UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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December 20, 2010

Karla McManus
Air Resources Division
Department of Environmental Services
29 Hazen Drive, PO Box 95
Concord, NH 03302-0095

Dear Ms McManus:

On January 29, 2010, the New Hampshire Department of Environmental Services (DES) submitted a final Regional Haze State Implementation Plan (SIP) to EPA. On February 26, 2010, EPA notified New Hampshire that the best available retrofit technology (BART) element of the Regional Haze SIP was incomplete. On October 1, 2010, New Hampshire proposed Chapter Env-A 2300, Mitigation of Regional Haze, to implement BART requirements. EPA provided comments on the proposed rule on November 22, 2010.

Meanwhile, on November 19, 2010, New Hampshire proposed a revised Regional Haze SIP for public comment. The proposal contains changes to the BART analysis and BART emission limits. EPA has reviewed the proposed SIP and has provided comments in the Enclosure. As discussed in more detail in the enclosed comments, the final SIP submittal must include additional documentation to support some of the BART emission limits.

If you have any questions on these comments, please contact Anne McWilliams of my staff at 617-918-1697.

Sincerely,

Anne Arnold

Anne Arnold, Manager
Air Quality Planning Unit

Enclosure

cc: Jeff Underhill, NH DES
Robert Scott, NHDES

Enclosure
EPA Comments on New Hampshire's Proposed Regional Haze SIP Revision
Dated November 19, 2010

Low-Sulfur Oil Strategy

1) New Hampshire's proposed SIP includes a demonstration that the MANE-VU low sulfur fuel oil strategy is reasonable. This strategy includes:

- the reduction in the sulfur content of distillate (#1 and #2) fuel oils to 0.05% sulfur by weight by no later than 2014;
- the reduction in the sulfur content of #4 residual oil to 0.25-0.5% sulfur by weight by no later than 2018;
- the reduction of #6 residual oil to no greater that 0.5% sulfur by weight by no later than 2018; and
- the further reduction of distillate oil to 15 ppm by 2018.

New Hampshire, however, has not yet adopted a regulation imposing these requirements. The proposed SIP indicates that New Hampshire plans to introduce legislation on this issue in January 2012. EPA urges New Hampshire to move forward with this strategy more quickly than stated in this proposal and include in its final SIP submittal a commitment to adopt and submit a final rule to EPA by a date certain in 2011.

BART Visibility Modeling

2) Tables 9-4 and 9-5 show the results of CALPUFF modeling for the visibility improvement from BART controls on the 20% worst visibility modeled days, based on baseline visibility conditions, at each nearby Class I area. However, 40 CFR Part 51, Appendix Y, Section (IV)(D)(5), "Step 5: How should I determine visibility impacts in the BART determination?" clearly states:

> "Use the 24-hour average actual emission rate from the highest emitting day of the meteorological period modeled (for the pre-control scenario). Calculate the model results for each receptor as the change in deciviews compared against natural visibility conditions."

A BART analysis should determine the visibility impact of the source, not the impact of the source in conjunction with all other impacting sources. New Hampshire must recalculate the visibility improvement using the calculated worst 20% natural conditions: 12.4 deciviews (dv) for Acadia National Park; 11.7 dv for Lye Brook Wilderness; and 12.0 dv for Moosehorn Wilderness and Great Gulf Wilderness.

Newington Station NT1 BART – SO_2

3) Based on the "Final Proposal" of Env-A 2300 "Mitigation of Regional Haze," posted on your web site and dated December 1, 2010, (see des.nh.gov/organization/commissioner/legal/rulemaking/documents/env-a2300-fp-fxd.pdf), it appears that NH DES has made a final decision that BART for NT1 is an SO_2 emission limit of 0.5 lb/MMBtu on a 30-day rolling average basis. EPA has previously expressed concerns with such a limit since it is not consistent with the MANE-VU recommended level for BART SO_2 control for non-CAIR EGUs, which is the use of natural gas or 0.3% sulfur content by weight fuel oil. The final SIP must include additional documentation to support an SO_2 BART limit of 0.50 lbs per million BTU for NT1.

Specifically, the BART Analysis for PSNH Newington Station Unit NT1 (Attachment X), Table 2-5, Cost of Fuel Switching based on Historical Fuel Oil Prices indicates the cost of switching from 2% to 0.3% sulfur in fuel oil as ranging from $627 to $2,664 per ton, which is not unreasonable. As noted in comment #2, New Hampshire must re-calculate the visibility improvements associated with each control strategy. Although the costs of switching to 0.3% sulfur in fuel oil may be reasonable, it is appropriate to consider these costs along with the anticipated visibility improvement. A minimal additional visibility improvement for 0.3% sulfur in fuel oil would provide support for New Hampshire's proposed 0.5 lb/MMBtu limit.

In addition, there are inconsistencies between the final BART limits in Env-A 2300 and the proposed November 19, 2010 New Hampshire Regional SIP that need to be addressed. Those inconsistencies are:

a) The SO_2 BART emission limit in Table 9.3 is stated as a calendar month average.
b) The SO_2 BART emission limit in Table 9.7 is stated as a calendar month average.

4) For Table 9.3, New Hampshire's initial proposal (dated May 26, 2009) included a 1,742 ton per year (tpy) SO_2 reduction from NT1. In the January 2010 SIP submittal and the November 19, 2010 proposal, Table 9.3 indicates a 3,484 tpy SO_2 reduction from this unit. However, Table 11.2 of the January 2010 SIP submittal and the November 19, 2010 proposal were not updated to reflect this change.

Newington Station NT1 BART – PM

5) New Hampshire has proposed that the existing PM permitted rate of 0.22 lb/MMBtu is BART for NT1. As noted in EPA's previous comments, this limit is well above the MANE-VU recommended limit of 0.02 – 0.04 lb/MMBtu. In the discussion of current PM emissions and controls, it is mentioned that NT1 has an electrostatic precipitator to capture PM emissions and a previous stack test at this facility indicated an emission rate 0.058 lb/MMBtu. At this point, DES has not presented sufficient evidence that the existing PM limit represents BART for unit NT1. The final SIP submittal must include further technical justification to demonstrate why it is not feasible for this unit to meet a more stringent limit.

Merrimack Station MK2 BART – NOx

6) Based on the "Final Proposal" of Env-A 2300 "Mitigation of Regional Haze," posted on your web site and dated December 1, 2010, it appears that NH DES has made a final decision that BART for MK2 is a NOx emission limit of 0.30 lb/MMBtu on a 30-day rolling average basis.

This is more stringent than the NOx emission rate that was originally proposed in Env-A 2300. However, as stated in our comments dated November 22, 2010, it appears MK2 is capable of meeting NOx emission rates lower than this on a 30-day rolling average. Specifically, data available from EPA's Clean Air Markets Division data base indicates that, in 2009, at no point did the unit exceed a 30-day rolling average of 0.25 lbs per million BTU.

A level of 0.25 lbs NOx per million BTU on a 30-day rolling average seems to be an appropriate BART emission limitation for MK1 based on our evaluation of the performance of the SCR over the last 5 years through September 30, 2010. In fact, prior to MK2 coming back on line in November 2009, the 30-day rolling average NOx emission rate met by the SCR was generally below 0.20 lbs per million BTU.

Moreover, it is unclear the basis of the statement in Attachment X saying that "the estimated costs of reducing the NOx limit to 0.34 lb/MMBtu (a reduction of 0.03 lb/MMBtu) would fall between $3,000 and $10,000 per ton of NOX removed," given that it does not appear that this rate has ever been exceeded in recent times. Therefore, in order to support a 0.30 lb per million BTU limit, further technical justification is necessary to demonstrate why it is not cost effective for this unit to meet a more stringent limit.

In addition, there are inconsistencies between the final BART limits in Env-A 2300 and the proposed November 19, 2010 New Hampshire Regional SIP and attachments that need to be addressed. Those inconsistencies are:

a) The NOx BART emission limit in Table 9.2 is stated as 0.37 lb/MMBtu calendar monthly average.
b) The NOx BART emission limit in Table 9.6 is stated as 0.37 lb/MMBtu calendar monthly average.
c) The discussion in section 6.1 of Attachment X saying that NHDES finds that the current NOx RACT limit, expressed as 0.37 lb/MMBtu, is also appropriate as a BART control level.

Implementing BART and Reasonable Further Progress Limits

7) The proposed SIP includes the following attachments for Merrimack Station and Newington Station:

Attachment EE – Temporary Permit for PSNH Merrimack Station
Attachment HH – Draft Title V Operating Permit for PSNH Merrimack Station

Attachment II – Title V Operating Permit for PSNH Newington Station

As noted in our November 22, 2010 comments, the temporary permit for Merrimack Station has expired and the Title V operating permit is in draft form. As such, these documents should not be incorporated into the SIP. Therefore, it is not clear how some of the BART and reasonable further progress emission limits for MK2 and MK1, respectively, will be made enforceable.

Specifically, for MK2, although the BART NOx emission limits and monitoring requirements are stated in Env-A 2300, this rule points to permit conditions for the associated testing requirements. Also, although the rule includes BART TSP emission limits and stack testing requirements for MK2, there are no associated monitoring requirements included in the rule. In addition, the rule relies on permit conditions for the SO_2 BART emission limits and testing requirements for MK2, and does not include any SO_2 monitoring requirements for MK2.

For MK1, Env-A 2300 relies on permit conditions for the NOx and SO_2 emission limits and testing requirements, and is silent as to the associated monitoring requirements. In addition, although the rule includes TSP emission limits and testing requirements for MK1, the rule is silent as to the associated monitoring requirements.

Therefore, since the Merrimack Station permits are not valid, and Env-A 3200 does not include all of the necessary emission limits, monitoring, and testing requirements, the DES will need to ensure that the deficient aspects noted above are addressed in the final SIP submittal, in order to ensure that all of the BART and reasonable further progress limits for Merrimack Station are enforceable.

Furthermore, for Newington Station, the final SIP submittal should indicate which provisions of the Attachment II permit are to be incorporated into the SIP. For example, the permit includes a 2% sulfur content by weight fuel oil requirement for NT1 that has since been superseded by the 0.5 lb/MMBtu limit in Env-A 3200. In such a case, the provision in the permit should not be incorporated into the SIP.