ND DOH Regional Haze Progress Goals (2).xls]**. The SO₂ uncontrolled of 48,323 tons more accurately reflects estimated historical conditions as does a removal of approximately 69%. The incremental benefit of 90% SO₂ removal is reduced from 11,993 tons to 10,032 tons. Note that the methodology for calculating the uncontrolled emissions remains as you have proposed. The revised uncontrolled SO₂ was simply based on a ratio of the fuel sulfur content (0.6% to 1.01%).

Section 3 Page 3-4. The second paragraph of the page accurately captures industry concerns with the feasibility of a high duct SCR on a lignite fired boiler. It might be helpful to include a reference supporting that concern. Because of its size I will forward the reference under a separate e-mail.

Section 3 Page 3-5 Table 3-3. As noted above, the incremental benefit of 90% SO₂ removal is reduced from 11,993 tons to 10,032 tons. The cost effectiveness of the wet FGD control efficiency would increase in inverse proportion to the decrease in the tons of SO₂ removed, all other assumptions remaining equal. Thus the cost effectiveness (\$/ton) of 90% SO₂ removal would be \$3048 rather than \$2550.

I have not reviewed the document for table text references and the like. I did notice that several of the tables referenced in the text in Section 3 were incorrectly referenced.

Thank you for the opportunity of submitting comments. Regards, Terry

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From: TGraumann@otpc.com
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To: Lee Gribovicz
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Subject: EC/R Inc. Four Factors Analysis - Reference Document

Mr. Gribovicz: Attached is a suggested reference document relating to concerns with a high dust SCR on a lignite-fired boiler [**2009-05x_SCR Catalyst Blinding final report.pdf**]. Regards, Terry