United States Department of the Interior

NATIONAL PARK SERVICE
Air Resources Division
P.O. Box 25287
Denver, CO 80225-0287

IN REPLY REFER TO:

N3615 (2350)

July 25, 2013

Mr. Steve Body
U.S. Environmental Protection Agency, Region X
Office of Air, Waste, and Toxics, AWT-107
1200 Sixth Avenue, Suite 900
Seattle, Washington 98101

Re: EPA-R10-OAR-2012-0581

Dear Mr. Body:

The National Park Service Air Resource Division has reviewed EPA-R10-OAR-2012-0581, Approval and Promulgation of Air Quality Implementation Plans; Idaho Amalgamated Sugar Company (TASCO) Nampa Best Available Retrofit Technology (BART) Alternative. EPA is proposing to approve Idaho Department of Environmental Quality's (IDEQ) revised determination of BART for the Riley boiler at the TASCO facility.

Based on engineering analyses submitted by TASCO after EPA approved the original BART determination in 2011, IDEQ determined that low-NOx burners with over fired air (LNB-OFA) were not feasible for the Riley boiler and accepted low-NOx burners (LNB) alone as BART. IDEQ and EPA originally eliminated Selective Catalytic Reduction (SCR) as a BART option because the incremental cost compared to LNB-OFA was too high. IDEQ also found SCR to be infeasible due to space constraints and low exhaust temperatures. However, as discussed in our enclosed comments, we believe that tail-end SCR would be feasible if the gas stream were reheated. Additionally, now that IDEQ has determined that LNB-OFA is not feasible, incremental costs of SCR should be compared to LNB. These costs are in the range of costs accepted for SCR as BART by other states. We therefore recommend SCR as BART. We request that IDEQ and EPA further evaluate the feasibility of SCR, or in the alternative, provide additional justification why SCR was eliminated from consideration.

We appreciate the opportunity to work closely with IDEQ and EPA Region 10 to improve visibility at Class I national parks. If you have questions, please contact Don Shepherd at 303-969-2153 or don_shepherd@nps.gov.

Sincerely,

Susan Johnson
Chief, Policy, Planning, and Permit Review Branch

Enclosure

cc:
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National Park Service (NPS) Comments to EPA Regarding Best Available Retrofit Technology (BART) for the TASCO Nampa Facility
July 25, 2013

TASCO operates a sugar beet processing facility in Nampa, Idaho, that includes a fossil fuel fired boiler referred to as the ‘‘Riley Boiler.’’ The Riley Boiler is subject to BART.

Riley Boiler BART
Idaho’s 2010 RH SIP submittal identified low-NO_X burners (LNB), LNB with overfire air (OFA), and selective catalytic reduction (SCR) as all technically feasible NO_X controls for the Riley Boiler. The Idaho Department of Environmental Quality (IDEQ) evaluated the cost effectiveness of each technology and determined that:

- LNB is cost effective at $921/ton.
- LNB–OFA is cost effective at $1270/ton with an incremental cost over LNB at $2431/ton.
- SCR had a cost-effectiveness value of $3,768/ton and an incremental cost over LNB–OFA of $10,245/ton.

Idaho determined that SCR is not cost-effective based on the incremental cost of SCR over the cost of LNB–OFA.

Subsequent to the 2010 Regional Haze State Implementation Plan (RH SIP) submission and approval, TASCO submitted to IDEQ additional site-specific engineering analyses and a proposal for an alternative measure to replace the SO_2 BART determination for its facility. Based on the new information and proposal, IDEQ revised portions of the 2010 RH SIP and submitted the revisions to the EPA. The 2012 RH SIP submittal contains, among other elements, a new NO_X BART determination for the Riley Boiler. Based on a revised analysis conducted and provided by TASCO, Idaho determined that SCR is technically infeasible for the Riley Boiler. EPA states:

> [The] new finding does not affect the State’s final BART determination because, as the EPA previously agreed, Idaho’s determination found that even if SCR was technically feasible it was not cost effective and thus, would not qualify as BART. 76 FR 3632. Thus, the 2012 RH SIP submittal determination that SCR is technically infeasible does not change the EPA’s previous agreement that SCR is not BART for this facility.

EPA’s rationale is based upon the premise that, even if SCR is technically feasible (which we shall show is the case) it is not economically feasible due solely to the incremental costs ($10,245/ton over LNB-OFA. According to Idaho, the average cost ($3,768/ton) is economically feasible.) EPA’s premise of excessive incremental cost is based upon the previous, but now rejected, assumption that LNB-OFA is technically feasible for this source. However, EPA states:

> In the 2010 RH SIP submittal, Idaho determined that SCR is not cost effective based on the incremental cost of SCR over the cost of LNB–OFA. In the final action on Idaho’s 2010 RH SIP submittal, the EPA approved the State’s BART determination. As explained, based on additional on-site engineering analysis conducted by TASCO, Idaho subsequently determined that neither LNB–OFA nor SCR are technically feasible at this facility.

As we have noted in several of our previous comments to EPA, the use of incremental costs is subject to manipulation by the introduction of invalid control strategies that bias the analysis against higher-performing control strategies. In this case, when the invalid LNB-OFA option is eliminated (due to technical infeasibility), the incremental cost between SCR and LNB shrinks to $7,327/ton.

Revised IDEM Table 10. Impact Analysis for NOx

Control Scenario	Baseline Emissions (tons/yr)	Removal Efficiency (percent)	Annual Emissions Reductions (tons/yr)	Total Reductions	Total Capital Costs (x 1,000)	Total Annual Costs (x 1,000)	Cost Effectiveness	Incremental Cost Effectiveness
Low NOx Burners	1042	50%	521	521	$ 2,720	$ 480	$ 921	
SCR	1042	90%	938	938	$ 16,702	$ 3,534	$ 3,768	$ 7,327

EPA and Idaho have placed undue weight on incremental costs. Because of the exponential nature of pollution control costs versus removal efficiency, incremental costs will always exceed average costs. For example, an over-reliance on incremental costs would mean that any particulate control more expensive than a multiple-cyclone would be deemed too expensive. And, EPA has provided no guidance on what an acceptable incremental cost might be, other than to say in the BART Guidelines:

> The average cost (total annual cost/total annual emission reductions) for each may be deemed to be reasonable. However, the incremental cost (total annual costA–B/total annual emission reductionsA–B) of the additional emission reductions to be achieved by control B may be ***very great***. In such an instance, it may be inappropriate to choose control B, based on its ***high*** incremental costs, even though its average cost may be considered reasonable. (emphasis added)

Although EPA does not explain in its BART Guidelines what it considers "very great" and "high" incremental costs, it goes on to provide an example of how incremental cost is calculated and explains:

> The incremental cost of Option 1, then, is $20,000 per ton, 11 times the average cost of $1,900 per ton. While $1,900 per ton may still be deemed reasonable, it is useful to consider both the average and incremental cost in making an overall cost-effectiveness finding.

The clear implication of EPA's advice in the BART Guidelines is that incremental costs become a deciding factor only if they greatly exceed average costs. For TASCO, the incremental cost is less than double the average cost—this is well below the order of magnitude presented in the BART Guidelines example, and is relatively low when compared to other incremental cost analyses. If Idaho and EPA are to use incremental costs to eliminate a control option, it should be clear how those incremental costs are excessive when compared to incremental costs that have been accepted elsewhere.[1] EPA should also explain what its threshold for an acceptable incremental cost is, and how it arrived at that threshold.

[1] For example, the North Dakota Department of Health established a threshold of $4,100/ton for average cost-effectiveness, and $7,300 for incremental cost effectiveness. For average cost-effectiveness, Oregon DEQ established a cost/ton threshold of $7,300/ton based upon the premise that improving visibility in multiple Class I areas warrants a higher cost/ton than where only one Class I area is affected. For average cost effectiveness, New

As for the technical feasibility of SCR, tail-end SCR has been in use around the world for decades.[2] Neither Idaho nor EPA has made any showing that tail-end SCR would not be technically feasible at TASCO. Instead, EPA relies upon Idaho's analysis which concluded:

> [I]nstallation after the baghouse would not provide adequate exhaust temperature for SCR to function properly. Id. Thus, the 2012 RH SIP submittal finds that LNB is the only technically feasible NOX control technology for the Riley Boiler.

If the only issue preventing application of tail-end SCR at TASCO is temperature, EPA should investigate the cost of reheating the gas stream—which is typical for tail-end SCR—this then becomes an issue of economic feasibility. Neither Idaho nor EPA addressed how the cost of reheating the gas stream impacts the economic feasibility.

TASCO BART Alternative

As mentioned above, the 2012 RH SIP submittal also proposes a BART Alternative to the SO_2 BART determination for the Riley Boiler. This alternative measure covers six emission units at the TASCO facility: the Riley Boiler, the Babcock & Wilcox (B&W) Boilers #1 and #2, and the South, Center, and North Pulp dryers. The alternative measure replaces the spray-dry FGD SO_2 control on the Riley Boiler with LNB NO_X control on the B&W Boilers #1 & #2 and takes into account the emission reductions resulting from the shutdown of the three pulp dryers. Thus, the retrofit of the coal-fired low-NO_X burners on the B&W Boilers and resulting NO_X reductions for the permanent shutdown of the three pulp dryers are intended to replace the BART SO_2 emission limitation for the Riley Boiler.

Taken at face value, it looks like a greater NO_X reduction in exchange for a lesser SO_2 reduction from the only BART source, the Riley Boiler. However, as discussed above, we believe that the "new information" presented by Idaho requires a re-analysis of tail-end SCR. If tail-end SCR is determined to be BART, then even the reduced NO_X emissions proposed for the Riley Boiler would still exceed BART.

We are concerned that credit for emission reductions achieved by the shutdown of the pulp driers may not be "surplus" and therefore not allowed under the Regional Haze Rule if these units were shut-down as a result of another regulatory action under the Clean Air Act (i.e., compliance with the NAAQS for PM_{10}). We note that EPA refers to permitting actions which required shutdown of the pulp dryers and request clarification as to why such requirements were necessary.[3] We ask that EPA confirm that these reductions are truly surplus in the Regional Haze Rule context.

Mexico used a range for the San Juan Generating Station from $5,946/ton to $7,398/ton, Colorado and New York used $5,500/ton, and Wisconsin used $7,000 - $10,000/ton as its BART threshold.

[2] http://www.jmsec.com/Library/Brochures/Sinox_Catalysts_for_Fossil_Fired_Power_Plants.pdf

[3] Permit condition 14.9 of TASCO's Tier I Operating Permit T1–050020, issued May 23, 2006, required the North and Central pulp dryers to be permanently shut down and Permit Condition 4.1 of the 2011 TASCO Tier II Operating Permit, requires the South Pulp Dryer to be permanently shut down.

Conclusions & Recommendations

- Neither Idaho nor EPA has made any showing that tail-end SCR would not be technically feasible at the Riley Boiler. EPA should investigate the economic feasibility of tail-end SCR for this unit.
- Idaho's and EPA's premise of excessive incremental cost is based upon the previous, but now rejected, assumption that LNB-OFA is technically feasible for this source. Idaho and EPA used incremental costs to eliminate SCR and should show how those incremental costs are excessive when compared to incremental costs that have been accepted elsewhere. Our analysis indicates that the incremental cost of SCR is similar to average costs accepted by other states, including the incremental cost threshold used by ND. EPA should also explain what an acceptable incremental cost threshold is, including a rationale for that determination.
- EPA should confirm that emission reductions from the pulp dryers are truly surplus for purposes of the Regional Haze Rule.