

New Hampshire Regional Haze SIP Revision Responses to Sierra Club's Comments

On November 22, 2010, the New Hampshire Department of Environmental Services (NHDES) received comments in a letter from Attorney Arthur B. Cunningham, representing the New Hampshire Sierra Club, on New Hampshire's proposed rule Chapter Env-A 2300 *Mitigation of Regional Haze*. These comments were resubmitted on December 20, 2010. Below, NHDES responds to specific comments contained in that letter. **Comments are written in *italics* and responses are written in regular font.**

***Comment:** You have determined that the July 17, 1998, NO_x RACT Order for Merrimack Station MK2 satisfies the Regional Haze BART requirement. The 1998 NO_x RACT Order requires that MK2 emit no more than 15.4 tons of NO_x per each 24 hour calendar day. In the BART analysis, 15.4 tons per day equates to 0.37 lbs/MMBtu of NO_x. NHSC rejects your determination that the MK2 RACT Order satisfies BART. [Footnote 1: .37 lbs/MMBtu is almost four times the presumptive .1 lbs/MMBtu BART emission limit set forth in 40 CFR 51, Appendix Y.]*

- ▶ **NHDES Response:** The presumptive NO_x limit is not representative of the performance capabilities of Unit MK2, for reasons explained in the BART analyses of the Regional Haze SIP, Attachment X. However, after receipt of new data from PSNH (see Attachment X), NHDES has determined that the appropriate BART emission limit for this unit is 0.30 lb/MMBtu, which is incorporated into the now-adopted rule as a maximum allowable emission rate to be measured on a 30-day rolling average basis.

***Comment:** New Hampshire Department of Environmental Services-Air Resources Division (ARD) review of the Regional Haze BART requirement for Merrimack Station intersects with the legal necessity of ARD review of the New Hampshire nonattainment program, particularly for NO_x, a major component of both regional haze and ozone. ARD is required by the Clean Air Act to timely establish a NO_x emission limit for Merrimack Station MK2 that satisfies both the Regional Haze BART requirement and the nonattainment program. New Hampshire is delinquent in the establishment of both programs...*

The MK2 NO_x emissions problem must be addressed in both the Regional Haze program and the nonattainment program. It makes no sense whatever to fix a 0.37 lbs/MMBtu BART emission limit for NO_x knowing that a more stringent attainment NO_x limit is due.

- ▶ **NHDES Response:** NHDES acknowledges the need for review of the NO_x RACT emission limit for Unit MK2. However, this review should be undertaken in the context of pending revisions to the National Ambient Air Quality Standards for ozone. It would be premature to issue a strengthened NO_x RACT order for Unit MK2 before EPA has promulgated the revised standards and NHDES has considered the scope of emission reductions needed to meet those standards. On the other hand, there is an immediate need to establish a BART emission limit for Unit MK2. While the regional haze program must proceed without further delay, there exists no obligation to review nonattainment requirements for NO_x in conjunction with the regional haze program or BART.

Comment: *PSNH has increased the historic net generating capacity of MK2 from 320 MW to an ISO NE capacity claim of 338 MW. PSNH is currently operating MK2 at 332 MW...NHSC rejects the PSNH claim that the generation upgrade is entirely due to increased efficiency of the replaced MK2 turbine 2. ARD has failed to examine this generation upgrade and its impact on emissions.*

- ▶ **NHDES Response:** Concerning work completed by PSNH during the 2008 Merrimack Station Unit MK2 outage (the MK2 Turbine Project), NHDES reviewed the proposed modification in accordance with its permitting requirements, including New Hampshire's New Source Review program. NHDES's decision on this permitting action was documented in a letter to Public Service of New Hampshire dated March 31, 2008, and references the provisions of 40 CFR 52.21(b)(21)(iv), commonly referred to as the "WEPCO Rule" Specific permitting actions are handled through the Department's permitting programs and are not relevant to the BART analysis.

Comment: *The MK2 SCR cannot be operated fulltime because of a temperature permissive. During start-ups, shutdowns and low load operations (below 230 MW net) the SCR cannot operate...PSNH asserts that the uncontrolled NOx rate is typically 1.0-1.5 lbs/MMBtu. PSNH, because of these concerns, insists that it needs "flexibility" to operate the SCR at a much higher emission limitation. [Footnote 3: Data contained in ARD files indicate that MK2 NOx removal is, on average, below the .37 lbs/MMBtu NOx RACT limit.]*

Existing ARD data does not support the PSNH claim that MK2 emits only 1.0-1.5 lbs/MMBtu during low load operations with the SCR shut down. ARD must examine the integrity of the PSNH low load emission claim because it is a critical part of the BART emission calculation as it exists in the proposed Regional Haze SIP...ARD must fix a NOx emission limit that fully accounts for the periods when the SCR is not in operation.

- ▶ **NHDES Response:** In new data provided by PSNH (see Regional Haze SIP, Attachment X supporting documentation), the company applies an emission rate of 0.8 lb/MMBtu during low-load operations for the calculation of NOx emissions, 30-day rolling average. This value, which NHDES considers reasonable and conservative, was a factor in determining the BART emission limit of 0.30 lb/MMBtu.

Comment: *PSNH, in its confidential submissions to ARD ordered released by ARD, asserts that it will be too expensive (\$10,169 per ton at 0.34 lbs/MMBtu) if it cannot maintain the de-rate flexibility at 0.37 lbs/MMBtu...If the PSNH cost claims are correct, PSNH will not be able to meet its Clean Air Act obligations under the secondary standard attainment program.*

- ▶ **NHDES Response:** The determination of cost-effectiveness is not an absolute process but one that must be conducted in proper context. The context for regional haze is different from that for attainment/nonattainment. In the case of the former, any judgment of cost-effectiveness (the process *does* have subjective elements) involves consideration of total cost versus visibility improvement. For the BART analysis of Unit MK2, it was necessary to consider what constitutes a reasonable cost per ton to produce a small visibility benefit. When it comes to NOx reductions toward attainment of a new ozone standard, the benchmarks will be different because the standards for ozone are health-based.