



CONSERVATION LAW FOUNDATION

May 13, 2010

Ms. Debra A. Howland, Executive Director & Secretary
N.H. Public Utilities Commission
21 South Fruit Street, Suite 10
Concord, NH 03301-2429

Re: March 31, 2010 DE 08-103 Information Session

Dear Ms. Howland:

On March 31, 2010, pursuant to notice by the Public Utilities Commission, (Commission) in the above-reference docket, Public Service Company of New Hampshire (PSNH) provided to the Commission and stakeholders in an informational session an update on the status of its construction of a wet flue gas desulphurization system (Scrubber Project). Mr. William Smagula, PSNH's Director of Generation, made a presentation on behalf of PSNH, and responded to several questions posed by session participants, including CLF.

I write to summarize for the record several issues related to the Scrubber Project that were raised during the hearing and remain unresolved. These issues bear both on PSNH's credibility, as well as the prudence of its activities. Ultimately, when the Commission conducts its prudence review of the Scrubber Project, it will need to determine whether—as project costs mounted, substantial additional new compliance costs were identified, and gas prices fell revealing the deep flaw in PSNH's analysis that the Scrubber Project is the most economically feasible alternative—PSNH should have availed itself of the variance mechanism set forth at RSA 125-O:17. The half billion dollar Scrubber Project and related activities currently being undertaken by PSNH will serve one primary PSNH objective: To extend the life of Merrimack Station for decades—an outcome that contravenes the interests of ratepayers and the environment alike.

As well, these issues relate to the Commission's recent order in PSNH's last Least Cost Integrated Resource Plan (IRP) docket, DE 07-108, conducted pursuant to RSA 378:38. Order No. 24,945 in that docket, issued February 27, 2009, sets forth the Commission's ruling that PSNH must conduct a "continued unit operation" (CUO) study under certain circumstances:

Early retirement of existing power plants for economic reasons is a practical option for utility planners if continued operation entails the expenditure of significant investment

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dollars. For this reason, we will require PSNH to include in future LCIRPs an economic analysis of retirement for any unit in which the alternative is the investment of significant sums to meet new emissions standards and/or enhance or maintain plant performance. PSNH will not, however, be required to include an analysis of divestiture in its next LCIRP as set forth in Order No. 24,695.

See Order No. 24,945 at p. 16 (emphasis supplied). What follows below describes precisely the types of “significant investment[s]” that trigger the requirement for PSNH to perform a CUO study. The PUC’s CUO mandate is particularly pertinent in light of the release yesterday of the Kerry-Lieberman climate bill, the American Power Act, that would cap utility sector greenhouse gas emissions and given the imminent release of EPA’s final action on the greenhouse gas “tailoring rule” that will regulate large scale greenhouse gas emitters, like PSNH. PSNH must conduct a CUO study since continued operation of Merrimack Station in compliance with federal greenhouse gas emissions limits will very likely “entail[] the expenditure of significant investment dollars.”

Piecemeal PUC review of the impact of these issues will yield a fractured, and therefore incomplete, picture of the true costs of continued Merrimack Station operations. The time to review these issues in a comprehensive manner that allows for assessment of their full cumulative impact on ratepayers and the environment is now.

1. As set forth in CLF’s comments on the draft Clean Air Act Title V permit issued in 2009 by the New Hampshire Department of Environmental Services (DES) to PSNH for Merrimack Station, no mercury baseline has been established against which to determine whether PSNH will achieve the eighty percent reduction in mercury emissions required by RSA 125-O (“Scrubber Law”). Four years after the Scrubber Law passed, PSNH and DES apparently have not yet been able to establish PSNH’s baseline mercury emissions. Without establishing a mercury emission baseline, it is not possible to ensure that the scrubber currently being installed will be capable of complying with the eighty percent reduction mandate.

2. PSNH represented that the Scrubber Project currently being constructed has not been designed to comply with the more stringent federal mercury emissions reductions requirements for power plants such as Merrimack Station that are now under development by the Obama Administration. DES Director Scott has stated publicly that he anticipates those new requirements will mandate ninety to ninety-five percent mercury reductions (as opposed to the eighty percent reduction mandated by the Scrubber Law). That means that ratepayers will be saddled with the costs, in the not too distant future, of additional technology to achieve additional, federally-mandated mercury reductions.

3. PSNH has not yet obtained the necessary Clean Water Act National Pollution Discharge Elimination System (NPDES) permit required for its planned discharge of scrubber wastewater to the Merrimack River. The Merrimack River currently is protected

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by a Clean Water Act pollution budget, known as the Northeast Regional Mercury Total Maximum Daily Load (TMDL); under the terms of that TMDL, New Hampshire and EPA have found that the Merrimack River is impaired for mercury. Consistent with the law, internal DES correspondence documents that DES agrees PSNH may not discharge any mercury-containing wastewater to the River. *See Exhibit A*, attached hereto (underlining supplied). As CLF and its co-parties argued before the New Hampshire Site Evaluation Committee (SEC), the power industry has acknowledged that it is very difficult—even for state of the art wet scrubber wastewater treatment systems—to remove all mercury. The attached correspondence shows that DES believes—and told PSNH—that *land* disposal and treatment (e.g., rapid infiltration or injection) of the scrubber wastewater are PSNH's only options; as a result, PSNH's ratepayers could face considerable additional costs if PSNH is required to ship scrubber wastewater offsite for treatment and disposal, or otherwise implement treatment alternatives that do not require discharge to the Merrimack River. Further, litigation over this permit may stall project completion. PSNH brushed aside this issue, stating only that it was sure it would obtain the necessary permit.

4. Despite the fact that Mr. Smagula himself, on behalf of PSNH, represented repeatedly to DES in official correspondence that the Merrimack Unit 2 (MK2) capacity expansion was part of the Scrubber Project and “necessary” to allow for the operation of the scrubber, PSNH now insists that the Scrubber Project and MK2 capacity expansion are completely unrelated.¹ As Mr. Smagula confirmed on March 31, PSNH does not include within the \$457 million scrubber price tag the cost of increasing MK2's capacity to offset scrubber parasitic load—costs well in excess of the initial \$11.4 million capital costs for the new HP/IP turbine and other boiler work, since that new turbine failed immediately following its installation, necessitating extensive investigation and repair.

The facts, however, tell a different story; PSNH is pursuing the Scrubber Project installation and related turbine and boiler work as part of a single, integrated renovation program that will extend the life of Merrimack Station. PSNH's internal planning, since at least 2004, linked the MK2 capacity expansion and the Scrubber Project. PSNH commissioned at least three separate reports by outside experts—Burns & McDonnell, Sargent & Lundy, and GZA GeoEnvironmental—that discuss financial, technical, and air permitting implications of the two linked efforts as part of a single, integrated renovation program. *See Burns & McDonnell Merrimack Station Unit 2 Boiler Replacement Feasibility Study*, (Nov. 2004); GZA GeoEnvironmental, Inc. *Preliminary Permit Plan Analysis—Critical Path Issues Multi-Pollutant Control Strategy Options PSNH*

¹ As the Commission is aware, in DE 08-145, PSNH strenuously argued to the Commission—and the Commission agreed—that the “Scrubber Law” (RSA 125-O) shielded the MK2 project from review; in other words, that the Commission lacked jurisdiction to review the MK2 project, since it is related to the Scrubber Project.

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Merrimack Station (July 26, 2005); Sargent & Lundy LLC, *Merrimack Boiler Study* (Rev. 2 Feb. 1, 2007) (preliminary draft dated Sept. 16, 2005).²

These reports show that the MK2 project is the tail wagging the dog—the Scrubber installation was recommended by PSNH’s consultants to be undertaken in combination with MK2 performance upgrades PSNH wanted to make. It is PSNH’s desire for increased capacity and plant life extension that drives PSNH’s decision making with respect to air pollution control—particularly, how to avoid more stringent controls. Specifically, the reports confirm the following chronology of events:

- 2004: Burns & McDonnell recommend that PSNH implement Option 2 “which includes the addition of [air pollution control] equipment and the conversion of the Merrimack Unit 2 boiler to balanced draft operation combined with the installation of a new HP/IP steam turbine.” See p. 7-1, § 7.2 (emphasis supplied).
- Before July 2005: PSNH directs GZA to review the air permitting implications for, among others, scenarios defined by PSNH as an “Efficiency upgrade of the high pressure and intermediate pressure (HP/IP) turbine, either alone or in conjunction with other control technology retrofit projects,” and “Uprate of MK2 by up to 20 MW contemporaneous with flue gas desulphurization (FGD) retrofit and HP/IP turbine upgrade.”³ See p. 1 (emphasis supplied).
- July 2005: GZA submits its report to PSNH.
- 2005-2006: PSNH participates in the development of the Scrubber Law, which includes a provision expressly permitting PSNH to increase its output, consistent with Burns & McDonnell’s recommendation.
- September 16, 2005: Sargent & Lundy issue preliminary recommendations to PSNH.
- October 10, 2005: Sargent & Lundy issue Draft Rev. 0.
- May 8, 2006: Sargent & Lundy issue Rev. 1.
- June 7, 2006: Mr. Smagula, referencing the Sargent & Lundy engineering study, represents in a letter to DES ARD Director Scott, that “to maintain the generation output and value to customers, the large power consumption of a scrubber system—as much as 6 to 10 megawatts, justified the need to fully assess balance of plant improvements necessary to offset the additional load.” He further represents that “the installation of a scrubber will require a new stack, material storage and handling system, wastewater treatment system, balance of plant work,

² CLF obtained copies of these reports through a Freedom of Information Act request to EPA, and via an order issued by the New Hampshire Air Resources Council in the appeal brought by CLF and Sierra Club challenging the temporary construction permit issued by DES to PSNH for the Scrubber Project.

³ In the SEC proceeding, PSNH stipulated that the MK2 capacity expansion would result in an up to 17.175 MW increase at MK2.

CONSERVATION LAW FOUNDATION

MK2 high pressure/intermediate pressure (HP/IP) turbine and generator work, in addition to the installation of the scrubber vessel.” Seeking expedited DES review of the MK2 work, Mr. Smagula urged that “[c]ompletion of these two projects during the 2008 outage will allow PSNH to complete the necessary maintenance and balance of plant work in time to allow for the operation of the scrubber prior to June 2013.”

- June 8, 2006: Effective date of Scrubber Law. Section IV expressly authorizes PSNH to take such measures as necessary to increase net capability to address parasitic load.
- February 1, 2007: Sargent & Lundy issue Rev. 2, evaluating several interrelated scenarios for Merrimack Station, each involving air pollution control options and MK2 performance improvements. Sargent & Lundy described the emissions reduction and performance improvements evaluated as “closely interrelated.” See p. 1-1.
- January 31, 2008: Mr. Smagula again represents in a letter to DES ARD Director Scott that “the balance of plant projects planned to be completed during the 2008 MK2 outage, including the HP/IP project and associated generator repair work, are necessary in order to maintain the output of MK2 and comply with RSA 125-Q:13, which requires PSNH to install a wet scrubber at Merrimack Station, no later than July 2013.”
- January 31, 2009: PSNH submits an uprate request to ISO to increase MK2’s output to 340 MW (summer net) and 353.5 MW (winter net).

5. PSNH’s existing Clean Water Act NPDES permit has been administratively continued for thirteen years, and EPA currently is in the process of drafting a new permit. In similar recent permit renewals, EPA Region I has required, or effectively required, power plants to install what is known as closed loop cooling. PSNH is aware that EPA is considering requiring PSNH to install closed loop cooling at Merrimack Station. During the March 31 information session, PSNH flatly refused to answer the question whether it has considered the ratepayer impact associated with both the scrubber installation and closed loop cooling in the event EPA orders PSNH to install close loop cooling.

6. On April 15, 2010, the New Hampshire Supreme Court issued notice that it had accepted an appeal, brought by CLF and its co-parties, Granite Ridge Energy, TransCanada Hydro Northeast, Campaign for Ratepayers Rights, Union of Concerned Scientists, Freedom Logistics, Halifax-American Energy, and Jackson Perry, of the SEC’s decision on the question whether the Scrubber Project constitutes a sizeable addition. Both PUC Commissioners Getz and Below, on the parties’ motion for rehearing, urged the SEC to reconsider its decision that the Scrubber Project is not a sizeable addition; Commissioner Below stated on the record:

My primary argument is that . . . we were unreasonable, in that we . . . mistakenly conceived what’s a “sizeable addition.” But I think there is an

CONSERVATION LAW FOUNDATION

argument here that it's also arguably unlawful, because where there is no definition, we have to look at the plain, ordinary meaning of "sizeable addition." . . . And it would be unlawful if we didn't ascribe to the term "sizeable" a plain, ordinary meaning in the absence of legislative guidance in the first instance . . . the plain, ordinary meaning [of "sizeable" is] "large, big or simply above average in proportion or dimension." And I think there are aspects of this addition that are clearly above average, if not at the extreme dimensional edge of what exists, and not just on that site, but anywhere in New Hampshire . . . So, there's an argument that [the SEC's prior decision is] both unreasonable and unlawful.

Nov. 25, 2009 SEC hearing (Tr. at pp. 48-49). This case could result in the exercise of SEC jurisdiction over the Scrubber Project.

7. EPA's Clean Air Act Section 114 investigation of PSNH's activities at Merrimack Station is on-going. EPA specifically ordered PSNH, among others, to "describe in detail any pollution reduction or control measures undertaken, implemented, or planned by PSNH at the Merrimack or Schiller Stations, pursuant to legislation enacted by the New Hampshire State Legislature. See April 3, 2009 EPA § 114 Request, p. 15, No. 27. EPA's investigation could result in EPA enforcement action against PSNH in connection with Merrimack Station.

We appreciate the opportunity to attend the informational session and provide these additional comments.

Sincerely,



Melissa A. Hoffer
Vice President, Director
Healthy Communities and Environmental Justice Program

cc: Bob Bersak, Esq., PSNH
Meredith Hatfield, Esq., New Hampshire Office of Consumer Advocate
Kenneth Colburn, Stonyfield Farm
Art Cunningham, Esq.
DE 08-103 Service List

EXHIBIT A

Andrews, Jeff

From: Comstock, Gregg
Sent: Friday, September 11, 2009 8:19 AM
To: Spanos, Stergios; Currier, Paul M.; Heirtzler, Paul; Andrews, Jeff
Cc: Stewart, Harry
Subject: RE: Documents for PSNH meeting on Friday 8/11

Good.

See correction below (12% to 15%)

G

Gregg Comstock, P.E.
Supervisor, Water Quality Planning Section
NHDES Watershed Management Bureau
603-271-2983 603-271-7894 (fax)
gcomstock@des.state.nh.us

-----Original Message-----

From: Spanos, Stergios
Sent: Friday, September 11, 2009 8:07 AM
To: Comstock, Gregg; Currier, Paul M.; Heirtzler, Paul; Andrews, Jeff
Cc: Stewart, Harry
Subject: RE: Documents for PSNH meeting on Friday 8/11

That's pretty much what they heard at the May 26th (2009) meeting that was held here and attended by me, Gregg, Heirtzler, Jeff, Mitch Locker, and from PSNH – Lynn Tillotson and Alan Palmer.

Stergios K. Spanos
WWEB Permits & Compliance Section
NH Department of Environmental Services
29 Hazen Drive
Concord, NH 03302-0095
603-271-6637
sspanos@des.state.nh.us

-----Original Message-----

From: Comstock, Gregg
Sent: Friday, September 11, 2009 8:01 AM
To: Currier, Paul M.; Spanos, Stergios; Heirtzler, Paul; Andrews, Jeff
Subject: RE: Documents for PSNH meeting on Friday 8/11

I think the attached email sums it up pretty well.

The TMDL calls for:
74% reduction in Hg loadings
74% reduction in atmospheric loadings (which equates to a 98.2% reduction in anthropogenic atmospheric deposition)
74% reduction in point source loadings

9/11/2009

The PSNH scrubber is expected to reduce emissions by 80%. In the attached email, and based on a lot of assumptions, we estimated that this will result in a 42-15% reduction in atmospheric deposition. The fact is we're not sure how an 80% reduction in emissions at the Merr Station equates to reductions in atmospheric deposition in the watershed. Best case (which is highly unlikely) is that atmospheric deposition would be reduced by an equivalent amount (80%) in the watershed; this, however is still less than the TMDL target of 98.2% reduction in anthropogenic atmospheric deposition.

In the attached email we also did a quick analysis on reductions needed in the water column to meet target fish concentrations. In looking at this again, the calculation is incorrect because concentrations in fish and in the water are based on methylmercury and not total mercury. Since we don't have an existing ambient concentration of methylmercury, we can't estimate the % reduction needed. .

For the reasons mentioned above, existing point source loads from the Merr Station should not be allowed to increase and, in fact, should be decreased if possible. As Paul Currier states in the attached email:

"In order for the TMDL to have any credibility at all, PSNH cannot be permitted to create a new or increased load of Hg to the Merrimack. This leaves land disposal / treatment (rapid infiltration or injection) as their only option, I think. GW permit would need a "no increase over ambient" at the edge of the GW discharge zone."

I agree with this Paul's conclusion.

Comments?

Gregg Comstock, P.E.
Supervisor, Water Quality Planning Section
NHDES Watershed Management Bureau
603-271-2983 603-271-7894 (fax)
gcomstock@des.state.nh.us

-----Original Message-----

From: Currier, Paul M.
Sent: Thursday, September 10, 2009 4:09 PM
To: Comstock, Gregg; Spanos, Stergios
Cc: Heirtzler, Paul
Subject: RE: Documents for PSNH meeting on Friday 8/11

Guess we didn't get to this today. Are we all of one voice on what the performance specification is for Hg discharge from Merrimack Station?

P.

-----Original Message-----

From: Currier, Paul M.
Sent: Wednesday, September 09, 2009 4:35 PM
To: Comstock, Gregg; Spanos, Stergios
Cc: Heirtzler, Paul; Stewart, Harry
Subject: Documents for PSNH meeting on Friday 8/11

Hi Sterg and Gregg – the files at H:\Water

Quality\PERMITS\NPDES_WWTF\PSNH Merrimack Station indicate a lot of internal computations and correspondence about why Merrimack Station should reduce Hg loadings to be in compliance with the regional Hg TMDL. Did we share any of this with them?

If not, we should clean it up and send it to them tomorrow, before the meeting. I think the bottom line is that, even under the most generous interpretation, they cannot increase Hg loads in the plant discharge to the Merrimack. This needs to be clear to them before the meeting.

P.