

STATE OF NEW HAMPSHIRE  
PUBLIC UTILITIES COMMISSION

DE 10-261

PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE  
2010 LEAST COST INTEGRATED RESOURCE PLAN

FIRST DATA REQUEST OF THE NEW HAMPSHIRE SIERRA CLUB

New Hampshire Sierra Club [NHSC], pursuant to Puc 203.09, hereby submits the following data requests to Public Service Company of New Hampshire [PSNH].

INTRODUCTION

On July 9, 2010, in response to a Request for Additional Information from New Hampshire Department of Environmental Services- Air Resources Division [NHDES-ARD] regarding the Best Available Retrofit Technology [BART] for MK2 to ensure NOx compliance with the pending Regional Haze State Implementation Plan [SIP], PSNH provided a cost analysis to reduce NOx emissions from .37#/mmBTU to .34#/mmBTU. PSNH represented to NHDES-ARD that because of “increased maintenance costs and replacement power costs”, the increased cost of replacement power could range from \$720,000 to \$3,300,000 assuming a \$30/mwhr difference between the cost of Merrimack Station and replacement power costs at market. PSNH calculated that the cost per ton of NOx reduction would be extremely costly ranging from \$1,578 to \$3,068 per ton. The calculations also showed that the duration of the outages, the number of outages, and, an increase in the cost delta would significantly increase the costs of compliance.

On August 16, 2010, PSNH provided “supplemental” calculations to NHDES-ARD regarding the cost of reducing the emission limit from .37#/mmBTU to .34#/mmBTU again assuming the \$30/mmhr cost delta. PSNH argued again that adjusting the NOx rate “will significantly increase the incremental costs of compliance without significantly decreasing total NOx emissions.” In the August 16, 2010, calculations PSNH asserted that the cost per ton would be \$7,359.<sup>1</sup>

On December 15, 2010, PSNH submitted a response to a NHDES-ARD request for information that asked for an analysis of a NOx reduction to .30#/mmBTU calculated on a 30 day rolling average.<sup>2</sup> In this calculation, PSNH asserted that the cost per ton to reduce NOx emissions to .30#/mmBTU would be \$826 per ton, an amount \$6,533 less

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<sup>1</sup> The July 9, 2010, and the August 16, 2010, PSNH submissions to NHDES-ARD were filed as “Confidential Business Information”. NHSC objected and NHDES-ARD ordered release of the documents.

<sup>2</sup> The earlier calculations were made on a calendar monthly average.

than the calculation provided on August 16, 2010, for the reduction to .34#/mmBTU. PSNH further calculated that a reduction to .25#-.30#/mmBTU would cost \$7,600 per ton.

## DATA REQUESTS

1. Please fully explain the assumptions used to establish the \$30/mmwh difference between the cost of Merrimack Station and the costs of replacement power on the market used throughout the Regional Haze BART emission limit calculations;
2. Please reconcile the inconsistent cost per ton compliance calculations in the July 9, 2010, August 16, 2010, and December 15, 2010, submissions to NHDES-ARD;
3. In order for the public to ensure the factual integrity of the PSNH Regional Haze MK2 BART cost calculations by independent analysis, please provide the following information [in electronic format, native language, to the extent feasible]<sup>3</sup>:
  - a. Coal specifications for last 5 years and coal expected to be burned in the future;
  - b. NERC GADS data (design, event, performance) for the last 5 years;
  - c. Design information on current low NO<sub>x</sub> burners, over-fire air, and combustion controls;
  - d. Copies of all performance test reports involving low-NO<sub>x</sub> burners, over-fire air, combustion controls for the last 5 years;
  - e. Design information on current SCR catalysts, including catalyst degradation information;
  - f. Name and address of SCR catalyst supplier;
  - g. Copy of SCR catalyst management plan;
  - h. Dates when SCR catalysts were changed in each of the layers in the last 5 years;
  - i. Status of catalyst by-pass dampers and current manner in which they are operated and copies of work orders or projects undertaken to fix any damper bypass problems in the last 5 years;
  - j. Details of SCR temperature permissive and logic when catalyst bypass is used;

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<sup>3</sup> MK2 is a BART eligible generating unit.

- k. Details of all air pre-heater cleaning events in last 5 years together with details of logic used to trigger the cleaning;
  - l. Copies of all stack tests in the last 5 years in which the NO<sub>x</sub> at boiler outlet (i.e., SCR inlet) was measured;
  - m. Copies of plant process data showing SCR inlet NO<sub>x</sub> data, ammonia feed data, and ammonia slip data;
  - n. Soot-blowing details – figure showing locations and names of all soot-blowers in boiler and for each SCR catalyst later, and elsewhere; logic that is used to trigger soot-blowing events in boiler and for SCR catalysts; and, compilation of soot-blowing events (start, duration) for last 5 years;
  - o. Copies of all CEMS RATA tests for NO<sub>x</sub>, SO<sub>2</sub>, CO, O<sub>2</sub>, etc. for last 5 years;
  - p. Copies of any ASTM boiler efficiency tests conducted in last 5 years;
  - q. Copies of boiler operating manual and SCR operating manual;
4. The proposed<sup>4</sup> Regional Haze BART NO<sub>x</sub> limit of .30#/mmBTU for MK2 as described in the Introduction above is three times higher than the presumptive reduction norm of .10#/mmBTU in EPA Guidance at 40 CFR 51, Appendix Y. Please provide detailed calculations of the costs necessary to satisfy the .10 #/mmBTU emission reduction;
5. On March 17, 2008, EPA issued a finding that New Hampshire missed the Clean Air Act deadline for submitting complete plans showing how the state will meet the 1997 ozone standards. The plan was to include an attainment demonstration<sup>5</sup>; a reasonable progress plan; and, a reasonably available control technology plan [RACT]. On January 19, 2010, determined that the states must submit their attainment designations to EPA by January 7, 2011, for the primary ozone standard [1 hour] and August 31, 2011, for the secondary standard. F. Reg., Vol. 75, No. 11. Has PSNH planned for compliance with these deadlines for Merrimack Station? For Schiller? For Newington? Has PSNH done a cost analysis for compliance for Merrimack Station? For Schiller? For Newington? If yes, please provide the analyses. If no, please provide such analyses;

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<sup>4</sup> NHDES-ARD submitted the revised Regional Haze SIP to EPA Region 1 on January 14, 2011.

<sup>5</sup> A large part of southern New Hampshire has not attained the NAAQS for ozone and a substantial portion of the non-attainment area is in serious non-attainment. The ozone NAAQS are required to provide protection of the public health against an array of ozone related adverse health effects that range from decreased lung function and respiratory symptoms to serious indicators of respiratory morbidity including emergency room visits and hospital admissions for respiratory causes; cardiovascular related morbidity; and, cardiopulmonary mortality.

6. EPA is expected to issue a final ozone air quality standard in July, 2011. Has PSNH done any examination or studies of the anticipated new ozone rule, including the costs of compliance? If yes, please provide such information. If no, please provide a detailed explanation why such information should not be made part of this Least Cost Integrated Resource Plan;

7. EPA is expected to issue a proposed power plant Maximum Achievable Control Technology [MACT] standard for air toxics including mercury in March, 2011, and, the final rule in November, 2011. Has PSNH done any examination or studies of the anticipated MACT standard, including the costs of compliance? If yes, please provide such information. If no, please provide a detailed explanation why such information should not be made part of this Least Cost Integrated Resource Plan;

8. On February 17, 2011, NHDES-ARD published a Preliminary Determination of Baseline Mercury Input pursuant to RSA 125-O:14, I. The preliminary determination for baseline mercury input for Merrimack Station and Schiller is 228 pounds of mercury per year. The 80% reduction shall require that mercury emissions be 46 pounds per year, beginning July 1, 2013. Has PSNH planned for compliance with this mercury baseline for Merrimack Station? For Schiller? Has PSNH done a cost analysis for compliance for Merrimack Station? For Schiller? If yes, please provide the analyses. If no, please provide such a cost analyses. EPA will likely propose a MACT standard for mercury that is more stringent than the 80% reduction required by RSA 125-O:14, I. Has PSNH done any examination or studies of the anticipated more stringent MACT standard, including the costs of compliance? If yes, please provide such information. If no, please provide a detailed explanation why such information should not be made part of this Least Cost Integrated Resource Plan;

9. EPA is expected to issue proposed rule for cooling water intake in March, 2011. Has PSNH done any examination or studies of the anticipated rule, including the costs of compliance? If yes, please provide such information. If no, please provide a detailed explanation why such information should not be made part of this Least Cost Integrated Resource Plan;

10. EPA is expected to issue a final rule for the disposal of coal ash in late 2011. Has PSNH done any examination or studies of the anticipated rule, including the costs of compliance? If yes, please provide such information. If no, please provide a detailed explanation why such information should not be made part of this Least Cost Integrated Resource Plan;

11. EPA is expected to issue a proposed rule establishing effluent guidelines for ash/scrubber wastewater discharges in mid-year 2012. Has PSNH done any examination or studies of the anticipated rule, including the costs of compliance? If yes,

please provide such information. If no, please provide a detailed explanation why such information should not be made part of this Least Cost Integrated Resource Plan;

12. In order for the public to ensure that the PSNH fossil generating units are providing safe and reliable service as required by RSA 369:1 and Appeal of Easton, 125 N.H. 205 [1984], please detail the portion of the capital and operating costs of Merrimack Station that is attributable to pollution control compliance because of the emissions of criteria pollutants, including, but not limited to, SO<sub>2</sub>, NO<sub>x</sub>, particulates and the hazardous air pollutant mercury from the combustion of coal? Please fully detail the accounting basis of how these costs are booked. Please detail how these costs are recovered. Please describe each and every anticipated pollution control compliance obligation, including, but not limited to those detailed at 1-11 above. Please detail the projected capital and operating costs of those obligations. Please fully detail the cost accounting basis of how these costs will be booked. Please detail how these costs will be recovered. If PSNH has not booked current pollution control compliance costs as a line item in its books and records, please explain why not. If PSNH has not projected anticipated pollution control compliance costs, please explain why not.

Respectfully submitted,

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No.18301

#### Certificate of Service

New Hampshire Sierra Club served notice of the filing of this Data Request pursuant to Puc 203.09.

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