

ATTACHMENT 1

Mandate of Scrubber:

Statutory References:

“The owner *shall* install and have operational scrubber technology to control mercury emissions at Merrimack Units 1 and 2 no later than July 1, 2013.” RSA 125-O:13, I (emphasis added).

“To accomplish this objective, the best known commercially available technology *shall be* installed at Merrimack Station no later than July 1, 2013.” RSA 125-O:11, I (emphasis added).

Legislative History References:

“This bill provides for an 80 percent reduction of mercury emissions from coal-burning power plants by July 1, 2013 by *requiring* installation of scrubber technology.” N.H. S. Journal 20, 935 (Apr. 2006) (statement of Sen. Bob Odell) (emphasis added).

“It also provides economic incentives for earlier installation and greater reductions in emissions.” N.H. S. Journal 20, 935 (Apr. 2006) (statement of Sen. Bob Odell).

“[E]ssentially what this does is that it essentially keeps tabs on what’s going on with the progress of this entire installation process.” *Hearing on H.B. 1673 Before the S. Comm. on Energy & Econ. Dev.*, *8 (N.H. 2006) (statement of Rep. Jay Phinizy) (regarding PSNH’s senate reporting requirement in H.B. 1673-FN).

“[O]nce we enter into this agreement, and once the plant essentially or the company starts dealing with specific items and specific installation procedures than [sic] essentially, I don’t think there’s any turning back.” *Hearing on H.B. 1673 Before the S. Comm. on Energy & Econ. Dev.*, *8 (N.H. 2006) (statement of Rep. Jay Phinizy) (regarding PSNH’s senate reporting requirement in H.B. 1673-FN).

“By calling out scrubber technology in the bill, we’re signaling PSNH from the word go to start to engineer, design and build scrubber technology right away. The bill has in it, within one year of passage of the bill, they are required to have all their applications in to us, which means there’s a lot of engineering work they have to do.” *Hearing on H.B. 1673-FN Before the S. Comm. on Energy & Econ. Dev.*, *33 (N.H. 2006) (statement of Bob Scott, Director, Air Resources Division, Dep’t. of Envir. Servs.).

“[W]e’ll look at what other states are doing and it’s so progressive, they’re requiring, for the most part, the installation of scrubbers. That’s what we’re *requiring*.” *Hearing on H.B. 1673-FN Before the S. Comm. on Energy & Econ. Dev.*, *35 (N.H. 2006) (statement of Bob Scott, Director, Air Resources Division, Dep’t. of Envir. Servs.) (emphasis added).

NH Supreme Court References:

“The installation of such a [scrubber] system **was mandated by the legislature** in 2006.” *In re Campaign for Ratepayers' Rights*, 162 N.H. 245, 247 (2011) (emphasis added) (internal citation omitted).

“[T]he legislation **specifically requires** PSNH to install ‘the best known commercially available technology . . . at Merrimack Station,’ which the New Hampshire Department of Environmental Services (DES) has determined is scrubber technology.” *Appeal of Stonyfield Farm*, 159 N.H. 227, 228 (2009) (emphasis added) (internal citation omitted).

“To comply with the Mercury Emissions Program, PSNH **must** install the scrubber technology by July 1, 2012.” *Appeal of Stonyfield Farm*, 159 N.H. 227, 229 (2009) (emphasis added) (citing RSA 125-O:11).

“According to the legislature, installing the scrubber technology ‘is in the public interest of the citizens of New Hampshire and the customers of [PSNH].’” *Appeal of Stonyfield Farm*, 159 N.H. 227, 229 (2009).

“PSNH **must** report to the legislature annually regarding its installation of the scrubber technology, including ‘any updated cost information.’” *Appeal of Stonyfield Farm*, 159 N.H. 227, 229 (2009) (emphasis added).

“Under RSA 125-O:18, PSNH ‘**shall recover** all prudent costs’ of installing the scrubber technology ‘in a manner approved by the [PUC].’” *Appeal of Stonyfield Farm*, 159 N.H. 227, 229 (2009) (emphasis added).

NH Public Utilities Commission References:

“Pursuant to the **express language** in RSA 125-O:11, **the Legislature required** that PSNH install the Scrubber by July 1, 2013” *Public Service Company of New Hampshire*, DE-11-250, Order No. 25,346, *21 (Apr. 10, 2012) (emphases added).

“RSA 125-O:11 **requires** PSNH to build the Scrubber to reduce mercury and state that it is in the public interest to ‘achieve significant reductions in mercury emissions at the coal-burning electric power plants in the state.’” *Public Service Company of New Hampshire*, DE-11-250, Order No. 25,346, *23 (Apr. 10, 2012) (emphasis added).

“The statute **directed** the construction of the specific technology PSNH installed at Merrimack Station” *Public Service Company of New Hampshire*, DE-11-250, Order No. 25,346, *23 (Apr. 10, 2012) (emphasis added).

“According to RSA 125-O:13, I, the Scrubber at Merrimack Station is to be installed no later than July 1, 2013 and the mercury emitted from the plant is to be ‘at least 80 percent less on an annual basis than the baseline mercury input, as defined in RSA 125-O:12, III, beginning on July

1, 2013.” *Public Service Company of New Hampshire*, DE-11-250, Order No. 25,346, *23 (Apr. 10, 2012) (citing RSA 125-O:13, II).

“RSA 125-O:11 *et seq.* **requires** PSNH to install the Scrubber at Merrimack Station to reduce air pollution, including mercury emissions.” *Public Service Company of New Hampshire*, DE-08-103, 11-250, Order No. 25,332 (Feb. 6, 2012) (emphasis added).

“In the instant case, by contrast, the scrubber installation at Merrimack Station does not reflect a utility management choice among a range of options. Instead, installation of scrubber technology at the Merrimack Station *is a legislative mandate*, with a fixed deadline. **The Legislature, not PSNH, made the choice, required PSNH** to use a particular pollution control technology at Merrimack Station, and found that installation is ‘in the public interest of the citizens of New Hampshire and the customers of the affected sources.’” *Re Public Service Company of New Hampshire*, DE 09-033, Order No. 24,979, *15 (June 19, 2009) (emphases added) (internal citations omitted) (distinguishing the scrubber financing from Seabrook).

“The Legislature has also retained oversight of the scrubber installation including periodic reports on its cost.” *Re Public Service Company of New Hampshire*, DE 09-033, Order No. 24,979, *15 (June 19, 2009).

“Furthermore, the Commission has only those powers delegated to it by the Legislature . . . , and, by statute, the Commission’s regulatory oversight here is limited to after-the-fact determinations of whether costs incurred by PSNH in complying with RSA 125-O:11-18 are prudent.” *Re Public Service Company of New Hampshire*, DE 09-033, Order No. 24,979, *15-16 (June 19, 2009) (citing RSA 125-O:18).

“As a result of these statutory mandates, we conclude that the Commission’s review of the financing to be used for construction of the scrubber technology at Merrimack Station cannot serve to undo the statutory purpose set out in RSA 125-O:11-18.” *Re Public Service Company of New Hampshire*, DE 09-033, Order No. 24,979, *16 (June 19, 2009).

“RSA 125-O:11 *et seq.* **requires** PSNH to install the scrubber technology at Merrimack Station in order to reduce Mercury emissions.” *Re Investigation of PSNH’s Installation of Scrubber Technology at Merrimack Station*, DE-08-103, Order No. 24,914, *1 (Nov. 12, 2008) (emphasis added).

“[T]he Legislature has made the public interest determination and **required** . . . PSNH, to install and have operational scrubber technology to control mercury emissions no later than July 1, 2013.” *Investigation of PSNH’s Installation of Scrubber Technology at Merrimack Station*, DE-08-103, Order No. 24,898, *10 (Sept. 19, 2008) (emphasis in original).

“A review of the Senate Journal for April 20, 2006, at p. 935 *et seq.*, shows that the members of the Senate Finance Committee were focused largely on the timing of installation and the prospect that PSNH could install the scrubber technology in advance of the July 1, 2013 deadline.” *Investigation of PSNH’s Installation of Scrubber Technology at Merrimack Station*, DE-08-103, Order No. 24,898, *10 (Sept. 19, 2008).

NHDES References:

“The [Temporary Permit] application was filed *in accordance with RSA 125-O:13, I, which requires* this facility to file an initial permit application by June 8, 2007. This permit establishes limits on mercury and sulfur dioxide emissions based on the requirements of RSA 125-O:13 and 40 CFR 51.308 respectively.” State of N.H., Dep’t of Envir. Servs., Air Resources Division, Temporary Permit, No. TP-0008, *5 (Mar. 9, 2009) (emphases added).

Air Resources Council References:

“As a matter of law, PSNH is *required* to install and operate the Scrubber system.” State of N.H., Air Resources Council, Decision & Order on Appeals, Nos. 09-10, -11, Findings of Facts & Conclusions of Law, No. 107 (Sept. 20, 2010) (emphasis added).

Site Evaluation Committee References:

“The statute *mandates* significant reductions (80%) in mercury emissions at coal burning electric power plants in the state. The statute also *requires* the installation of a wet flue gas desulfurization system (Scrubber Project) otherwise known as a ‘Scrubber’ at the Merrimack Station facility no later than the year 2013.” State of N.H., Site Evaluation Committee, No. 2009-01, Order Denying Motion For Declaratory Ruling, *2 (Aug. 10, 2009) (emphases added).

“*In accordance with* RSA 125-O, PSNH has begun construction of portions of the scrubber technology at the Merrimack Station facility.” State of N.H., Site Evaluation Committee, No. 2009-01, Order Denying Motion For Declaratory Ruling, *2 (Aug. 10, 2009) (emphasis added).

“Moreover, RSA 125-O, *mandates* the installation of the Scrubber Project at this particular industrial site.” State of N.H., Site Evaluation Committee, No. 2009-01, Order Denying Motion For Declaratory Ruling, *10 (Aug. 10, 2009) (emphasis added).

“In addition, because *the Legislature specifically required* the installation of the scrubber, it could not be found that the project is inconsistent with the state’s energy policy as established by the Legislature.” State of N.H., Site Evaluation Committee, No. 2009-01, Order Denying Motion For Declaratory Ruling, *11 (Aug. 10, 2009) (emphasis added).

“The equipment is being installed to meet an environmental mandate, and a state and federal mandate to comply with certain requirements for air pollution emissions.” State of N.H., Site Evaluation Committee, No. 2009-01, Public Meeting and Hearing Day 3, *57 (Statement of Harry Stewart, Director, DES- Water Division).

EPA:

“In 2006, the New Hampshire legislature enacted RSA 125-O:11-18, which **requires** PSNH to install and operate a wet flue gas desulfurization (FGD) system at Merrimack Station to reduce air emissions of Mercury and other pollutants.” EPA-Region 1, Determination of Technology-Based Effluent Limits for the Flue Gas Desulfurization Wastewater at Merrimack Station in Bow, New Hampshire, 1 (Sept. 2011) (emphasis added).

“PSNH is **required** to have the FGD system fully operational by July 1, 2013, ‘*contingent upon obtaining all necessary permits and approvals*’ from federal, state, and local regulatory agencies and bodies.” EPA-Region 1, Determination of Technology-Based Effluent Limits for the Flue Gas Desulfurization Wastewater at Merrimack Station in Bow, New Hampshire, 1 (Sept. 2011) (first emphasis added).

“The New Hampshire statute **expressly requires** PSNH to install a ‘wet’ FGD system at Merrimack Station.” EPA-Region 1, Determination of Technology-Based Effluent Limits for the Flue Gas Desulfurization Wastewater at Merrimack Station in Bow, New Hampshire, 1-2 (Sept. 2011) (emphasis added).

ATTACHMENT 2

Date: April 11, 2006
Time: 3:40 P.M.
Room: LOB RM 102

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The Senate Committee on Energy and Economic Development held a hearing on the following:

HB 1673-FN relative to the reduction of mercury emissions.

Members of Committee present:

- Senator Odell
- Senator Letourneau
- Senator Boyce
- Senator Bragdon
- Senator Burling

The Chair, Senator Bob Odell, opened the hearing on HB 1673-FN and indicated that anyone who wishes to speak today to please make sure you have signed up, because when we get done the sign up list, that will be it. And the second part of it is that, I know people feel strongly about this bill, both ways. I hope you'll be collegial with everyone. And third, if you could limit your comments to new information, not previously stated by predecessors, speakers, I would appreciate it very much. With that I'll call on the sponsor of the bill, Representative Larry Ross to introduce the bill.

Representative Larry Ross, Hillsborough, District 3: Thank you, Mr. Chairman and members of the Committee.

Senator Bob Odell, D. 8: Good afternoon Representative Ross.

Representative Ross: I'm glad to be here today and if you don't mind I would like to give you just a little background on how we got here today with HB 1673-FN. And, first of all I would like to thank the members of the Senate, that about one year ago sent SB 128 to the House was insurance. That bill came over and as you know was retained by the Science, Technology and Energy Committee for further study and I can assure you that it received plenty of study and plenty of emphasis in the Committee. A lot of work was going into it and primarily the outcome of the Committee deliberations of SB 128 were that with everything that was going on in the energy environment at that time, it makes sense to

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split it because there are two parts to it, carbon dioxide and the mercury bill. And about that time REGIE came in. So it makes sense that we ought to try to make sure that what was in the bill in the form of what was coming down the pike, was the regency of gas use. And this other Committee put that out and based on the assumption that we would be addressing this greatly in the future, and we are doing that as we speak today.

And that left the mercury side of the bill. And the Committee recognized that the Senate put a lot of work into that bill, but also recognized that there was a very limiting time constraint. As a matter of fact, many of you perhaps participated in this so-called "midnight amendment," when we tried to fix it and get it over to the House as quickly as possible, and we appreciate the fact that we had all of that to work with to begin with. But the Committee was faced with a choice if we were to work on the bill and amend it, then where does it go? There would be probably significant revisions to the bill; as it turns out they are pretty significant revisions. It was pretty well assumed that the bill would go back to the Senate for concurrence, and quite possibly end up in a Committee of Conference. And there was a problem for some of the members of the Committee that there would not be a full and public hearing in the Senate on the amendment. And so for that reason a course of action that derived was to recommend ITL on SB 128 and use that as the genesis for a new bill, 1673. And that is essentially how we got here today with HB 1673.

Over the summer last year, a lot of developments took place. First of all, many of the stakeholders who were part of SB 128 were asked to participate in stakeholders' meetings to suggest revisions to the old SB 128, and that happened. We had a very good group of folks, including the Governor's office, the Governor's Office of Energy and Planning, Public Service of New Hampshire, Department of Environmental Services, environmental organizations and the office of Consumer Advocate I believe was involved. And they worked over a long period of time and finally just in time for their submission of LSR's last fall, came forward with a draft bill because we had killed 128, a draft bill 1673, which is the basis for what we're considering here today.

I'd like to comment on the support schedule. You'll notice along with some sponsors and co-sponsors that are ... that were interested in this bill and signed on to co-sponsor it during this process. But more importantly is the coalition of support that has evolved. It's been both parties, Democratic and Republican, Senate and the House, House leadership from the Speaker down to the Minority Leader, who again, the Governor's office, very, very strong support on both sides of the General Court and both sides of the political process.

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But what we came out with was I think I've best described as a very reasonable bill, with the primary objective of removing mercury from the environment. And we heard lots of testimony about the effects of mercury and the hot spots in some areas of the state.

A bill which provides for a reasonable reduction in mercury, at a reasonable cost, and I will say it's reasonable and affordable. In a reasonable period of time, by a reasonable group of people, and that bill calls for reduction of mercury of at least eighty percent by the year 2013, and that's only seven years from now and that cost of over two hundred million dollars, depending on whether we talk about our current year or 2013 ...

Senator Robert K. Boyce, D. 4: Mr. Chairman, could we suspend a moment.

Senator Bob Odell, D. 8: Yeah.

Senator Robert K. Boyce, D. 4: Could we either have the door closed or have somebody go clear the hallway? I can barely hear him.

Representative Ross: At a cost of over two hundred million dollars in current ... I lost my train of thought.

Senator Robert K. Boyce, D. 4: Sorry.

Representative Ross: That's okay. By the installation of two methods of technology, one in the short term and the near term of mercury reduction in a near timeframe. We have the technology that's referred to as the "Sobin" technology and as many of you know, he owns a facility. Public Service of New Hampshire at this time are working with the DOE, Department of Energy, in a pilot program to ... and they have received a grant to do that of around two and a half million dollars, and that's why Public Service of New Hampshire ... and they're developing a five million dollar project to develop mercury reduction and capabilities with this activated carbon injective technology over the next two years, so that we should be able to see significant reductions in mercury within a two year timeframe. And by significant, we had an experience last summer with another experiment where they, a vendor ... that perhaps Representative Maxfield might of characterized properly, but I won't repeat terminology, and it was not a very good outcome. But with this experiment with the Department of Energy and really professionals, and they do pilot programs and these kinds of programs throughout the country on many different kinds of power plants.

The Representative from the DOE testified to the Committee that it's possible to achieve fifty to seventy percent reductions in mercury using the Sobin technology.

The other form of technology involves the installation of scrubbers in the stacks of the two plants in Merrimack, Unit I and Unit II. It has been shown that this scrubber technology, in some cases has achieved mercury reductions of ninety percent. The bill calls for at least eighty percent and that's tied to the economics of the bill, the availability of vendors, guarantees that might be required in order to finance this project. And so, with the combinations of the two technologies, one short-term and the scrubbers longer term, I've used just some hypothetical number. If the mercury inputs to the plant say were a hundred pounds per year, as derived from testing the coal, and if the mercury in that coal can be reduced by activated carbon injection as it goes through the process by fifty percent, we're down to fifty pounds of mercury. And if in fact, then the scrubbers are installed and they can reduce eighty percent, we've taken another forty pounds away, and so we're right there at ninety percent, and we fully expect that they'll do better in both cases.

Now, with regard to the timeframe, we have access to some pretty sharp folks on the Science, Technology and Energy Committee, and the one who is Representative Itse who makes a living in the emissions control technology arena. And we asked Representative Itse, with his background, and Representative Chase who's a member of the Committee to coordinate on developing the project schedule for the completion of the installation of the scrubbers; and if I could hand those out?

Please see submission of Representative Larry Ross entitled, "Merrimack Station - Unit 1 and Unit 2, Scrubber and Auxiliary Systems Schedule," attached hereto and referred to as Attachment #1.

They looked at this extensively and basically what it says, if you have to go through the steps that are listed on the side in a reasonable manner, in order to spend two hundred and fifty million dollars over seven years, than this is the chart that's critical. The red lines are a critical path. And that means that one has to be done before another in a reasonable timeframe. And the best we could do is admit to 2013.

And once you start trying to squeeze that in, then you start jeopardizing the availability of equipment, rates on loans that are required, increased risk perhaps, or strikes, or competition for the Stuber technology, waiting periods, delivery times and all of those things, so that 2013, as I

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indicated is a very reasonable timeframe to expect this project to be completed. Then there was also a question about the early emissions we needed before 2013, and of course that's where the carbon technology comes from. We fully expect that there will be significant reductions within the two year window, at the end of the two years, that's when that project is scheduled for completion.

There was some concern about not locking in some specific amount during that two year period, but, like I tried to indicate, that we have really an eternal program that's been proven in other places. These plants are unique. We don't know exactly what those numbers will be and we thought it was inappropriate to try to legislate given that technology and the state of the art.

With regard to the testimony that indicated that we could do more than ninety percent. I'll refer back to SB 128, which had ninety percent in it, but it also included mitigation, and by mitigation, then if there could be reductions off-site, which could be counted against that ninety percent; whether it be cleaning out mercury in the traps of laboratory sinks or whether it's thermometer programs, or any other way that could be applied towards the ninety percent. So in effect, we were talking about eighty-two percent on-site is the number I recall.

The most important thing, or one of the most important things in addition to the alleviation of a public health concern, was the reduction of sulfur dioxide which is accomplished by the same scrubbers that we would work with, up to ninety percent. And why is that important? It's because right now Public Service of New Hampshire is having to buy credits, SO₂ credits, which are an important part of the factors which caused acid rain and those kind of things. Is that ... Public Service of New Hampshire is having to buy credits, right now, to comply with federal and state regulations for reduction in sulfur dioxide. It doesn't mean it's being reduced now. It just means that the rate payers are having to pay to buy compliance so that the ninety percent reduction in SO₂ ... that's a heck of a cost avoidance. It's estimated to become at least twenty or thirty million dollars a year that the rate payers don't have to pay. And that's really a double bonus, we get the mercury reductions, we get the SO₂ reductions, we don't have to buy SO₂ credits and that cost avoidance can be used to alleviate the costs of the two hundred million dollars that we're talking about.

So then there was the question of, "What are we doing with mercury credits?" Everybody agreed that we didn't want to be in a CAP A Program with mercury however if possible, within our current regulations for the DES to credit manager up to ... to be able to convert mercury credits to SO₂ credits. And some folks object to that because it looks like we're

subsidizing some plants perhaps in Indiana or Illinois, but I'd like to point out that nobody is going to be selling those credits. They're going to be accumulated and it will further reduce our need to buy credits to be in compliance. That is additional cost avoidance. And if we don't recognize the value of those credits in that manner, I believe the rate payers are leaving millions of dollars on the table if we can't take advantage of it.

So in a nutshell, I would ask you to favorably consider the work that's going into SB 128, and as you've all been to 1673, and to favorably consider, "ought to pass" on the bill that you have before you today. Because, as I indicated, it's been worked out, with a consensus of stakeholder bipartisan, as strong as it's worded and it's a reasonable reduction, and it's a conservative reduction at a reasonable cost, and affordable cost, in a reasonable period of time.

Thank you, Mr. Chairman. I'll answer questions.

Senator Bob Odell, D. 8: Thank you, Representative Ross. Thank you for your testimony. Questions for Representative Ross? Senator Letourneau.

Senator Robert J. Letourneau, D. 19: Could you ... you talked about eighty percent reduction. Could you put that in terms of how much mercury that really involves, or how many pounds of stuff is going in the air?

Representative Ross: I believe the numbers that were floating around with SB 128 was in the order of one hundred and twenty-four pounds of mercury a year. And at eighty percent of that would be the net outcome of, whether it was one twenty-eight and at eighty-two percent of the (inaudible), so eighty percent plus, in this case ... so eighty percent of one twenty-four.

Senator Robert J. Letourneau, D. 19: I think he figured that we'd do the math. Thank you.

Senator Bob Odell, D. 8: Any other questions? If not, thank you, very much for being here and I want, I think, been involved in, as its been mostly as an observer for the past year or so. I commend you and those that you work with for coming together and bringing what I think in the legislative process is a ... gives us credibility and stature and that is to build consensus. No one in a democracy is always happy when they go home, and it's a business of compromise, and you've been a great leader in bringing that consensus and that compromise to us.

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Representative Ross: Mr. Chairman, I think the credit goes to the Committee. Thank you.

Senator Bob Odell, D. 8: Thank you. Thank the Committee on our behalf. I'm going to call on Senator Martha Fuller Clark.

Senator Martha Fuller Clark, D. 24: Senator Odell, I signed in support of the bill, but I don't need to speak.

Senator Bob Odell, D. 8: Oh, okay.

Senator Martha Fuller Clark, D. 24: Thank you.

Senator Bob Odell, D. 8: All right. And I'll call on Representative Jay Phinizy.

Representative Jay Phinizy: Good afternoon Mr. Chairman, members of the Committee.

Senator Bob Odell, D. 8: Welcome to the Committee.

Representative Jay Phinizy: For the record, I'm Jay Phinizy and I represent Acworth, Charlestown and Langdon in Sullivan County. I'm co-sponsor of this bill and I signed up in support of the bill, however I have reservations and I would like to speak to some of those reservations. I've made observations on where I think the bill could be improved even further. In the spirit of compromise, I think it's important that this Committee look at these recommendations and suggestions.

At the outset, what I'd like to do is I'd like to discuss this almost as if it were a contract and an agreement between a company and the state. And, in essence, that's what it will be over the next few years. Once we get into this contract and agreement the base will be tied. Some people would sell, well, we can quite possibly change these terms of agreement later on, but I don't think that will allow to be favorable to the company or to the people. So therefore, what I'd like you all to do now, over the next couple weeks, is look very hard at this bill, and look very hard at some of the ramifications that it may have. You'll be hearing from someone in testimony a little later on today regarding a proposed amendment or suggest the recommendations for an amendment, and I basically, wholeheartedly support some of these recommendations because I think they have great value.

Right now, if you look at the bill, one of the things that I've found problematic with it, and there's some things that I like very much agree with this bill, but one of the things that I find problematic with it is the

way they essentially bundle the mercury tabulations. And you'll see on Page 2, the Section 125-O:12 Definitions; and they talk about affected sources, and that's in line 10. And then we talk about base line mercury emissions, and that's on Line 12. And you'll see here it says, "Baseline emissions means the total annual mercury emissions from all of the affected sources, calculated in accordance with RSA 125-O:14."

In essence, the way I read this bill and the way I'd like to see it changed is be to calculated but calibrate in view of the emissions on a plant-by-plant basis. And I think that's critically important. Therefore, I think what you do is you get a far better reading from the situation. You'd find out that you'd have a far better analysis of just exactly how one plant is doing versus the other, which is Schiller versus Bow and Merrimack. There is a change in here that I do agree with wholeheartedly and the Chairman of the Science and Technology Committee and I did agree to this change and that's on Page 3 and its Line 24. And it talks about the reporting by June 30, 2007 and annually thereafter. And I think this is an excellent idea because essentially what this does is that it essentially keeps tabs of what's going on with the progress of this entire installation process. However, I would like to see that shortened. And I think it would make more sense to have that on a semi-annual basis. That way, if there seems to be problems, the legislature and the state can react more quickly than on an annual basis. One of the problems I do have with that however, is that once we enter into this agreement, and once the plant essentially or the company starts dealing with specific items and specific installation procedures, than essentially, I don't think there's any turning back. That leads me to the next point.

I think that the deadlines are way too far out. And the reason I think that they are way too far out is that, and I'll refer to the EPA Report, as well as other people would refer to, quite simply some of the other states that are at hand. Right now, if you look at this bill and if you look at an out of sight of controlled mercury emissions from 2/05 electric utility boilers, and it's an EPA Air Pollution Prevention Control Division in court, it states specifically, and it lists various different kinds of retrofit and technology to be able to put onto this system, essentially says, that if you applied what they call "Selective Catalytic Reduction," which I believe this plant already has, the major plant, an FGG of PM of mercury control system, that these installations could prepare within three to four years. So when we enter into this contract and when you start to deal with this issue, what I really think is more important is that we need to keep a very short time line and then we allow that time line to be relaxed, if necessary, if we find that there are technical problems. Consistent with that, the current bill also speaks to some very, very specific technology requirements; and I do agree with the activating carbon injection system, however, I think what probably would make far greater sense is if this

bill were to follow the same format as 128 and merely talk about requiring the company to come into, what we call reduction compliance, and allow them to be very specific and deal with that kind of technology without us basically mandating this specific technology. I think it's very important that we don't micro-manage. I would sight the most recent Maryland bill. And I'll give you a quote there. And I think it's something that we ought to follow. It says, "a person that owns, leases, operates or controls an effective facility that are subject to the requirements of this statute may determine how best to achieve and collect the emissions requirements under subsection A, B and C." In essence what they're saying is they rely on the company to make the best business decisions. They do not rely on this legislature regardless of whether it's an individual or committee or a group of people and a midnight amendment suggesting any kind of specific control technology. I think this is a very important thing to take into consideration when we review this bill.

Further on down the line I look at the question of credits. I am very concerned about mixing even the mercury credits with the other credits. I think that we have to be very careful about that. There will also be other people to speak to that issue.

In closing, what I would like to say is that yes, I will support this bill and yes, I will support it and I will agree with it in the long run. However I think we can go further and I think we can compromise and come out with a far better product. We're a teacher right now at writing the final report. I would probably give this report or this term paper a C+. I think quit frankly, this Committee and the legislature can do a whole lot better. I think we can come out with a B+ term paper or B+ report, and I believe that it's up to you all to take this and look at it even further.

And one of the things that concerns me about extending the time line entirely too far out is whether or not we really come into compliance in a reasonable amount of time and whether or not we will come into far greater costs further down the line. If we turn around and allow too far an extension into the future, the costs will be far greater and this gets into, what I consider a very, very important factor, which is an increased cost to the ratepayer. And I think that's something that you have to be very considerate and concerned about. If we allow this in essence to come into production, oh let's say in 2013, the cost of installation over that period of time could be passed off to the rate payers. So I think we have to look at that.

Now, looking at you at this table, essentially three of us, including myself, right now we've probably suffered when it comes to increased rates. Probably two of you will have constituents that will suffer if we don't get mercury and SO₂ emissions reduction sooner. So I think we

have to look at much tighter deadlines. I think you have to say to yourself, it's much better to set a very tight deadline, get into a contractual agreement and a very tight closed manner. And if there are technical problems, allow that agreement to extend a little bit. And I think that's important strictly for the protection of the individuals of the state and your constituents.

One of the things in the Maryland bill that I would have a little focus on, and I'd be glad to leave a copy of the Maryland bill, is it has some good aspects, this is something that I really actually agree with Representative Ross. I think you should focus on essentially putting in a study committee that would basically look at, and I'll read the section in the Maryland bill. It says, "the Department of Environment shall contract with an academic institution in the state for a study of whether there will be adverse impacts on the state economy or the liability of the state's energy supply and the cost of energy for consumers as a result of the state's entry into a continued participation in the regional greenhouse gas initiative." Now they say, of course, among mid-atlantic and northeastern states. I think this is important that you attach a study to this bill so that we keep the whole regional greenhouse initiatives, the costs and the necessity alive. To me that's a very important factor. This is not just a mercury bill. This is an air pollution bill.

With that I thank you. I've tried to condense a fair amount of what I wanted to say and I'd be glad to take any questions.

Senator Bob Odell, D. 8: Representative Phinizy, thank you very much. Any questions? Senator Letourneau.

Senator Robert J. Letourneau, D. 19: Representative Phinizy, could you tell me how much mercury is falling on New Hampshire right now, currently? Do you have that ... any idea?

Representative Phinizy: No, I couldn't tell you that. How much actual mercury is falling on New Hampshire? I can tell you that it was estimated out of the Bow/Merrimack plant there were about one hundred and twenty-five pounds.

Senator Robert J. Letourneau, D. 19: But we already heard that.

Representative Phinizy: I understand that.

Senator Robert J. Letourneau, D. 19: I'm wondering how much mercury is coming from the plants in Ohio and Illinois and Michigan?

Representative Phinizy: Well I happen to be ... if I can't ...

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Senator Robert J. Letourneau, D. 19: They don't have any trouble zones?

Representative Phinizy: Well I'm not going to speak to that issue. What I'm going to speak to is what's important locally. And I happen to think that mercury does not travel to the degree that the other high flying gases travel. I think that's very important we install mercury scrubbers. I do support that part of the bill that says, "Let's put that technology on now." What I would like you all to do is look very closely to make sure that that technology continues to run throughout the life of it. That it's not shut down in a year or two. I think that's a critically important aspect.

How much mercury is coming from the mid-west? Frankly that's between you and fence post, and that's not important; it's how much mercury we're generating here. That's critically important. Right now, the plant, the Bow Plant generates a phenomenal amount of mercury. And those two plants now reduce their mercury production, which would be the Penacook Plant and the Claremont Plant. They will essentially, in the next few years, be down, I think to fifteen to twenty pounds.

Senator Bob Odell, D. 8: Senator Bragdon.

Senator Peter E. Bragdon, D. 11: Thank you, Mr. Chairman. Good afternoon.

Representative Phinizy: Good afternoon Senator.

Senator Peter E. Bragdon, D. 11: I think I saw something in the bill ... I understand your concern about stretching out the time frame, but I thought I saw something earlier about some economic incentive or incentives for Public Service to do this a little faster, increase credits or such as that. Aren't there incentives in this bill to at least encourage them to move along a little faster if they can?

Representative Phinizy: Well, of course there are incentives to encourage it, but right now, I went on line and I basically did a little bit of an analysis of the company. Right now the company is losing money. Although their annual gross asset, annual gross revenue is something like seven and a half billion dollars. They are at a loss mode. So if you take a company this entire package, because it's not just Public Service of New Hampshire, it's Northeast Utilities, you take it as an entire package, they may make a financial value judgment that says that they may want to put that off because they may find that it may save them money in the long run. So I don't have a lot of faith in what I call

economic incentives per say, I have a greater faith in a much ... this is why I really like SB 128. Senate Bill 128 said, we'll do "X" in a certain amount of time and you reduce it at least by "Y" amount of pounds of mercury. And if you can't, well then we'll basically go back to the drawing board and see what's achievable. And you see to me, that makes a great deal more sense in giving economic incentives. I just think it ... we don't meddle with business and they don't meddle with us. You know, I get very nervous about giving credits and incentives. Thank you.

Senator Bob Odell, D. 8: Any other questions? If not, thank you very much. And I'll call on Senator Maggie Wood Hassan.

Senator Margaret Wood Hassan, D. 23: Good afternoon.

Senator Bob Odell, D. 8: Good afternoon Senator Hassan.

Senator Margaret Wood Hassan, D. 23: Thank you, Mr. Chairman, members of the Committee for hearing my testimony. Mine is also going to be divvied because I think there are people in this room who can talk about the technical details of this bill far better than I can. But I do want to tell you why I'm here. I'm in support of the bill for two reasons.

One, because I think it represents excellent and hard work by the Science and Technology Committee of the House and it is a solid compromise. And that is one of the things we are in the business of doing here, is listening to each other and moving forward as we can, as we work together and learn to accommodate each other's concerns.

The second reason I'm in favor of this bill, and the thing that I have relied upon in getting me to the point where I support this bill in this hearing today, is the representations by PSNH that they will, in fact, engage in early mercury reduction technology. They have applied for the DOE Grant, they have received the DOE Grant, and I believe they are committed to working with alternative technologies to start reducing mercury sooner, rather than later. That is extraordinarily important to me. One of the things that brings me here is the fact that my Senate District, Senate District 23, and I forgot to say for the record, I'm Maggie Hassan from Senate District 23. (Laughter.) So there we are. Which are Exeter and nine surrounding towns. Is that my district sits in a mercury hot spot. To respond a little bit to Senator Letourneau, I don't doubt that some mercury comes from other places, but I also know that when you look at the maps of hot spots in this state, it is very clear that we are downwind from power plants. And, I hear on a regular basis, as I was just discussing in the Environment Committee, from the folks in my district who I would call and I consider myself one of the mercury moms.

We don't know entirely what mercury does, we do know it is an enormous health concern for our constituents, particularly those who are dealing with the booming epidemic of autism in this state. And I don't know whether there will be evidence to ever suggest that mercury from power plants contributes to autism, we don't know the science yet. We do know that probably children with autism have a genetically disposition to be vulnerable to combinations of chemicals that most of the rest of us tolerate. And with that in mind, I think mercury reduction sooner, rather than later is a health imperative, just the way reducing lead became an health imperative for the generation too before us.

PSNH I think, understands this. I think they have made public representations that they are committed to early mercury reduction. I am concerned that the aggregate reduction that is being measured in this bill may not be monitoring the seacoast power plants quite the way they should be, and I look forward to working with PSN&H on that further, because I think frankly that that's an area of concern for my area of the state. But we made progress by moving forward a step at a time as we are able to, but we can come to an agreement about how this is a very important issue. And I think that this is a terrific step forward. Thank you.

Senator Bob Odell, D. 8: Thank you very much for your testimony. Questions? Senator Letourneau.

Senator Robert J. Letourneau, D. 19: More of a comment. Thank you Senator Hassan for testifying and I agree with you. I hope you didn't mistake what my comments were.

Senator Margaret Wood Hassan, D. 23: No I didn't.

Senator Robert J. Letourneau, D. 19: Is that we're doing everything we can here in this state to reduce mercury, but we're not doing ... being much ... as the rest of us.

Senator Margaret Wood Hassan, D. 23: And thank you for your comment. I didn't misinterpret that. I will let you know that as the Representative to the NCSL Environment Committee, I am trying to do my bit for New England when I advocate in those meetings to Ohio and the other mid-west states about cleaning up their mercury.

Senator Robert J. Letourneau, D. 19: Thank you.

Senator Bob Odell, D. 8: Other questions? If not, thank you very much. I'll call on Representative Gene Andersen.

Representative Gene Andersen, Grafton/11: I am Representative Gene Andersen and I represent Lebanon. I speak in favor of the bill. However, I do take issue with the time line. I have one, just a quick copy, a black and white of a handout that you were handed out earlier by Chairman Ross.

Please refer to documents submitted by Representative Ross, attached hereto and referred to as Attachment 1.

I'm in construction, and I'll get into that a little bit further. Chairman Ross said that this is a reasonable time line and there are individuals on the Committee, including Mr. Itse and Mr. Chase; Representative Chase who developed this time line. Representative Itse apparently sells process equipment, Representative Chase was a surgeon.

I have thirty-one years in construction working on large scale projects. I am not an engineer, but my title is engineer and I the engineer for the Tobin Bridge in Boston and Ralph Cote's work for seven years. I've worked on a lot of projects. I'm just going to name a few of them because I think they relate directly to the work involved here, and I'm going to also mention the time line and the money because it also relates.

I was a project superintendent for SD Warren Paper Machine, No. 2 (inaudible). It was a \$1.2 billion dollar project which would be over \$2 billion dollars in today's dollars. The project started in 1989. It produced paper in 1990. That is just over one year. Okay? I also was project superintendent, Dartmouth Hitchcock Medical Center, \$228 million dollar project; ground breaking 1988, patients October 1991. Casco Cape Bridge, \$130 million dollar project, three year construction, one mile long bridge, second longest base fields span in the world, unique project, three years to traffic. I did work on the MWRA project and I also managed quality control for Cronings for approximately sixty percent of the Cronings in the I-93 tunnel section of the central artery. I have worked on those, as well as numerous other projects.

Now, when I saw this schedule that we have here, it's pretty much unlike any other project that I've ever seen. And so I mentioned it to Committee at that time, my experience with SD Warren Paper Machine because I think that was particularly relevant again. In today's dollars, \$2 billion dollar project completed in almost one year.

So here's what I heard. Permit process takes so long and we can't do anything until the permit process is completed. What DES advises is the permit process could be completed in shorter period of time such as six months. I was advised that we could cut back the time and extensions could be given to PSNH if they went over that time. PSNH was concerned

about the PUC as they said that they'd have to justify these delays by ... I kind of would think that that would be the whole point of the PUC, that they would have to justify those delays. And I have no doubt that if the permitting process was held up, that you and the legislature as well as PUC would fill those extensions.

Another thing I heard, banks won't lend the money until permits are in place so nothing can happen until permits are in place. PSNH is a regulated utility. We're not talking about somebody going out and getting money off the street here. In this bill they have ... the fact is that they're going to get their money back on this. Now, on almost every project of any large scale today it's done from a design build standpoint, including things even like the central artery. The reason for that is that cost of money is so incredibly expensive. So, if you look at this schedule here, you'll see that we've gone ahead ... we're getting the permit ... and I'm ready to start doing scrubber engineering after we get a permit. Obviously on any project that I'm familiar with, engineering goes ahead of almost anything and we're about ready to start the project when we get the permits.

Now, another thing that we heard was that there's a backup due to the demand on these scrubbers. Well actually about a third of the power companies have received these scrubbers between 2000 and 2005. So we're in the process mode right now and the work that is in process now, a lot of it will be completed by 2011 or 2013.

Now you heard Representative Phinzy talk about Maryland earlier. Maryland is going to start requiring scrubbers for technology that will do the work on all of their equipment. So we may in fact be in the lull in engineering and in getting started up on this project when we put this thing out. We may be up against the wall, against many people right now while things are in the process.

Now, it's such a large project that the area would be overwhelmed. This is a very small project, estimated at about \$270 million dollars. I think if you were to look at the City of Boston, which is much bigger than Concord, obviously, however as an MWRA project that was an essential artery and there was also the airport expansion, as well as going ahead and throwing in (inaudible) and all of that time and everything, in a very compressed period of time.

I work for a (inaudible) and Community firm company. Fifty percent of the engineers who worked in Boston five years ago are now gone. That's how these projects should of bulked up. So, it is a very small project.

Now when I mentioned to Representative Itse that this project with SD Warren cost \$1.2 billion and \$2 billion in today's dollars, he said, "I'm sure that that was probably the only project going on at the time." Now in my experiences in construction, that's where I felt that he was a little unaware of how things work in construction. The way things work in construction is everything happens in an industry all at one time. Okay.

The paper mills were very big at that time. As a matter of fact, at the time the \$1.2 million dollar expansion was going on, major expansion that IP and GA George ... Specific with had a (inaudible) took a seventeen story boiler there, Great Northern was expanding and even James Ruther, the owner at Berlin at that time, had about a \$170 million dollar expansion going on, which would probably be pretty much equivalent to this in today's dollars. Now, the people who do this kind of work are the same kind of people who do those would also work on that project.

Another thing I heard was there would not be enough cranes to do the job. To which I said, "Call Camrino Crane, you could have three hundred of them up here right away." Now I think any of you that worked in ... that saw the central artery project, saw that there were tons of cranes down there; they are all gone, they are all looking for a place to go. Now in fairness to Public Service of New Hampshire I ask their lobbyist, I said, "Cranes?" And the lobbyist said, "I'm not sure where that came from, we probably have a crane from Schiller that we could pull over." Now scrubbers don't require a large crane compared to putting in boilers in the first place. So the cranes is definitely not a problem.

So I think that these are the things you have to think about. Right now this work is in the process. Engineering is out there, this is not a unique engineering system. There are about five engineering firms that do design, about five engineering companies that do building. The paper mills, there's essentially only one company in the America, AHOIT, or you have to go outside. So this is not a difficult construction project.

I think the other thing I'd like to just make one comment on. When you think about these things, remember that we built more battleships in World War II than have been built, since before, or ever since. That's how much construction happens in this country. And that's how fast it moves around. And with that I'll take any questions that I might.

Senator Bob Odell, D. 8: Any questions for the Representative? Seeing none, thank you very much for your testimony. I'll call on Representative Naida Kaen. Good afternoon.

Representative Naida Kaen, Strafford/7: Good afternoon. Thank you Mr. Chairman. For the record my name is Naida Kaen. I represent Lee,

Durham and Madbury, Strafford District 7. To begin with I want you to know that I'm not an engineer.

Senator Bob Odell, D. 8: Thank you.

Representative Kaen: But I've been on the Science, Technology and Energy Committee listening to engineers since 1995. I think what may have been slightly overlooked, and I just want to fill in a few gaps. Chairman Ross did an excellent job of representing what has happened and the deliberations in the Committee and around the table in order to come up with the current bill.

What perhaps has been overlooked is the role through the years that has been played by environmental organizations who force the issue, who publicize the issue for who we need some thanks and I hope you recognize that. On the other hand, I am in full support of this bill, as written. I think now that the parties have come together around the table, and come to a consensus that that role is over with, that we have achieved a consensus at this point and we should expedite. The sooner we do this for the people of the State of New Hampshire, the sooner we will begin those mercury and SO₂ reductions. And I simply, I will leave it at that, and if you have any questions, I'm not here to field any technical questions. My role has always been to put the whole thing in perspective.

I just ... one further note from a finance perspective. I do have a background in finance and accounting so I would urge you not to even consider extending a new time line. And my logic is this. It would increase the risk. This is a regulated utility; it may increase financing costs to the extent that the utility can claim that their risk is greater because we put additional pressure on them that their costs will go up. And who do the costs flow through to? The rate payers. We have to take that into consideration, that what we have here is a compromise that takes all the factors into consideration.

Senator Bob Odell, D. 8: Thank you. Any questions? If not, thank you very much for being here. I'll call on Representative ... Representative Theberge from Berlin signed in, in favor of the bill but did not wish to speak. I think I've got all the Senators and all the Representatives. I'll call on Alice Chamberlin from the Governor's office.

As you come up Ms. Chamberlin, I will note that Representative Peter Sullivan signed in, in support but did not wish to speak, and he wants the amendment for eighty percent reduction by 2009.

Senator Bob Odell, D. 8: Welcome.

Alice Chamberlin, Governor's Office: Good afternoon, Mr. Chairman and members of the Committee. My name is Alice Chamberlin and I would like to read a letter that is under my signature but on behalf of the Governor.

Please see prepared testimony by Alice Chamberlin on behalf of the Governor's office, dated April 11, 2006, attached hereto and referred to as Attachment #2.

Senator Bob Odell, D. 8: Thank you very much for your testimony.

Alice Chamberlin, Governor's Office: Any questions from the Committee?

Senator Bob Odell, D. 8: Questions? Seeing none, thank you very much.

Alice Chamberlin, Governor's Office: Thank you, I'll leave copies for the record.

Senator Bob Odell, D. 8: I'll call on Jared Teutsch from the New Hampshire Lakes Association. Good afternoon.

Mr. Jared A. Teutsch, Environmental Policy Director, New Hampshire Lakes Association: Good afternoon. Thank you, Mr. Chairman and members of the Committee. For the record, my name is Jared Teutsch, Policy Director for New Hampshire Lakes Association. I have another handout here for you as well. It's actually, it says, "Draft copy of a 2006 Section 303(d) Surface Water Quality List" from DES.

Please see prepared testimony of Jared A. Teutsch, Environmental Policy Director, New Hampshire Lakes Association, dated April 11, 2006 and also see submission of the "Draft 2006 Section 303(d) Surface Water Quality List" from NH Department of Environmental Services, attached hereto and referred to as Attachment #3.

The comment period ended March 31st. I'm not sure if it's ... it's no longer considered draft, it may actually be closed, and I'll pass that along as well. I also have a ... the representative for Trout Unlimited could not stay today, so they handed me their testimony, and I'll include that as well on behalf of them.

Please see prepared testimony of Paul A. Doscher, National Leadership Council Representative for NH for the NH Council of

Trout Unlimited, dated April 11, 2006 submitted by Jared A. Teutsch for Mr. Paul A. Doscher attached hereto and referred to as Attachment #4.

On behalf of New Hampshire Lakes Association, which represents over fifteen thousand (15,000) lake enthusiasts, we support this bill as written. Certainly we were a member at the table that supported this bill. We were there with PSNH, with DES, with Audubon, with Forest Society and many others that felt that the compromised approach was the best way to go. And I'll be very brief.

But what I do want to include is, I did highlight it for you in that Section and what it basically says is, "All surface water bodies in the State of New Hampshire are considered impaired." and that's over five thousand plus. That includes lakes and ponds, streams and rivers, all surface water bodies are considered impaired with mercury.

One other thing that I think this bill does very well is the removal of sulfur dioxide. And included in this report, and I don't have the report with me, but I can certainly provide the Committee a copy of the report. It's about one hundred and fourteen (114) pages long and includes all the public waters that are in there. There are waters that are impaired by just PH and obviously sulfur dioxide adds to acid rain deposition, which only adds to the problems with our public water, especially those that are teetering on the brink of acidity. So I do urge you to "ought to pass" this bill as written, and I'd be happy to take any questions.

Senator Bob Odell, D. 8: Thank you very much for your comments, and the letter and the background information. Any questions? Seeing none, thank you very much. I'll call on Joel Harrington, New Hampshire Audubon.

Mr. Joel M. Harrington, Vice President of Policy, Audubon Society of New Hampshire: Mr. Chairman, I have copies of my testimony.

Senator Bob Odell, D. 8: Okay. Good afternoon.

Mr. Harrington: Good afternoon Mr. Chairman and members of the Committee. My name is Joel Harrington. For the record, I'm Vice President of Policy for New Hampshire Audubon Society. As the states oldest New Hampshire based non-profit wildlife organization whose members and supporters include anglers, hunters, birdwatchers, and outdoor enthusiasts, we strongly support House Bill 1673, as written. For ninety-two years we have compiled some of the most extensive data relative to the health of our state's wildlife, including data that contributed to what we know today about levels of mercury in some of

New Hampshire's threatened and endangered species. Over the years, Audubon has helped draft the state's Endangered Species Act, the Clean Power Act of 2001, and now we've helped the legislature in drafting the legislation that stands before you. JAC

I'd really like to thank the House Science, Technology and Energy Committee. And I would also like to thank the Senate for last year, for really setting the stage for this bill. If it wasn't for the Senate last year, I honestly believe we would not be here today. It really was the framework for why we are here. This has been a bill that's been two years in creation. It has been embedded through numerous experts, the Public Utilities Commission, the Department of Environmental Services, many environmental groups, experts across the region. This has been embedded for a long, long time. The time is now. We just waited too long. And to study this bill for another year has no benefit at all to the health of this state, and to the children and parents and wildlife that really depend on our state to clean up (inaudible).

I'd like to also thank Carl Johnson for sponsoring last year's legislation and also being willing to be co-sponsor to this year's legislation. I think that's a very important observation to be made for his support on this legislation. It represents a hard compromise that will result in significant reductions in mercury and sulfur emissions. For years we've been debating about how best to reduce harmful pollutants in New Hampshire's environment. This year may be our chance with the broad support enlisted on this legislation from both political parties and chambers of the General Court. From the state's two largest angling organizations, from the state's lakes' associations, wildlife organizations, the business organizations, the utility and the state's two conservation resource protection agencies. Ideally Mr. Chairman, no pollution is great for New Hampshire. And if we could feasibly and realistically get to that, I'd be one hundred percent behind it. But we have to be realistic about our approach and some may say ninety percent, some may say eighty-five percent, but we have to be ... we want to support a bill that is achievable and still be part of something and not be a part of something that just sounds good, but is not feasible.

In January, when the Governor made his state-of-the-state address and announced that he would like to see, this year, the legislature pass mercury reductions, there was a standing ovation by all members of the General Court. It was a clear sign, a clear indication of where we're headed in this state on this ... these two major pollutants, mercury and sulfur. This bill has been four months, this particular bill that you have before you, is four months in the making; three days a week, every week. I had no summer vacation and I don't think any stakeholder that was involved in this had a summer. We worked hard on this. And we sent

graphs out to multiple parties, and it's not discount station groups, its businesses that are going to be affected heavily by a potential rate increase if there's any risk sharing in this. This is a bill that has the interest and respect of all members of the community.

I want to talk about the percentages. We have to be reminded in this bill, and I'm kind of jumping all over the place and going through it as my thoughts come to, but we have to be reminded that in this bill, to deal with the percentage we felt that there's an unknown as to where this ... what scrubber technology will achieve at Merrimack Station. There are a lot of reasons for that. The PSNH Bow Plant has something called a Cyclone Boiler. It is about ... I'm guesstimating maybe two or three in the country, maybe even less than that, which poses significant issues for this type of technology. And so the percentage that a lot of engineers from their company and that we talked to throughout the region, we think that it will achieve somewhere between eighty and ninety. So the low end number was put in here. However, after 2013, after a consistent rate above eighty percent has been achieved, that rate will be quote, "locked in," as the new compliance rate. It could be eighty-five percent, it could be ninety percent, in fact it may be, I don't, you know, think it will get to be above ninety percent, but it could be ninety-five percent. I mean who knows. But that lock in provision, I think it's a real critical point in this bill and it covers that higher percentage. This bill is more stringent than the federal rule. With all due respect to Representative Phinizey, he's saying EPA, but if you recall the EPA count out of their mercury for the last year got a seventy-five percent reduction by 2018. So I don't see how EPA's rule in any way is a model for what we should be doing here in New Hampshire.

I want to talk ... I'll also go on to the time line. And the time line here, someone said, well, let's look to other states. Other states have done, have an earlier time line so why don't we? Well, I'd like to direct you to my last page of testimony. What I've done is a state-by-state comparison of the six mercury laws in the nation. There's only six. And the point here is to look at caveat in each of these pieces of legislation. Let's take the first two, for example on the last page.

Connecticut - they wanted ninety percent, they have a ninety percent reduction by July 2008. It however, the caveat to that is that if we cannot meet the reduction, then the DEP can establish alternative emissions limits by twenty ten (2010). It's in their discretion now if the utility cannot meet it, then they just put an alternative emissions limit on that for compliance; sixteen seventy three (1973) doesn't have that.

Massachusetts - Everybody talks about Massachusetts. Massachusetts has an eighty-five percent reduction by '08 and a ninety-five percent

reduction by 2012. The caveat: the law applies to eight coal-fired boiler units. I talked to the folks in Massachusetts yesterday. Four of these units were already meeting the eighty-five percent before the law was even put into place. And how are they doing it? They are utilizing carbon injection. Well we tried that last year, last year at Merrimack Station and we got less than a twenty percent reduction.

The fifth coal-fired unit, it uses early and off-site reductions. Well we don't have that here. And the sixth through eighth units, which is the infamous Brayton Point Plant has numerous existing controls already in place, a multipronged effort. But the thing is, before that state law was passed, and I don't want to go to long on this, there was years and years of testing, base-line measurements. There's actually a DOE study. There's sampling that took place; we are starting right from the beginning on that under this law.

So I just wanted to point that out and I don't think you have to, the devil is in the details on other states, and we don't have the devil in our details.

Finally, why is sulfur so important to this bill? Well sulfur binds, mercury binds with sulfur. And that's why it's important. It makes it actually a little bit more toxic when it binds. Sulfur is a major contributor to the regional haze, the respiratory illnesses in this state, and if you opened your paper last week, New Hampshire ranked number one in the nation for asthma. And I hear there may be some caveats even to that report. But we definitely rank amongst the highest in the nation for asthma rates. Sulfur causes particulate matter which is the cause to the respiratory illnesses, and nearly every week in the summer I get through my fax machine the air quality report saying, "Poor quality air days in New Hampshire." And that is one of the reasons why we have poor quality areas.

PSNH has built a plant and fortunately they don't like to hear the statistics, ranks thirty-seventh in the country ... out of eleven hundred coal power plants for sulfur emissions. So not by ... by reducing sulfur at PSNH's plant, we are not only reducing a major state source, but we would be reducing a major national source of sulfur emissions. What we finally ... what we need to do is we cannot sit idly and wait for a national solution to an ever growing ecological and health problem. We have a long and we have a successful history of making environmental progress through modest incremental gains. HB 1673 is the next logical step to our future in the air. Members of the Committee, let's not let the perfect become the enemy of the good. Thank you very much.

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Please see prepared testimony of Joel M. Harrington, J.D., Vice President of Policy, Audubon Society of New Hampshire, dated April 11, 2006. Also see "Mercury and Sulfur Emissions Reduction Bill, HB 1673, Frequently Asked Questions, Mercury and Sulfur Emission Reductions, List of Supporters and Contacts, News Article - Concord Monitor, and NH Sentinel Source.com, The Keene Sentinel, "Mercury 2013," and Mercury and sulfur Emission Reductions, State-by-State Comparison - What Do These Laws Really Say? Attached hereto and referred to as Attachment #5.

Senator Bob Odell, D. 8: Thank you very much for your testimony. Questions? Thank you for the efforts you made in this. I'll call on Mr. Harry Vogel from the Loon Preservation Committee.

Mr. Harry Vogel, Loon Preservation Committee: Good afternoon Mr. Chairman, members of the Committee.

Senator Bob Odell, D. 8: Good afternoon.

Mr. Vogel: Thank you for the opportunity. For the record my name is Harry Vogel. I'm the Executive Director of the Loon Preservation Committee for the Audubon Society of New Hampshire, but I'm a biologist by training and I'd like to talk, very briefly about the effects of mercury on loons and wildlife in New Hampshire.

Over the past twelve years the Loon Preservation Committee, the BioDiversity Research Institute and other members of the Northeast Loon Study Working Group have carried out research to assess the threat that mercury poses to loons and other wildlife in New Hampshire. And that research has turned up the following findings: of one hundred and ninety-seven (197) loon eggs tested in New Hampshire, fifty-two percent (52%) of those have mercury concentrations over .5 parts per million (ppm), which is a level high enough to potentially affect reproductive success in birds. And the highest mercury loading of any loon egg, collected anywhere in the United States was right here in New Hampshire, and that was an egg with 3.9 ppm of mercury in it. And that is three times the lethal limit that has been established in other states.

We've also found that other loons captured in New Hampshire have among the highest concentrations of mercury in loons found anywhere in the United States. Out of one hundred and thirty-five adult loons sampled in New Hampshire, eighteen percent were found to have blood mercury levels about 3 ppm which is the established risk threshold for adult loons. And adults with more than 3 ppm of mercury fledged forty percent fewer young than adults with less than 3 ppm.

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Individual loons captured on successive years in other states have constant mercury levels over time, but individual loons captured during successive years in New Hampshire show an average nine point six percent yearly increase in mercury in their blood. So they are accumulating mercury faster than they could rid themselves of it.

Mercury is known to be a potent neurotoxin that affects animal behavior, among other things, and results of our studies and other studies in New Hampshire and in Maine has shown the loons of higher mercury levels have abnormal behaviors that affect their abilities to defend a territory and to raise young.

Mercury can be transported over long distances in the atmosphere, but the majority of mercury deposition in southern New Hampshire is thought to be from local or regional emission sources. And so all of these things together, the concentrations of mercury in loon eggs and in adults, the accumulation of mercury in individual loons over time, and the effects of these mercury levels on breeding, suggest that current levels of mercury emissions are high enough to pose a threat to loons and other wildlife in New Hampshire. And therefore, reduction in mercury from those local sources would reduce the amount of mercury in New Hampshire's environment, something that would benefit loons and other wildlife, and also people. And for those reasons, LPC strongly supports any initiative to reduce mercury emissions from point sources in New Hampshire.

Senator Bob Odell, D. 8: Thank you for your testimony. Any questions? Senator Letourneau.

Senator Robert J. Letourneau, D. 19: Just one. The loons are migratory birds aren't they?

Mr. Vogel: Yes they are.

Senator Robert J. Letourneau, D. 19: Is there any evidence that they're getting a lot of this from other places?

Mr. Vogel: Yes. In fact there is some evidence. Loons are ... have the advantage of having both feathers and blood. In these feathers, the feathers that we're taking from these birds; when we capture them we'll typically take two feathers. One secondary feather from each wing and we'll test those for mercury. And the mercury content of those feathers is more of an expression of long-term mercury exposure and the mercury that was in the oceans. Because at the time these feathers were formed, they were actually over wintering on the oceans. And the mercury that we find in those feathers is much vulgar than the mercury in the blood,

which we take as an expression of the mercury that's been gathered more recently on the breeding grounds. So by having those two samples to compare, we can really say with a fair degree of confidence that most of the mercury that is coming from these loons is actually coming from fresh water lakes that they're on in the summer time.

Senator Robert J. Letourneau, D. 19: Where are these birds being captured and tested?

Mr. Vogel: We capture and test loons from all over New Hampshire. Typically ...

Senator Robert J. Letourneau, D. 19: Of the typical birds you're talking about.

Mr. Vogel: Yes. Well, a lot of our loons have been captured from Lake Umbagog, which is in the northern part of the state, but a lot of them have also been captured from the southeastern corner, which has been identified by EPA Atmospheric Deposition Models, as areas where we would expect high mercury depositions. And what we've been able to do, actually the Loon Preservation Committee and the BioDiversity Research Institute, by going out and capturing these loons and sampling the blood, have been able to ground troop that study and validate the results of that study.

Senator Robert J. Letourneau, D. 19: Just talking about the hot spots in New Hampshire, and the plants that we're talking about here are down wind and generally in the southern part and to the east part of the state. Would you venture to guess that a lot of this mercury is coming airborne from the west?

Mr. Vogel: Yes. I think prevailing winds, you know, definitely show that there's an effect. There are two things that I could ... I do have a couple of reports with me. One is our "Meeting with the Challenge," which is a thirty year report and on page 13 of that report we actually have a map showing the highest concentrations, and you can clearly see as well that some of the point sources are showing on that and you can see where they'll ... the effect of that plume goes. The other report that I'd like to submit is the "Mercury Connections Report." And in that report there are three different forms of mercury: elementary reactive gaseous mercury and particulate mercury and the transport distances are given from those. And for the last two, the reactive gaseous and the particulate mercury transport distances are estimated from zero to thirty-three, three hundred kilometers and from zero to five hundred kilometers, respectively. So, that certainly suggests that a lot of this

mercury that we're finding in these biological hot spots is coming from the over sources.

Please see prepared testimony of Harry Vogel, Executive Director, Loon Preservation Committee of the Audubon Society of New Hampshire. Also, "Meeting the Challenge," and "Mercury Connections," reports attached hereto and referred to as Attachments #6, #7, and #8, respectively.

Senator Robert J. Letourneau, D. 19: Just one last question. Are you pursuing federal legislation at all to try and get these plants cleaned up from the west of us? Because New Hampshire is contributing its part and it's spending a lot of money and paying high electric rates because of it and we're willing to do that, but we're still going to see this contamination coming over even after we do all this.

Mr. Vogel: Yes. Well, I'm a simple biologist, sir, and so I'm not pursuing any legislation in other parts. But certainly the work that the Loon Preservation Committee and other folks have done clearly shows a link between these local sources and these pollutants in these hot spots. So that to me suggests that if we clean up these local sources, these hot spots will over time dissipate, and in fact we are beginning to see, we have seen some evidence that loons downwind of some of these point sources, once these point sources have been either checked out or the mercury's reduced, we've seen a fairly quick reduction in the amount of mercury in loon blood in some cases as well, which is very encouraging.

Senator Robert J. Letourneau, D. 19: Thank you.

Mr. Vogel: You're welcome.

Senator Bob Odell, D. 8: Thank you very much for being here today.

Mr. Vogel: You're welcome.

Senator Bob Odell, D. 8: And I'll call on Donna Gamache, Public Service of New Hampshire.

Donna Gamache, Public Service of New Hampshire: If I may, I have Terry Large with me. He's with PSNH ...

Senator Bob Odell, D. 8: Sure.

Ms. Gamache: To potentially answer any technical questions.

Senator Bob Odell, D. 8: Good afternoon.

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Mr. Terry Large, Public Service of New Hampshire: Thank you.

Ms. Gamache: Senator, thank you. I am Donna Gamache representing PSNH and Terry Large with PSNH as well. When you first started the hearing you asked that our testimony be kept to what nobody else had said, so I'm trying to find something to say. So, what I thought I would do is make it very brief and hopefully Terry will add a few comments, and then just leave it open for questions. But the one thing that nobody else brought to your attention was that when we started to sit down as a group, and it was a large extended group, trying to find a solution to removing mercury from the environment, we had to do a couple of things. And that was lay the ground work for how we were going to move forward. The first was that we had to recognize that we're all New Hampshire residents and we're solidly invested in the well being of the State of New Hampshire, environmentally, as well as New Hampshire's health.

We also knew that what we had heard in the discussion on SB 128, that there were certain things that diverse interests in the community did not want. They wanted, for one example, no trading of mercury for compliance. They wanted no mitigation in order to meet the limits. That, you know, all the reductions would take place at the stack. We also knew that they wanted as **much** reductions as possible and as **soon** as possible. We feel that HB 1673 really addresses all of those needs in a very good way. So therefore we do support HB 1673 in its current form. We feel this language is realistic in terms of our ability to meet requirements, it's flexible in the way it aims to keep customers' costs lower, and it's significant in terms of setting emissions reductions limits at what the technology actually achieves on a sustained basis.

But the other point that I wanted to raise was that HB 1673 is really Phase II of the Clean Power Act. And, if you go back and take a look at the principles in the Clean Power Act, it really was meant to be a multi-pollutant approach. And the reason for that was they recognized that there would be, it would be beneficial to customers to try to find technology that could get more than one pollutant reduced and it would also be very beneficial to customers, in terms of costs. And we are very supportive of the final piece of legislation because we feel that it's in keeping with principles, yet up to date with what the needs are of today.

Senator Bob Odell, D. 8: Thank you.

Mr. Terry Large, Public Service of New Hampshire: Thank you Mr. Chairman, members of the Committee. I'm just sitting here and have three bullets that maybe will try to summarize what we see in trying to

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(inaudible) this bill. This bill as written, produces the maximum amount of mercury reductions for the most reasonable cost. This bill brings about reductions in mercury as soon as next year, and for years into the future, culminating with the installation of the scrubber technology that not only gets mercury, but SO₂ sulfur dioxide as you've heard. This bill's going to advance the science of mercury removal. We spoke about the DOE grant. Work that with which is already under way and would be implemented this coming and next year and the years into the future so that the science and the technology and the understanding about how to get mercury out of the power plant stacks will be advanced, so that maybe our friends to the west can learn and will follow our lead and reduce emissions of mercury into this state, no matter how much or how little it is. We reduce (inaudible) written services the best interests of the environment of the State of New Hampshire and customers of Public Service Company of New Hampshire. We urge you to vote it "ought to pass."

Senator Bob Odell, D. 8: Thank you very much. Thanks to both of you. Senator Burling.

Senator Peter H. Burling, D. 5: I wanted to ask two questions. What you heard because you were both here through the course of the preceding, two people speak about their view of the relationship between the State and PSNH as a result of this bill. Representative Phinizy talked about this is a five year contract; once you do this nothing ever changes. Is that your view of what we're doing here? Is this a kind of last telephone call between the State and PSNH before we get to 2013?

Ms. Gamache: I'll let Terry follow up to me if he wants to give something more technical. Absolutely not, PSNH has, you don't have to take my word for it, we have history. You can see it out there. We have a history of working with the state continually. We have a very good relationship with DES, we work with them continuously. We work with you, the legislature continuously, and we supported fully the amendment that the Committee, Science and Technology and Energy Committee added to the bill, which required a yearly review by the Electricity Restructuring Oversight Committee beginning one year from its limitation of the law. We fully support it. We have been, PSNH has been, we're just a little over an eighty year old company. We've always been in New Hampshire, we expect to continue to be and we have no reason to walk away at any time.

Senator Peter H. Burling, D. 5: And, if I may, a follow up?

Senator Bob Odell, D. 8: Yes.

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Senator Peter H. Burling, D. 5: Referring to Senator Hassan, I think you could call it a credo, she expressed her belief in the things that your company was prepared to do. But I'd like to hear from you, for the record of this Committee if there are improvements you can make in a faster time frame, if there are reductions you can make sooner. If there are things you can do to get mercury out of our air quicker, will you do them?

Ms. Gamache: Absolutely.

Mr. Large: Absolutely, Senator. This bill incents that behavior and we've demonstrated with the (inaudible) type legislation in the past associated with NO_x removal and other technologies that we will use as promptly as we possibly can to get scrubbers in service.

Senator Bob Odell, D. 8: Thank you. Any other questions? If not, thank you very much. Oh, sorry.

Senator Robert J. Letourneau, D. 19: So, just a follow up with Senator Burling's question. This is a realistic time frame?

Mr. Large: Yes it is.

Senator Robert J. Letourneau, D. 19: For this bill?

Mr. Large: For this legislation it is, yes.

Senator Robert J. Letourneau, D. 19: But if there's a possibility that you could move it up, you would?

Mr. Large: We will begin with the passage of this legislation and follow the steps to engineer, design, permit, finance, and construct this as we can.

Ms. Gamache: If I could just add as a response to your question, and I can't quite remember where it is in the bill, but there is a provision in this language that within the first year we have to have a certain amount of permitting already in the process, and we've committed to doing so, so we will get started immediately.

Senator Robert J. Letourneau, D. 19: We had a Representative, just a follow up, sorry sir ... Representative come in and say that he's been an engineer on many jobs that are much larger construction jobs and that they were able to do so in a shorter time span. What takes so many years to do this? So the Committee understands.

Mr. Large: I would start by saying that there's a balance between time and money. Things can be done faster at substantially higher cost. If you've had familiarity with the Merrimack Station facility, the site, this is a monumental project in terms of that site. There will be multiple cranes. There will be lots of construction activity. They will remove essentially all of the remaining property that sits aside the existing boilers today, along side all the other pollution control equipment that's been added in the last ten years. Two hundred and fifty million dollars is an awful lot of money in PSNH's view. So, if more money were to be spent, could it be done more promptly? Possibly, but to be done well so that the plant can be operated and the maximum benefit from this technology can be derived, it would be best to take a prudent and low fall out approach, as opposed to trying to throw more money or throw more people and solve the issue. Doing it in an organized well thought out and planning for the long-term operation of this unit is the right way to go for everyone involved we believe.

Senator Robert J. Letourneau, D. 19: And just one last question. What is the overall cost of the rate payers on this?

Ms. Gamache: I ... Bob Scott from DES has some charts that he was going to pass out.

Senator Robert J. Letourneau, D. 19: Oh, that's going to be further testimony later on? That ... I can hold off on that.

Ms. Gamache: Okay.

Senator Robert J. Letourneau, D. 19: Thank you.

Senator Bob Odell, D. 8: Any other questions? If not, thank you both for being here. Appreciate your testimony.

Senator Peter H. Burling, D. 5: Mr. Chairman, I have a brief, I'm supposed to be in two places at once and it's across the street. I'll be right back.

Senator Bob Odell, D. 8: All right.

Senator Peter H. Burling, D. 5: I assume we have quite a few people left to do at this point.

Senator Bob Odell, D. 8: We are half way down the first sheet.

Senator Peter H. Burling, D. 5: Excellent.

Senator Bob Odell, D. 8: When we get to a point where we have some that aren't speaking then ... so we've got ...

Senator Peter H. Burling, D. 5: I don't want to miss out on a single thing. I'll be back.

Senator Bob Odell, D. 8: How long do you think Senator Burling you'll be gone? (Laughter).

Senator Peter H. Burling, D. 5: Literally five minutes. I'll be right back.

Senator Bob Odell, D. 8: All right. Then I'm going to call on Sally Davis, League of Women Voters New Hampshire. Good afternoon.

Sally Davis, League of Women Voters New Hampshire: Good afternoon. As you'll see at the end, I signed Jane Armstrong's signature with my initials after it because she couldn't get to my house to sign.

My name is Sally Davis. I am a past President of League of Women Voters and follow legislation here in Concord fairly frequently. I've been a member of the League of Women Voters since 1966 in several states and was a part of the original study on air quality back in the '70's, and feel pretty (inaudible) with what we have studied and worked on through the years. So this is to the New Hampshire Senate Energy and Economic Development Committee regarding HB 1673.

Please see prepared testimony of Jane Armstrong, President, League of Women Voters of New Hampshire, dated April 11, 2006, submitted and read to Committee by Sally Davis attached hereto and referred to as Attachment #9.

Senator Bob Odell, D. 8: Thank you Ms. Davis. Any questions? Seeing none, thank you very much. And I'll call on Bob Scott, Department of Environmental Services.

Mr. Bob Scott, Air Resources Division, Department of Environmental Services: Mr. Chairman.

Senator Bob Odell, D. 8: Good afternoon Mr. Scott.

Mr. Scott: Good afternoon. I will attempt to be brief. Obviously the main points have already been raised and I do not like to be repetitious. First of all, I'll hand out our testimony letter and also, if it helps the Committee, a really, a one pager kind of outlining the major points of the bill.

Please see prepared testimony of Mr. Michael P. Nolin, Commissioner, the Department of Environmental Services, submitted by Mr. Bob Scott and also an "Overview of HB 1673," attached hereto and referred to as Attachment #10.

Well, at least for me that works better. And finally, since it came up in recent conversation, potential financial impacts to the ratepayers. Much of what I was going to say again has been covered, so I'll try not to be repetitious. I do want to make the point that this is not a new thing for DES; we've been working on this for well over two years. We originally ... we had the Clean Power Act which required the DES to make a recommendation to the legislature, which we did two years ago, and we've been working on this issue every since. And why I say that is I want to ... it's been said that this bill certainly is a compromise, we've vented this issue through many, many resources. I'm very fortunate to have some very good engineers and scientists at the Department, and frankly I have available to me through other venues, other state agencies from other states, so we would avail ourselves to their knowledge also.

So having said that perhaps I could address more directly some of the concerns raised, so at least you know as we debated this issue and came ... this ... what you see in the bill, how we got there, perhaps that would help you a little bit. On the time frame, can it be done sooner? I want to point out, and PSNH alluded to it, but I want to drive it home a little bit more, that plant as it is, Merrimack II, which again the control to be required from Merrimack I and II. But Merrimack II, the largest plant was built in 1968. It now has two ESP's on it which are Electrostatic Precipitators for DL control and its NOx controls. In order to add yet another layer of control, what we're talking about if you've been to the plant, is putting a brand new stack in, reinforcing the boiler, redesigning certain parts, moving the control equipment; we're not talking just about taking this box here and adding this box. We're talking very major installation changes to the facility, perhaps even depending on the water discharge if there's an issue there of maybe even a cooling tower. These are all very significant. So I'm not here to say that you won't see something before 2013, what I do want to make sure is that this is not an easy thing for the existing plant. In many ways it's easier with a new plant than an existing plant.

And having said that, I have a lot of faith in PSNH and frankly I hope to see something installed sooner. In discussing this bill we planned incentives to give PSNH a reason to do it as soon as possible. It works out financially best for them the sooner they do this. I think that's an important point.

Percentage, we heard some people talk about ... they said the eighty percent and again I'll caveat, the eighty percent is not at that particular plant. The eighty percent is at, of all their coal units, there is three at Schiller also on the seacoast. Those controls they put on Merrimack need to meet the eighty percent for all of that, where I believe that we'll see a higher rate most likely. Can I guarantee you'll see a higher rate? Absolutely not. Again, this is a unique plant. So with that in mind, again we built in incentives to make the company want to do the best they can to get the highest rates possible. And again as it's been mentioned, once the scrubber technology is installed, and I will say scrubber technology is not something you dial up and dial down it's ... you get your reductions. There may be some minor tweaks that can be made to optimize it. For the most part, once that's installed and that is the best technology available today, once that's installed we will get what we get out of it to make it very simple. What we put in the bill is, "Gee, if we get ninety-two point seven percent" or whatever it is, we can lock that in and so we don't need anything on the table environmentally. But we've also provided again, economic incentives to provide the company a reason to try to do the best that they can.

It's also been raised, why are we being prescriptive? Why are we in this regular ... in this law to PSNH to put in a scrubber? And I have to take some personal responsibility for that; I advocated for that myself. Why would I do that? Everybody, including myself I think agrees that we want to see mercury reductions, a high level of mercury reductions sooner than later. We know today that the installation of scrubbers which have a wonderful benefit of SO₂ reductions, also reduce mercury at a high percentage. That is today the best technology, especially taking in to account the multi-pollutant benefits that we know of. What we wanted to avoid is extra time being given, another year, two years of a selection process, what's the best technology, the owner's having to go to PUC to convince them that this is the best technology, and then perhaps having some other company come in and say, "Well, I had this new alchemy and I can do something even better." That's all fine and dandy, but what we're concerned about is we don't want to have this as a method where we're constantly delaying the installation. By calling out scrubber technology in the bill, we're signaling PSNH from the word go to start to engineer, design and build scrubber technology right away. The bill has in it, within one year of passage of the bill, they are required to have all their applications in to us, which means there's a lot of engineering work they have to do. This is starting ... this is in the ground writing for the plan, and this is why we did that.

Costs to the ratepayer, again this needs to be looked at in the context of the existing New Hampshire law which puts a fairly stringent requirement on the utility for SO₂, again by having to buy SO₂ credits.

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This is the same law under 125:0 that is being amended should this bill pass. What this does is because of that existing requirement, again it's been mentioned PSNH and again I'll mention it, 2007, when that kicks in, they are required to buy, since they won't have the scrubber's installed yet, roughly over twenty million dollars worth of SO₂ credits to comply with our state law, not the federal law. With that in place, that makes installation of scrubbers very economical such that as you look at the chart, ultimately it ends up being a cost savings to the ratepayer because the facility no longer has to buy as many of these credits to meet the current state law.

Please see "Mercury Compliance Cost - Annual Rate Impacts," submitted by Mr. Bob Scott, Air Resources Division, Department of Environmental Services, attached hereto and referred to as Attachment #11.

And finally Senator Letourneau is not here, so I won't go on to much. Yes the state is very involved in legal action regarding mercury from other places and cleaner mercury rule as many of you know that we're suing the federal government, frankly over, so that that is our attempt to make sure, not only are we doing the right thing in the state, but to make sure we are not receiving mercury, unnecessarily from outside.

And as a final note I will add this is a problem, again for Senator Letourneau who is not here, the "hot spot" issue. Yes we're getting mercury pollution from outside sources, very definitely. But we're also because of the NO_x technology that would be required beyond these units; it had the impact of oxidizing the mercury that does come out of the stack. Because of that, that exacerbates the local problem. And as I said before, I call out that no good deed goes unpunished. PSNH was doing the right thing to do that, but now we've had ... they have unintended consequences. This is a way to fix that consequence also. With that I'll gladly take any questions.

Senator Bob Odell, D. 8: Questions for Bob Scott? You are the top air quality person in the State of New Hampshire in the state government.

Mr. Scott: I was a director there for Resource Community Health.
(Laughter).

Senator Bob Odell, D. 8: I've heard some ... we've had some comments made today that we're falling behind the state, other states and we're not up to quality and I, and yet from the consensus statements people have made, in particularly the chart that Mr. Harrington gave, I would think that this is, we're the seventh state in the country to do this, that this is

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pretty progressive. I mean this is stepping up and building a consensus that hopefully will get a strong vote here in the Senate?

Mr. Scott: I argue that characterization. And I, and again I'll remind everybody that we'll look at what other states are doing and it's so progressive, they're requiring, for the most part, the installation of scrubbers. That's what we're requiring.

Senator Bob Odell, D. 8: Thank you very much. Appreciate it.

Mr. Scott: Thank you.

Senator Bob Odell, D. 8: Appreciate your efforts.

Mr. Scott: In final, I do want to say how pleased I am to be able to talk on this bill.

Senator Bob Odell, D. 8: Good. Thank you.

Mr. Scott: Thank you.

Senator Bob Odell, D. 8: I'll call on Catherine Corkery from New Hampshire Sierra Club.

Ms. Catherine Corkery, New Hampshire Sierra Club: Sir, if I could switch places with Georgia Murray from AMC?

Senator Bob Odell, D. 8: Okay.

Ms. Corkery: She's got a lot further ride home than I do. (Laughter).

Senator Bob Odell, D. 8: All right. So then do you want to speak after?

Ms. Corkery: Or wherever she was, or whatever you'd prefer.

Senator Bob Odell, D. 8: All right. Consider yourself switched.

Ms. Corkery: Thank you. I appreciate that.

Ms. Georgia Murray, Appalachian Mountain Club (AMC): Okay, I have a handout. For the record, I'm Georgia Murray. I'm the Appalachian Mountain Club's Air Qualities Staff Scientist and I appreciate this opportunity to speak here at this hearing.

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Please see prepared testimony of Ms. Georgia Murray, AMC Staff Scientist, attached hereto and referred to as Attachment #12.

The AMC recognizes the long hours and hard work put into the development of this bill, HB 1673. We appreciate the ultimate goal, a scrubber on Merrimack's Station that will reduce both mercury and sulfur dioxide emissions. We really like some of the things that Bob Scott just spoke about that again, reduces mercury and SO₂, that does not allow the sale of mercury credits as mercury credits and that it locks in that mercury reduction level obtained by the scrubber. We think these are all good pieces to this bill.

However, we're here to ask you to consider whether this bill is as good as it gets. Or does it short change New Hampshire ratepayers and the environment. And we urge you not to let this opportunity pass to make this process worth while to insure that for all the work that was put in that we got the best package that we could possibly get out of this process.

You know, I expected to hear that this bill, as is, does not need to be fixed and provide certainty for success. AMC believes the bar is set too low though in this bill and believes with incremental improvements, at the end of the day we can all say we did our best if we just improve it slightly. So I'm here today to ask you to improve HB 1673 while retaining workable economic incentives and flexibility for compliance.

I ask if moving the time line by one year as I propose, and I have a one pager as well on those changes, would make for a catastrophic uncertainty and not weigh to success. We know that it would, with certainty, save the ratepayer around twenty-six million dollars a year. The earlier this goes in, that's an annual savings of about twenty-six million dollars through that avoided SO₂ allowance cost need. Many organizations in the state do believe that this kind of retrofit can be done faster than is currently proposed, and a host of other states, I do think, believe that it can be done faster as well. And furthermore, AMC and its members would do what's within our power to expedite the public permit process for Merrimack Station. Certainly that is one area that PSNH identified as something that could be helped along is that public permit access. And we would help the process to expedite that.

I also ... as for increasing the target of eighty percent reduction to eighty-five percent lead to failure? Again, there's been a report out by EPA that says that ninety percent mercury reduction is achievable, especially with the type of control technology configuration that we're talking about at Merrimack Station. The fact that it has an ESP at ... the fact that it has

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an SCR, like Bob Scott said, in fact it does, the SCR, the NO_x rule does lead to a more oxidized form of mercury; well that actually helps the scrubber. The scrubber likes ... can actually be more efficient if what's coming through it is a more oxidized form.

You know, I do have to make one clarification related to this eighty percent reduction, and Joel Harrington mentioned that there's ... the devil is in the details of these other state bills. I ask you to look how this eighty percent is calculated. The way this bill is structured it's an eighty percent reduction from the coal input numbers going into this plant. If they did nothing today, they're half way there. They could do nothing and because of ESP that's already there. And I think that that's actually a good thing to reward PSNH for the hard work that they've already done with the ESP that they have installed and the other controlled technologies that they have in place, they should be rewarded for those efforts that they've done in the past. If no scrubber went on today, they'd be half way to the eight percent because it's based on a coal input number. It's not based on ... the early mercury credit reduction component is based on reduction at the stack. But when we're talking about eighty percent we're talking about looking at coal input numbers and than an eighty percent reduction from that. That means what they're getting currently with the ESP already counts towards that eighty percent.

The AMC proposal retains the flexibility of early mercury reduction banking which the source can then use towards meeting the eighty-five percent that we propose. So we're not saying, you know, we agree that they need some flexibility, they need to be able to use banking to potentially meet that to provide them some more certainty. The AMC proposal looks to offset the cost of the wet scrubber through a simple expansion of the current incentives under the existing RSA 125:0 passed by this Senate. We agree with others that we need economic incentives to make this bill work, to bring Merrimack Station into compliance with the sulfur reduction goals of the 2001 New Hampshire Clean Power Act. However, we're very concerned that the current incentives set a very poor precedent. If other states adopted any flavor of what is proposed in HB 1673 related to the incentives, which is exchanging unrelated pollution credits, New Hampshire would suffer because we are downwind of many sources. So even if a state were to do that within that state's boundaries, not even participate in the federal market, if they decided to do this trading of different credits we would suffer from that because we are downwind of a lot of upwind pollution sources.

In addition, the approach amounts to a problematic creative accounting for the years when PSNH has met its federal cap allotment through existing incentives. Currently their existing incentives on the books, as

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soon as that scrubber goes in they are going to get some mercury, excuse me, some SO₂ credits for that reduction which is currently on the books. That's great. But they're limited by the federal cap up to twenty thousand. That's as much as they can get in one year. What they've done is basically an inappropriate way to accumulate this credit currency during these years they've maxed out and just calling it another name. They're calling it a mercury credit because they can't call it a SO₂ credit in that year. Okay? Furthermore, the mercury to sulfur transfer significantly undermines the current state sulfur cap weakening state law. I would agree with one of the previous speakers. Instead of this path of weakening and poor precedent, we offer a simple extension of current incentives. Okay? Which reward on-site sulfur reductions with sulfur credits. Okay? The current on the books incentives work towards when that scrubber goes in and they get major reductions than they're going to get some sulfur credits for that on-site activity. Because, you know, they could choose with the new sulfur cap of seventy-two hundred to just buy their way, if that was economically feasible, down to that cap level; or they can choose to control what the previous Clean Power Act did which was to try to incentivize that on-site reduction, which is a good thing. Let's expand that, it's going to work.

AMC recognizes that PSNH has stepped up to try mercury control technology before the compliance date by obtaining Department of Energy funding, and we urge you to maintain the level of mercury captured achieved through this technology until the scrubber is installed.

I've also included some handouts within my package. It's basically the one pager and two handouts I'd like to go over with you briefly.

Please see handouts submitted by Ms. Georgia Murray, AMC Staff Scientist, "Proposed Changes to HB 1673," "PSNH Merrimack Station," and "Estimated Annual SO₂ Allowances Needed by PSNH," attached hereto and referred to as Attachment #13.

I tried to estimate the cost to ratepayers from the capital costs of this scrubber going in, using the capital costs numbers provided in HB 1673, and then adjusting that capital cost, total monthly cost to average ratepayers down after accounting for the annual allowance savings due to the scrubber installation. What we're talking about is that twenty-six million dollars a year. As soon as that scrubber goes in, that's the savings. So you're adjusting down from about four dollars a month cost to ratepayers due to compliance to a dollar forty-four. Then, if you include the actual on the books bonus allowances, we're down to sixty-seven cents a month, on average, to ratepayers. And that's spread out over a ten year window. If you look at the incentive currently in HB

1673, this mercury to SO₂ incentive you could get back down a little further to forty-two cents. Now we're only going to cost forty-two cents a month for the ratepayer for compliance with this program.

My program looks to replace that value. It looks to expand those incentives; it also looks to incentivize earlier installation of that scrubber, and it's an equivalent level by incentivizing that. So the second piece is the graph. This is really a great way to see how the current envelope incentives work. In 2006, here we are before the Clean Power Act new cap goes in. This is my estimate of how much, how many SO₂ allowances they're going to need. And you can multiply this number by about a thousand dollars to get the actual total annual cost. When the 2007 cap goes into effect, that number is going to jump way up because now they're under a tighter cap, they need more SO₂ allowances to comply with the new law.

Well soon after that, in 2008 and further out, the current on the books SO₂ incentives start buffering that cost. So all I'm talking about is taking those current incentives and expanding those to the same level of what the incentives in HB 1673, the same level value of what's currently in this bill.

This graph also shows ... the different lines are showing different compliance dates basically, under my proposal and under HB 1673 as currently proposed. And basically I want you to focus on the cost, or basically the need, the numbers and the need, and again, just multiply that through by one thousand for simplicity. I checked this morning and actually SO₂ allowance costs were around nine hundred dollars.

Senator Bob Odell, D. 8: Yeah. I think you've over gone your time, so let's move it right along.

Ms. Murray: Okay. So, the earlier we reduce the need for these SO₂ allowances, in other words, the earlier this is installed, the huge difference to ratepayer is that difference in cost from that avoided SO₂ allowance needs. So the earlier we can get this on, the better for the ratepayer, the better for PSNH as well because now they do not have to go out and get these SO₂ allowances.

So, in closing I would like to say I'm not asking for perfect. I'm not asking for another year's study. I'm asking for incremental improvements to get the most out of this process for New Hampshire citizens.

Thank you for your time.

Senator Bob Odell, D. 8: Thank you for your testimony. Any questions? Seeing none, thank you very much.

Senator Robert K. Boyce, D. 4: Mr. Chairman, in the future when someone asks to be bumped ahead of the rest to facilitate their own schedule in getting home, maybe they ought to consider the time of the people that are behind them. Thank you.

Senator Bob Odell, D. 8: Thank you for your comments. I will say that the Committee is going to vote on this bill tonight and that we do not have the option of not voting on it tonight. This is our deadline day to day. So we will be here for the duration and we will get through this. So, with that, I'm going to step out for a second and Vice Chairman Letourneau is going to, he didn't know it, but he's going to take over.

Senator Robert J. Letourneau, D. 19: Don McGinley.

Mr. Don J. McGinley, Legislative Representative, New Hampshire Wildlife Federation: Thank you Mr. Chairman.

Senator Robert J. Letourneau, D. 19: You're welcome.

Mr. McGinley: Good afternoon.

Senator Robert J. Letourneau, D. 19: I know you've waited a long time.

Mr. McGinley: I apologize, Senator, for all the misspellings I've made of your name, as well.

Senator Robert J. Letourneau, D. 19: You're not alone.

Mr. McGinley: Good afternoon. Maybe I guess good evening Mr. Chairman and members of the Committee. For the record, my name is Don McGinley. I'm a citizen of New Hampshire. I reside in the town of New Boston.

I'm here representing the New Hampshire Wildlife Federation (NHWF) as a non-paid member of their Board of Directors. We represent over ten thousand sportsmen through a combination of individual memberships and over forty-five affiliated sporting clubs. We care dearly about the environment; we don't just care about fish and birds, although they're very important.

Please see prepared testimony of Mr. Donald J. McGinley, Legislative Representative, New Hampshire Wildlife Federation, attached hereto and referred to as Attachment #14.

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I want to first emphasize that I have no expertise in power generation technology, nor the details of mercury and sulphur dioxide pollution. At the same time, I worked for over thirty years in the very competitive computer and internet working industry where overly conservative schedules were never tolerated, yet high quality product was always required and usually delivered. I see no reason why PSNH should not strive in the same manner to reduce pollution to our citizens of New Hampshire, the ratepayers who will bear the costs resulting from this bill in any case.

While the New Hampshire Wildlife Federation agrees with most of HB 1673's content, we seriously question the following three items, and I'll be very quick.

1. The summer of 2005 carbon injection mercury test results were to be published prior to year-end as part of the "retained" SB 128 commitment by PSNH and by the legislature. New Hampshire Wildlife Federation has yet to see any publication of results, good, bad or indifferent. I think the truth should be told to the ratepayers and public in New Hampshire. As part of your review, we ask that a public explanation be made as to what occurred with testing of the subject technology that is no longer considered within HB 1673.
2. The 2013 date for scrubber installation is too conservative. We know the Clean Power Coalition has presented strong arguments in favor of a 2011 date. We understand, as you've just heard, the Appalachian Mountain Club which we hold in high regard for their technical capabilities, believes that 2013 is far too conservative. The EPA reports show that scrubber installs not unlike the Bow Power Station can be accomplished in forty months, three and a half years with their permitting process requiring less than an extra year. We think it unwise that 2013 be your accepted date when our environment and population is under such an extreme mercury and sulfur dioxide attack. If the states of Pennsylvania and Georgia, and Maryland, as Representative Phinizy described, have commitments to cut mercury by 2010, why is New Hampshire requiring three extra years? As such, the New Hampshire Wildlife Federation recommends that you seriously consider improving upon the 2013 date, at least to mid 2011, that's five full years, hence.
3. The New Hampshire Wildlife Federation disagrees with any use of mercury conversion to sulfur dioxide allowances as specified in this bill. We suggest you eliminate the "mercury conversation to

sulfur dioxide allowance incentive." We agree with AMC's assessment that "inter-pollutant trading is a bad precedent for New Hampshire to set," and we believe New Hampshire's citizens would say exactly the same thing. DAC

We urge the Committee to report HB 1673-FN as "Ought to Pass" only after addressing these issues.

Thank you very much for your attention and my ability to testify today.

Senator Robert J. Letourneau, D. 19: Questions from the Committee? Seeing none, thank you.

Mr. McGinley: Thank you very much.

Senator Peter H. Burling, D. 5: Mr. Chairman, I do have one question.

Senator Robert J. Letourneau, D. 19: Oh you do?

Senator Peter H. Burling, D. 5: One very brief question. To the extent that we have seen a group of citizens basically vote themselves for almost a year to the search for a compromise, which might get a bill that would move forward, do you think that we as Senators have any obligation to give power to that compromise when it's finally reached?

Mr. McGinley: I'm probably not a very good person to answer that question. All I really want to say today, very clearly is that I believe you have the power to improve upon the date 2013 as a reasonable date. Okay? Include a more reasonable date in that legislation.

Senator Peter H. Burling, D. 5: And would you believe me if I said that if I don't, it is because I have real worry that changing the compromise may cause the whole thing to crumble and disappear?

Mr. McGinley: I believe that if a little bit more time is required, in terms of a little bit more time, I mean maybe a month. Legislature is in session until the end of May. I believe that time should be taken by this Committee and by the legislature.

Senator Bob Odell, D. 8: Let me just point out, because I was going to mention this a little later on. The reason this building has worked for two hundred years is because we have very strict rules of operation and there is a bunch of ... many deadlines that come along. And, the deadline for us is that we receive this bill from the House on what's called "cross-over" day deadline ...

Mr. McGinley: Yes.

Senator Bob Odell, D. 8: And we didn't have very much time to deal with it. We also respected the work that had been done in the House. Or at least I, as the Chairman, I can say that.

Mr. McGinley: As do I.

Senator Bob Odell, D. 8: And so when it comes to us, for us to open this up because there are people that either overtly or covertly would like to see this thing go away in its entirety. That if that's the risk that some would like us to take, that's a risk I'm not willing to take. And that's why the idea of having this around for another month, number one it's got a fiscal note on it, this will go to the Finance Committee after it passes the floor of the House, if it does that. I mean, Senate, if it does that. So there are other steps in the process and we will be here for another month, but this is one of the issues that we have to face because of deadlines. We play to those deadlines. We do the best we can, but I must caution that there are people who would prefer to see this go away entirely.

Mr. McGinley: I understand that. And I'm certainly not one of those people and the New Hampshire Wildlife Federation is not an organization that wants that to happen. However, I do ... New Hampshire Wildlife Federation would like to see some level of improvement or incentive to improve, over and above what's in the context of the bill today. That change would be a very simple amendment to the bill.

Senator Peter H. Burling, D. 5: You mentioned the word "incentive." And you heard me because you were in the wrong choir of PSNH whether they were willing to fulfill the promises that they've made to other Senators. Are you telling me you discredit what they've said they will do?

Mr. McGinley: Absolutely not, but what I heard very clearly today is that one has been put on the table and one is included in 1673 is reasonable, and is reasonable, and is reasonable. I take that and I saw a thread through the bill of being rather conservative. I hate to be conservative when it comes to pollution that these toxins are causing for our citizens.

I think maybe if we were sitting here a year ago with this same bill, and a date of 2012 versus 2013 was put on the table, most of the organizations that fail to support this bill would be high against 2012. I would invite the Committee to put a date of 2012 in simply one year in advance of what that very reasonable and conservative goal is stated in the bill.

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Senator Bob Odell, D. 8: Okay. Any more questions? Seeing none, thank you very much.

Mr. McGinley: Thank you very much.

Senator Bob Odell, D. 8: I'll call on Mr. Stephen Perry, New Hampshire Fish and Game Department.

Mr. Stephen Perry, New Hampshire Fish and Game Department: Thank you Mr. Chairman, members of the Committee.

Senator Bob Odell, D. 8: Good evening.

Mr. Perry: I'll be very brief. For the record my name is Stephen Perry. I serve as Chief of Inland Fisheries Division from New Hampshire Fish and Game Department. The New Hampshire Fish and Game Department supports HB 1673 because mercury in the environment poses human health risks and it bio-accumulates in fish and wildlife resulting in sub-lethal and lethal effects.

Please see prepared testimony of Mr. Stephen Perry, New Hampshire Fish and Game Department attached hereto and referred to as Attachment #15.

With that I'll end my testimony and take any questions.

Senator Bob Odell, D. 8: Thank you very much for your testimony. Any questions? Seeing none, thank you very much for being here. I'll call on Richard Smith, New Hampshire Bass Federation.

Mr. Richard D. Smith, New Hampshire Bass Federation: I'm going to be mercifully brief. (Laughter).

Senator Bob Odell, D. 8: You'd be eternally (laughter) (inaudible). Come back often. (Laughter).

Senator Robert J. Letourneau, D. 19: Staying longer, say less.

Mr. Smith: For the record though I do have to say my name is Richard Smith; citizen of New Hampshire. I live in the village of Hancock. I'm here representing New Hampshire Bass Federation. I'm here as a non-paid director of conservation.

I'm here because our favorite fish is very much involved. (Laughter). We're often at the top of the food chain.

Nobody disputes that we need to do something, and we're counting on your wisdom, all you Senators. We ... as much as we respect that wisdom, we realize that you can't be scientists and engineers in a very short period of time. I appreciate the fact that this is really been thoroughly (inaudible) over two years. With a lot of expert testimony of engineers, scientists, the whole works, we feel this bill as written is reasonable. And we like the fact that there are, in fact incentives here to start the process which I think is valid.

So, we just want to be on record and let you know that. I end with a little quote from Chief Seattle, it's attributed to Chief Seattle and that is that, "You did not weave the web of life, we're merely a strand. And whatever we do to the web, we do to ourselves."

Thank you very much.

Senator Bob Odell, D. 8: Thank you very much. Any questions other than the best fishing questions? (Laughter). Senator Letourneau has an interest in that!

Senator Robert J. Letourneau, D. 19: Just a comment. Your favorite fish, but you don't eat them.

Mr. Smith: No we don't. We pretty much catch and release the best fishing community. However, we feel a family should be able to come to New Hampshire, vacation, catch fish and enjoy a meal without having to worry about it. We'd love to see the day when we no longer have fish consumption advisories to the great State of New Hampshire.

Senator Robert J. Letourneau, D. 19: Thank you very much.

Senator Bob Odell, D. 8: Thank you very much.

Mr. Smith: You're welcome.

Please see prepared testimony of Mr. Richard Smith, New Hampshire Bass Federation attached hereto and referred to as Attachment #16.

Senator Bob Odell, D. 8: I'll ... this is going to be a little risky for me, but I'm going to say that "Dorsaka Porrins" from Concord has signed in, in favor of the bill, but does not wish to speak. And then, Kay Tattersale (?) has signed in, in favor of the bill, but does not wish to speak. Jason Stock from the New Hampshire Timberland Owners Association signed in, in favor, but does not wish to speak. David Micciche from Amherst signed in, in opposition, but does not wish to speak. William Klapproth signed in, in favor, but does not wish to speak. Ann Ross of the Office of

Consumer Advocate signed in, in favor, but does not wish to speak. Linda Rauter has spoken ... has signed in on her own behalf and then it says, "with strengthening of amendment," and does not wish to speak. Jane Doherty from the Environmental Responsibility Committee, Episcopal Diocese, and some other things, can't read all the words.

Senator Robert J. Letourneau, D. 19: Wasn't enough paper for you, right?

Senator Bob Odell, D. 8: Yeah, I know we need a bigger block. Good afternoon. Welcome.

Jane Doherty, Environmental Responsibility Committee, Episcopal Diocese: Good afternoon Mr. Chairman and the rest of the Committee. I will be very brief because I am representing what we call the Environmental Responsibility Committee of the Episcopal Diocese of New Hampshire. And I am in, we are all very much in favor of the bill and I also was involved and testified last year, and this bill is so much better that it's incredible actually. Many good things have been said this afternoon that, if they haven't been said, we have to say it. But I want to make the point that you, Senator Odell, I do not want to see this bill go down. Our Committee does not want to see the bill go down. And so much good work has been done. We could fine tune it, but we haven't got ... we don't know what will happen if we try to fine tune it. You know more about the politics than I do, but I've heard it may disappear if we fine tune it. And there are already many good aspects and there are some accountability amendments added by the House to which are very good, you know, to ask Public Service to report back.

Now there are several things I want to add. And this is ... it was referred to, but you didn't see a copy. It's too bad we don't all have a copy, "Mercury Connections," it comes from BioDiversity Research Institute and it is a compilation of seventeen scientific articles on mercury in the environment in the northeastern United States. And, some of the facts you heard are in here, but what I wanted to point out is something that didn't come up, exactly. This is under, on page 19, and it says, "What is a hot spot and how is it measured?" I won't go into all of that, but the scientist measured the concentration of mercury in fish, loons, bald eagles, mink and river otter and then generated a map of the hot spots in the northeastern United States. Most of them did not show any lead to a particular source. When reference to your worry about where it's coming from, however this is here in black and white. If you want, you can have somebody Xerox it for you. The two exceptions are the biological hot spots near large point sources in southeastern New Hampshire and a defunct chlorine factory in Orlington, Maine. And the researchers, the

reference for the research is given for both those reports. So that's something I wanted you to know.

So being downwind in the southeastern part has been scientifically established that it's related to the Bow Plant. Another thing that's in here is that they're now finding mercury in insect eating forest birds. So the influence of mercury in the wildlife is going far beyond what we expected. So that's another important thing.

Now my last point is just a funny one, but not so funny. We did have somebody who objected to the time lines and gave a lot of construction experience. Unfortunately for him, my daughter lived next to the big dig. (Laughter.)

Senator Robert J. Letourneau, D. 19: I was going to bring it up. (Laughter.)

Ms. Doherty: I would never in my life, if I were a professional engineer mention the central artery (laughter) because it certainly wasn't timely nor did it even work.

Senator Robert J. Letourneau, D. 19: There's just a few cost overruns.

Ms. Doherty: That's all I wanted to say.

Senator Bob Odell, D. 8: Well, thank you Ms. Doherty for being here. Any questions? If not, thank you very much.

Ms. Doherty: You're welcome.

Senator Bob Odell, D. 8: And I'll call Pam Kelly from New Hampshire Faithful Democracy.

Pam Kelly, New Hampshire Faithful Democracy, New Hampshire and Vermont Districts, Unitarian Universalist Social Responsibility: Can I seed my time to Catherine Corkery? Right now, because what I have to say is very short.

Senator Bob Odell, D. 8: Go ahead and say it.

Ms. Kelly: All right. I'm from New Hampshire Faithful Democracy. It's the network of Unitarian Universalist Churches bound together. I have a written testimony I can give you.

Please see written testimony of Pam Kelly, New Hampshire Faithful Democracy attached hereto and referred to as attachment #17.

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But I noticed that you all, all men, may not be as aware as women of how to save money. I mean we are just shopper experts is what I want to say. So I've noticed that you're like not paying to much attention. But the important thing I want you to know ...

Senator Bob Odell, D. 8: Let me just back up a little bit.

Ms. Kelly: Okay. (Laughter.)

Senator Bob Odell, D. 8: No I just want to make a comment.

Ms. Kelly: Umhm.

Senator Bob Odell, D. 8: I was in a Committee meeting the other day and things got out of hand with comments like that.

Ms. Kelly: Okay.

Senator Bob Odell, D. 8: Understand that there are several Committee meetings going on parallel to this.

Ms. Kelly: Yes.

Senator Bob Odell, D. 8: Most of us started anywhere from 7:30 a.m. to 8:00 a.m. this morning.

Ms. Kelly: My apologies.

Senator Bob Odell, D. 8: I want you to know that people here work very, very hard. They're all volunteers. They try to do the best job.

Ms. Kelly: Yes sir.

Senator Bob Odell, D. 8: So when we don't look as if we're attentive, please know we're professionals that are learning while we're doing many monthly tasks, so I ...

Ms. Kelly: Okay.

Senator Bob Odell, D. 8: I caution.

Ms. Kelly: I'm just teasing you really. I think the message that has been brought forward is that we could save money here. We could save money if we get it done early because construction costs are less, we could save money because we're not paying those sulfur dioxide trading

costs of up to twenty or thirty million a year. So if we're interested in supporting the ratepayers, this might really be something to pay attention to. JAC

And from the Unitarian Universalist point of view, as people of faith, we have seven principles, one of which is to affirm and promote respect for the interdependent web of existence of which we're a part and this would improve our ability to meet those expectations because the faster they clean up the better. And mercury if we try trading mercury, we're not actually benefiting the state, we're undermining our ability to clean up the mercury waste.

So we urge you to represent the people of New Hampshire, not just institutional interests, but we urge you to vote your conscious for the long time interests of us all. We're all a part of this interdependent web. We're linked into a global community through thin life supports to the blue planet of which we're a part. We ask you to think beyond the quarterlies, to the quarter centuries and protect our health, our air and water, which is the real long-term interest bearing account with compounding interest that we'll benefit from in the long run.

So we ask you to look at your conscious and vote your conscious and we really do appreciate your work, your long term work, your hard work over a long period of time and over a long day.

Senator Bob Odell, D. 8: Thank you for your comments. Senator Burling?

Senator Peter H. Burling, D. 5: I'd like to simply make a comment. I've been a minority member of this legislature for sixteen years. I've been in public life as a democrat for thirty years.

Ms. Kelly: Yes sir.

Senator Peter H. Burling, D. 5: I've been trying to do exactly what you exhort us to do.

Ms. Kelly: Umhm.

Senator Peter H. Burling, D. 5: And every day of my public life, sometimes I have to accept less than everything I want.

Ms. Kelly: Umhm.

Senator Peter H. Burling, D. 5: In order to get anything of value.

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Ms. Kelly: Umhm.

Senator Peter H. Burling, D. 5: This is one of those times. And the fact that we are all of the masculine persuasion up here is an accident of Committee assignment, not a cabal or consortium to suppress the interests of women in the environment. I really am profoundly upset by what you said.

Ms. Kelly: All right. I'm sorry about that.

Senator Peter H. Burling, D. 5: And I just want you to know that because I got up at 6:00 o'clock to come down here.

Ms. Kelly: Umhm.

Senator Peter H. Burling, D. 5: As I do every morning.

Ms. Kelly: Yes sir.

Senator Peter H. Burling, D. 5: Thank you for your input.

Ms. Kelly: Okay. Well I appreciate your ...

Senator Bob Odell, D. 8: Any questions? Seeing none, thank you very much. I'll call on Catherine Corkery.

Catherine Corkery, New Hampshire Sierra Club: Thank you Mr. Chairman and Committee members.

Senator Bob Odell, D. 8: Good afternoon.

Ms. Corkery: I appreciate your time to listen to all the testimony and I understand the time pressure you're under, and I ask ... I won't read over my testimony because I know ... but I would like to point out a few, sort of highlights that we've heard from the testimony, namely, the ... Well, firstly the inter-pollutant trading component of the bill. No other state has gone this route of trading apples for oranges. The STA when the Clean Power Act was first being debated, I was there and I heard the discussion of trading apples to oranges and how the intent of the bill was not to do that, but to instead keep our sulfur credits and our other credits as they are concerning their own pollution.

Please see prepared testimony of Ms. Catherine Corkery, New Hampshire Sierra Club attached hereto and referred to as Attachment #18.

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This bill does exactly ... does not do that at all. It provides a mechanism where the utility is able to acquire mercury credits and switch them into sulfur credits without reducing sulfur. I'm going to emphasize that. They get credit for not reducing sulfur. They get a sulfur credit for not reducing sulfur, that's what I wanted to say. Nobody in other states are able to do that and as equating a pollutant that has a method of mitigation, if a pollutant like mercury, a neurotoxin, that can harm women and children developmentally is a very dangerous thing to do. And it's very radical; it's very controversial. And no other state has done that. I wanted to emphasize that.

Secondly, I understand the time pressures and I know there's a lot of things that are going on here and there is an understandable reason to get this bill in now, but there's also an obligation to ratepayers to make sure that at the end of the day all the ideas get a fair shake. And that there is a guarantee to the ratepayers that this is the cheapest way to accomplish acceptable environmental standards with acceptable ratepayer costs. This bill that started in October of 2005, this ... the writing of this bill has not seen an economic analysis from someone outside, from a third party. And, I'm not sure if this Senate wants to carry on that sort of responsibility. And having that said, I do want to agree that I want a bill passed. I do not want to derail this bill. This is a good start and the Senate and the House have a discussion when a bill goes into the committees and I appreciate that hard work that you have to do in order to have that discussion, but it is also that it has a potentially huge impact on ratepayers and the environment, and I ask for your caution.

And lastly, I notice that you Chairman were looking at this last page, it includes all the different states that have and are dealing with a mercury reduction program; some that are legislative, some are rulemaking and some are ... one is a Governor's Executive Order, that's it. Thank you.

Please see "NH Clean Power Coalition" and "States Tackling Mercury Pollution From Coal-Burning Power Plants," submitted by Catherine Corkery, New Hampshire Sierra Club attached hereto and referred to as Attachment #19.

And, you'll see they have five year time lines that are involved with the mercury. Some of them are associated with the output of energy, other ones are associated with the control and I think Georgia did a really good job at describing the difference between reducing emissions and controlling. That's a real different sort of way to look at things. And I just hope that you get some time to look at that, and with that I will end my testimony and take any questions.

Senator Bob Odell, D. 8: Thank you very much for your comments.
Senator Letourneau?

Senator Robert J. Letourneau, D. 19: Thank you.

Ms. Corkery: You're welcome.

Senator Robert J. Letourneau, D. 19: Were you here when Chairman Ross from the House spoke and when the gentleman from New Hampshire Audubon spoke?

Ms. Corkery: I was.

Senator Robert J. Letourneau, D. 19: They talked about this almost year long process that they've gone through. Did you folks have a seat at that table?

Ms. Corkery: The language, well there were Committee hearings and work sessions throughout the summer and we attended those. There was limited access outside of the Committee room itself. We did attend some meetings, but we were informed rather than invited to negotiate in the negotiations.

Senator Robert J. Letourneau, D. 19: Thank you. One last question. The Audubon Society provided us with a similar breakdown of some of the states that have brought in Mercury and sulfur emission reductions, and they also included the caveats that were included in those. So while some of those may be shorter time frames, if they can't make the standards they're given a pass with a waiver.

Ms. Corkery: Sure, and in fact a comment to that. You're also talking about states that have more than one power plant that's being fitted. Pennsylvania, for instance, has thirty-five different power plants. Illinois, I'm not even sure how many power plants Illinois has, but when you're talking about these different caveats, they're dealing with a state-wide cap in some cases, not a plant-by-plant case. Here we're also dealing with a state-wide cap. But with those allowances they are taking a larger group of power plants into consideration.

Senator Robert J. Letourneau, D. 19: Some of which already (inaudible).

Ms. Corkery: Right, the Massachusetts one. Some of them already have ... and actually to PSNH's credit, they're half way there. They have the SCR the PS ... I forget what it's called ... all this equipment. This is like the last step. The last step to make it a very clean power plant.

Senator Robert J. Letourneau, D. 19: Thank you.

Ms. Corkery: You're welcome.

Senator Bob Odell, D. 8: Any other questions? Seeing none, thank you for your testimony.

Ms. Corkery: You're welcome.

Senator Bob Odell, D. 8: And for being here. I'll call on Beth D'Ovidio?

Beth D'Ovidio, American Lung Association of New Hampshire:
D'Ovidio. Very good.

Senator Bob Odell, D. 8: D'Ovidio. Practicing. Good afternoon.

Ms. D'Ovidio: Good afternoon, Mr. Chairman, Senators. For the record my name is Beth D'Ovidio. I'm representing the American Lung Association of New Hampshire and I do have a letter to, copies to give to each of you.

Please see prepared testimony of Daniel Fortin, President and CEO of the American Lung Association of New Hampshire, submitted by Beth D'Ovidio, American Lung Association of New Hampshire attached hereto and referred to as Attachment #20.

Earlier on in the day, we have heard some testimony about asthma in the state and we felt that we would be remised to our mission if we did not let you know of our support of this legislation as it is written. I'll try to be very brief.

We know that the scrubber technology is reputed to result in the decrease of at least ninety percent of the sulfur dioxide emissions caused by power plants.

And the major health impact of sulfur dioxide is on population groups especially susceptible to the pollutant's effects because of pre-existing conditions, especially asthma. And our mission is to assist those living with lung disease to breath easier and breath longer and we feel that the passing of this bill will assist in that.

Senator Bob Odell, D. 8: Thank you very much.

Ms. D'Ovidio: Thank you very much.

Senator Bob Odell, D. 8: Any questions? If not, thank you.

Ms. D'Ovidio: Thank you.

Senator Bob Odell, D. 8: Elizabeth Skipper signed in on behalf of herself, supports with recommendations to strengthen it, but does not wish to speak. Anne Arsenault signed in, in favor of the bill but does not wish to speak. John Tuthill signed in, in favor and wishes to speak, favors the amendment to strengthen. I think I don't see John, okay. Michael Giaimo to speak in favor.

Michael S. Giaimo, Business and Industry Association of New Hampshire (BIA): Good afternoon.

Senator Bob Odell, D. 8: Good afternoon.

Mr. Giaimo: Michael Giaimo I'm with the Business and Industry Association and they are ... in my employment there I'm Vice President for Energy and Environmental Affairs.

BIA appreciates the opportunity to lend our support to HB 1673. I certainly will be as brief as possible. First and foremost, the BIA supported HB 284 four years ago. The bill that I'm referring to is, "The New Hampshire 4 Pollutant Bill." This legislation, HB 1673 brings fulfillment to that legislation, and for SO_x , NO_x , CO_2 and mercury legislation. So it brings a ... it makes a bill that's a theory, a reality. It will significantly minimize sulfur and mercury pollution. It does so with minimal rate impacts. It is a reasonable piece of legislation with realistic and achievable time limits and pollution limits.

In conclusion, HB 1673 is a cost-effective and maybe the most cost-effective way of controlling plant emissions. So with that I'd be happy to take any questions. I have written testimony. I'll submit it to the clerk and pass them around.

Senator Bob Odell, D. 8: Please.

Please see prepared testimony of Michael S. Giaimo, Esquire, Vice President, Energy and Environmental Affairs, Business and Industry Association attached hereto and referred to as Attachment #21.

Senator Bob Odell, D. 8: Thank you very much. Any questions? Seeing none, thank you very much for being here.

Michael Giaimo, Esquire: Thank you.

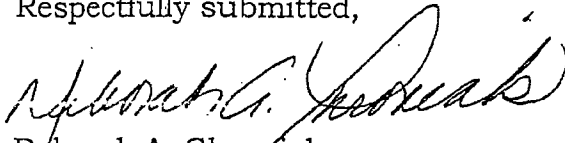
Senator Bob Odell, D. 8: Mr. Will Abbott was here to speak in behalf ...
and I don't see Will ...

Unidentified Speaker: I think he left.

Senator Bob Odell, D. 8: Okay. And we have Paul Doscher has signed in, in favor of the bill representing New Hampshire Council of Trout Unlimited, but does not wish speak. And with that, we have concluded our Public Hearing and I'll close that hearing on HB 1673.

Hearing concluded at 6:00 p.m.

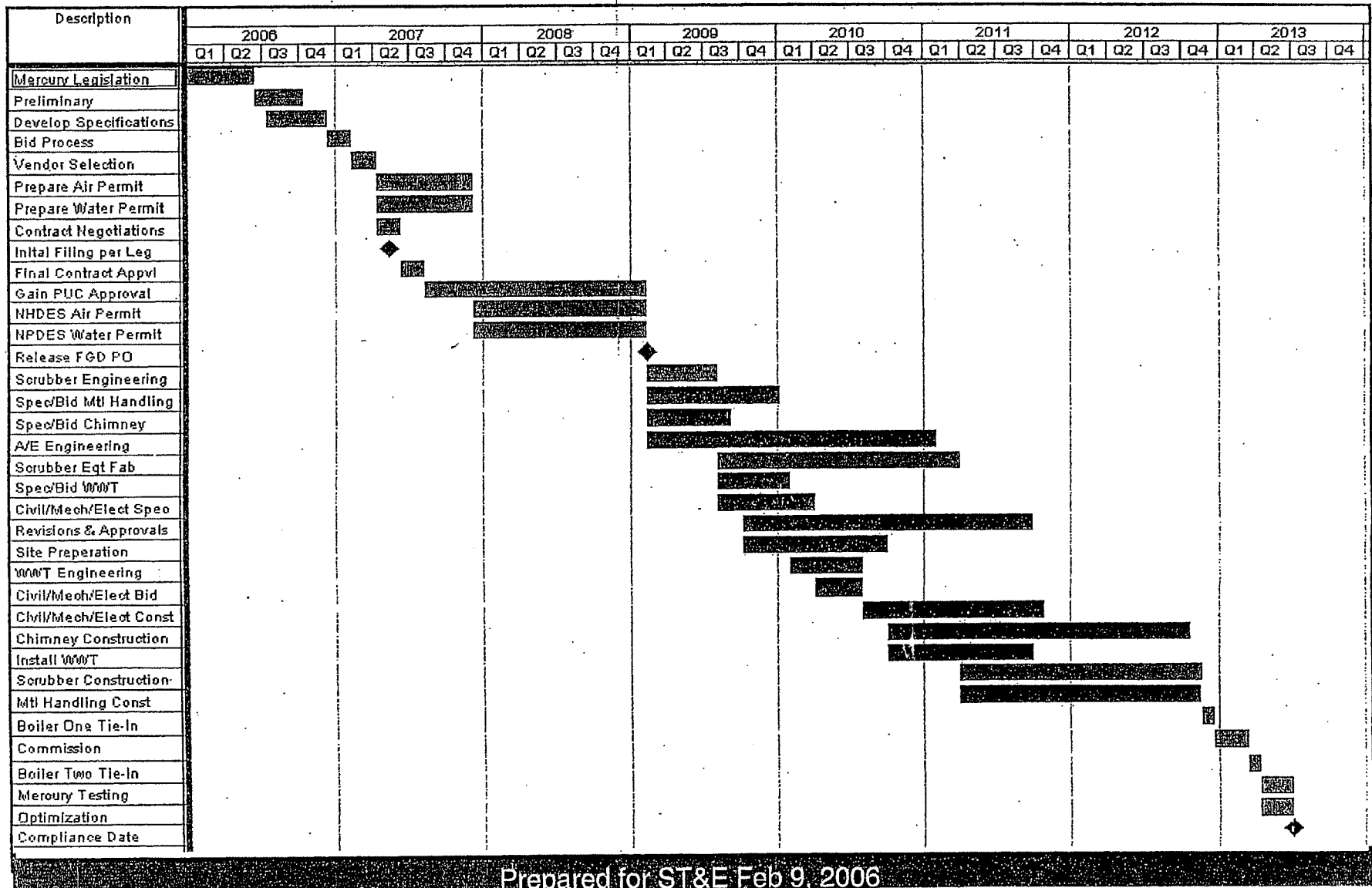
Respectfully submitted,



Deborah A. Chroniak
Senate Secretary
September 19, 2006

21 Attachments

Merrimack Station – Unit 1 and Unit 2 Scrubber and Auxiliary Systems schedule



ATTACHMENT # 1

Prepared for ST&E Feb 9, 2006



JOHN H. LYNCH
Governor

State of New Hampshire

OFFICE OF THE GOVERNOR

107 North Main Street, State House - Rm 208
Concord, New Hampshire 03301
Telephone (603) 271-2121
www.nh.gov/governor
governorlynch@nh.gov

ATTACHMENT #2

April 11, 2006

The Honorable Bob Odell
Committee on Energy and Economic Development
Room 102, Legislative Office Building
Concord, NH 03301

Dear Chairman Odell and Honorable Committee Members:

On behalf of Governor Lynch I am very pleased to speak in support of House Bill 1673. The time has come to clean up the sources of mercury pollution in New Hampshire.

Nearly every water body in New Hampshire is subject to a mercury advisory cautioning vulnerable populations not to consume freshwater fish because of the potential damage to the developing brains of fetuses and young children. Mercury pollution is a public health issue and an economic health issue for our state.

New Hampshire continues to fight the weakening of federal rules that will relax national mercury standards and we continue to work to provide adequate and safe disposal of mercury products in New Hampshire. We must now pass legislation to reduce the sources of this pollution here in New Hampshire.

The legislation before you has the potential to maximize mercury reductions and reduce sulphur pollution from our coal-fired power plants. This approach has far-reaching benefits for the health of New Hampshire citizens.

Mercury reductions must be meaningful, timely, affordable and achievable. HB 1673 achieves these goals and we should unite to pass mercury emissions reduction legislation now.

Thank you very much for your consideration.

Sincerely,

Alice Chamberlin

Alice Chamberlin
Special Assistant for Policy

NEW HAMPSHIRE
LAKES



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Environmental Policy Director

New Hampshire Lakes Association

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April 11, 2006

ATTACHMENT #3

Senator Bob Odell, Chair
New Hampshire Senate
Energy and Economic Development Committee
Legislative Office Building, Room 102
Concord, New Hampshire 03301

Subject: HB1673 Relative to the reduction of mercury emissions

Dear Chairman Odell and Members of the Committee:

Thank you for the opportunity to testify in support of House Bill 1673, relative to reduction of mercury and sulfur dioxide emissions through the installation of wet scrubber technology. As an organization with 145 lake association members, New Hampshire Lakes Association represents over 15,000 lake enthusiasts and is dedicated to protecting our public waters for everyone's responsible use and enjoyment. NHLA supports HB 1673 as it addresses the need to remove harmful oxidized mercury emissions from coal-burning power plants, specifically Merrimack Power Station Units 1 and 2 in Bow, NH.

Over the past 12 months, NHLA has actively participated in a joint effort to develop this comprehensive bill with the hope that once passed, HB 1673 will significantly reduce mercury emissions by at least 80%. In addition, the bill creates the added benefit of removing sulfur dioxide and other emission particulates thereby improving the overall air and water quality in New Hampshire. It is important we act now, as our lakes and ponds are already burdened by high levels of mercury. Our public waters garner \$1.8 billion annually for our state's economy through boating, fishing, swimming, drinking water, and waterfront taxes. However, fishing licenses throughout the state are on a steady decline due in some part to fish consumption advisories from mercury contamination. If this trend continues, we stand to lose up to \$350 million annually.

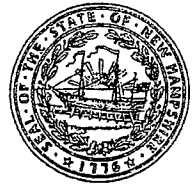
New Hampshire Lakes Association (NHLA) supports HB 1673 as the most scientifically proven way to reduce oxidized mercury and sulfur dioxide emissions from the Merrimack Power Station, thereby improving human health and the overall health of our public waters. Please vote *ought to pass* on HB 1673. Thank you.

Sincerely,

Jared A. Teutsch
Environmental Policy Director



The State of New Hampshire
Department of Environmental Services



Michael P. Nolin
Commissioner

April 11, 2006

The Honorable Bob Odell, Chairman
New Hampshire Senate
Energy and Economic Development Committee
Legislative Office Building, Room 304
Concord, New Hampshire 03301

ATTACHMENT #10

Re: HB 1673 - An Act Relative to Emission Reduction Standards as Required by the Clean Power Act

Dear Chairman Odell and Members of the Committee:

Thank you for the opportunity to provide testimony in support of HB 1673, which seeks to reduce mercury emissions from affected fossil fuel burning power plants within New Hampshire. HB 1673 is the result of several months of discussions between Public Service Company of New Hampshire (PSNH), DES, the Office of Energy and Planning, the New Hampshire Governor's Office, interested members of the General Court, and environmental advocacy organizations. DES's goal in these discussions was to seek aggressive levels of mercury reductions while minimizing cost impacts on electrical ratepayers. This bill achieves these goals, *and* provides additional environmental co-benefits of reduced local sulfur and particulate emissions.

While DES can appreciate the concerns some have expressed for greater reductions in a shorter timeframe, we remain steadfast that this bill represents a thoughtful balance of environmental and economic concerns. It delivers significant, yet practicably achievable reductions in a reasonable timeframe, and includes meaningful incentives for additional reductions beyond the bill's specified minimum and/or early action to reduce emissions. Eliminating flexibility in the required reductions and schedule will do little to provide actual environmental benefit, and yet may be detrimental to project financing. We believe this package of an aggressive, yet realistic reduction target /schedule and economic incentives achieves our goals for meaningful environmental benefit, maintaining electricity supply stability, and reducing financial risk and subsequent ratepayer impact.

If passed, this bill will be technically challenging to implement because the existing configuration of the boilers, stacks, and air pollution control equipment at Merrimack Station does not easily lend itself to installation of additional equipment. Due to physical constraints, installation of additional equipment to optimally reduce mercury emissions would require major renovations. PSNH has worked hard to find creative solutions to these issues so that operations can be maintained while constructing and testing the required control equipment. We feel that 2013 represents a practicably achievable goal given these constraints. The specified technology has the potential to achieve reductions well beyond the minimum requirement of 80% from all affected sources (including PSNH's Schiller Station units). However, the bill contains significant incentives and safeguards to ensure higher reductions if achievable.

This bill ultimately results from the requirements of HB 284 (passed in the 2002 session), commonly referred to as the New Hampshire Clean Power Act. In accordance with the requirements of RSA 125-O (as established by HB 284) the "Multiple Pollutant Reduction Program", the New Hampshire Department of Environmental Services (DES) made a recommendation to the Legislature on March 31, 2004 to place a cap on mercury emissions from these facilities. In response, last year, the NH Senate passed SB 128 which contained similar mercury reductions as those contained in HB 1673.

During committee hearings in both the Senate and in the House, the public outcry and the expert testimony for controlling mercury emissions from our state's coal-fired power plants sent a clear message that significant mercury emission reductions must be made. There were questions, however, as to how best to accomplish this task. Over the summer, PSNH in consultation with DES, performed tests with carbon injection control technology and researched the facility's ability to install wet scrubber technology. The results of this work led to the conclusion that while carbon injection can produce quick mercury emission reductions, the installation of the wet scrubber technology produces superior environmental benefits at a lower overall cost.

In order to best protect our citizens and environment from excess mercury emissions and to address the biological "hot spots" documented to exist within our state, we feel a successful mercury bill must meet three goals. First, it must reduce emissions as quickly as possible. Second, the chosen technology used must achieve the greatest mercury reduction technically feasible. And third, the technology must be implemented in a way that maintains our electrical reliability and affordability, without shifting production to upwind states.

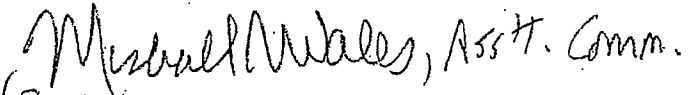
HB 1673 meets these goals with the creative use of incentives and the aggressive application of technology. Early reduction will be achieved through additional testing of carbon injection technology with subsequent ongoing implementation on the most successful application of this technology. Critical to the success of this bill is the requirement that wet scrubber technology be installed on Merrimack Units 1 and 2 by July 1, 2013. The use of this technology not only reduces mercury very efficiently (potentially greater than 90% in most applications), but it is highly effective in removing sulfur dioxide (SO₂) and small particles. This co-benefit of reducing three pollutants simultaneously with the same equipment reduces implementation costs by allowing PSNH to significantly reduce purchasing SO₂ emission allowances. Based on data shared by PSNH, the total capital cost for this full redesign will not exceed \$250 million dollars (2013\$) or \$197 million (2005\$), a cost that will be fully mitigated by the savings in SO₂ emission allowances. Finally, while the scrubber technology has been demonstrated to achieve higher levels of mercury reductions than initially called for in this bill, the bill contains a requirement that tightens the required reduction rate to the level that is actually achieved and is sustainable by the scrubber technology. Application of the requirements in this way reduces project risks while still achieving full environmental benefits.

Further, HB 1673 is clearly more strict than the federal Clean Air Mercury Rule, that may have to be implemented here in New Hampshire with its own associated costs beginning in 2010, if no other alternative such as an enacted HB 1673 is proposed to EPA prior to November 2006. HB 1673 is consistent with state mercury programs in Connecticut, Massachusetts, New Jersey, and Indiana, as well as regional and national recommendations made by the State and Territorial Air Pollution Program Administrators and Association of Local Air Pollution Control Officials (STAPPA/ALAPCO), the Northeast States for Coordinated Air Use Management (NESCAUM), and the Ozone Transport Commission (OTC) for mercury Maximum

Achievable Control Technology (MACT). Consistent with the amended SB 128, HB 1673 does not allow trading of mercury emission credits.

DES is committed to working with the Legislature to develop a prudent course of action to further reduce mercury emissions. Should your committee members have questions or need additional information regarding these recommendations, please feel free to contact Robert R. Scott, Air Resources Division Director, at 271-1088.

Sincerely,


for Michael P. Nolin
Commissioner

cc: HB 1673 Sponsors
Senate Energy and Economic Development Committee

Overview of HB 1673:

- Owner is to install scrubber technology to remove mercury and sulfur oxides at both Merrimack units.
- Scrubber technology is one of the best commercially available control technologies for mercury and is also the superior technology for reducing SO₂.
 - Also significantly reduces sulfur trioxide, small particulate matter, and improves visibility (regional haze).
- Scrubber Technology is to be installed no later than July 1, 2013, with economic incentives to promote timely state and federal permitting, engineering, and construction resulting in an earlier in-service date.
- Minimum required mercury removal of 80% (aggregate of all coal fired units) with incentives to achieve greater removal results.
- The rate of mercury reductions achieved through the operation of the scrubber technology will be sustained in so far as the operational capability of the system allows.
 - Once higher reduction rate achieved it will be locked in via permit.
- Incentives provided for mercury reductions earlier than 2013 and as soon as the bill becomes law.
- Owner will reduce on-site mercury emissions prior to scrubber installation, employing efforts including but not limited to the announced DOE trial using Carbon Injection technology.
- Purchase, transfer or sale of federal mercury credits will not be allowed for compliance with the NH law.
- Emission reductions for mercury and SO₂ will be on-site (local).
- Continuous mercury emission monitoring (CEM) equipment to be installed upon EPA approval or recommendation of an effective technology, with stack tests performed to monitor performance prior to the installation of CEMs.
- Project installation cost expected to not exceed \$250 million (2013 dollars, \$197 today's dollars). Ongoing costs will be partially offset by no longer needing to purchase SO₂ allowances.
- Schiller mercury emissions relatively low already, and will be reduced further with operation of the Northern Wood Power Project beginning in 2006.

Incentives:

- All saleable credits in the form of SO₂ allocations, no Hg trading
- Early Reduction Credits earned for mercury reduced prior to 2013. These credits cannot be used to delay installation of scrubber technology. Incentives increase with a higher rate of credits provided for mercury reductions made sooner.
- Early Reduction Credits can be applied if scrubber technology fails to achieve 80% mercury emission control, but credits cannot be used to delay scrubber installation.
- Over Compliance Credits are issued after 2013 if and when aggregate mercury removal is greater than 80%. Incentives increase credits provided on a sliding scale, with more credits at higher levels of removal in excess of 80%.
- Credits can be banked for later use or sold in a federal trading program to reduce financial impact to customers. Given the strict NH Clean Power Act requirements, credits will be used to meet NH SO₂ limits.

New Hampshire Clean Power Coalition

**Citizens for a Future NH -Clean Water Action -Conservation Law Foundation
Granite State Disability Coalition -National Wildlife Federation -NH Rivers Council-
NHPIRG -NH Sierra Club-NH Wildlife Federation- Worldview, Ltd. - NH UU Social
Responsibility Department**

January 19, 2006

The Honorable Lawrence C. Ross, Chairman
House Science, Technology and Energy Committee
Legislative Office Building, Room 304
Concord, NH 03301

RE: HB 1673

Dear Chairman Ross and Members of the Committee:

The New Hampshire Clean Power Coalition wishes to follow-up on comments and questions raised during the previous hearing on HB 1673.¹ The original Clean Power Act passed in 2002, which HB 1673 would amend, called for aggressive reductions in mercury emissions by the imposition of an annual cap on mercury emissions from coal power plants, to be set by July 2005. RSA 125-O:3, III(c). As discussed previously, however, what started out as legislation to meet this goal, i.e. SB 128, has become legislation directed at reductions in sulfur dioxide emissions. In fact, ~~HB 1673 would significantly undermine important economic incentives~~ created in 2002 under the original Clean Power Act, and unreasonably delay installation of pollution controls.

The Committee's consideration of HB 1673 must therefore start with a thorough understanding of the mandates and economic incentives of the original Clean Power Act, and address certain fundamental issues that require further exploration before final decisions can be made about what is in the best interests of New Hampshire's ratepayers and its citizens downwind of the Bow power plant. The Coalition submits that these fundamental questions must be answered during this Committee's deliberative process:

- 1) **What economic incentives provided by the current Clean Power Act would be undermined by HB 1673 to the detriment of New Hampshire ratepayers?**
- 2) **Given these economic incentives, what is a reasonable deadline goal for the implementation of sulfur dioxide scrubber controls at the Bow power plant?**
- 3) **In the meantime, what mercury control technology is economically and technically feasible and should be installed in the near term?**

¹ The Coalition includes environmental, wildlife, consumer, health and faith-based organizations representing thousands of citizens from all walks of life in New Hampshire

installation. At this point, the number argued by PSNH is \$250 million; this number appears, however, to be stated in \$2013. A recent estimate by DES, in \$2004, is \$189 million. Moreover, EPA has projected the average costs for scrubber installation to be nearly half of PSNH's estimates. *This variation is clearly significant, and a thorough analysis of a low and high range of projected costs should be completed independently of PSNH's estimates.*

Finally, HB 1673 contains a much-discussed provision allowing the conversion of mercury credits to SO2 credits, as an additional financial incentive to install controls. It is clear, however, that the current economic incentives provide substantial value to PSNH, without the additional issues these mercury conversion credits will raise, such as the legality of converting mercury credits to SO2 credits.

2) Given these economic incentives, what is a reasonable deadline goal for the implementation of sulfur dioxide scrubber controls at the Bow power plant?

Setting a reasonable deadline goal for implementing sulfur scrubber controls should be based on a straightforward, objective determination of how long the design, permitting and construction is likely to take. Scrubber controls have been in use for many years at numerous large coal power plants across the U. S., and other industrial countries across the world. Scrubber technology has significantly advanced, and numerous engineering designs are available. In other words, PSNH would not be starting from scratch, and likely has already done some pre-engineering work to reach its estimation of projected cost. As Director Scott projected at the recent hearing, the state permitting should reasonably be completed by early 2009 at the latest, and construction completed in one to two years. The timeframe for completing the permitting process will depend to some degree on whether there is opposition from interest groups - however a well-crafted bill with acceptable provisions will likely eliminate these types of delays, allowing permitting to be completed well before 2009. A reasonable deadline goal for the implementation of SO2 controls is therefore 2010.

3) In the meantime, what mercury control technology is economically and technically feasible and should be installed in the near term?

Among the current flaws in HB1673 is the lack of a requirement to reduce mercury emissions from Merrimack Station in the next few years. Emissions from Merrimack Station are a major contributor to the hotspot of mercury contamination in southeast New Hampshire. As a result, the Committee should focus on achieving the most significant reductions in mercury pollution possible, as quickly as possible. *To argue that HB1673 accomplishes this is misinformed at best, and misleading at worst.*

The development of mercury emissions control technology is rapidly advancing, leading Massachusetts, Connecticut, New Jersey – with Pennsylvania and Illinois – to conclude that 90% control of mercury emissions by the end of this decade is a reasonable regulatory target for coal-fired power plants. PSNH took a very brief, first look at Activated Carbon Injection (ACI) this summer, and a report of this test has yet to appear before the Committee. PSNH has indicated, in vague and nonspecific terms, that this test did not go as well as hoped and therefore the emission targets and timelines in SB 128 have been proven infeasible. This Committee and the people of

New Hampshire Clean Power Coalition

**Citizens for a Future NH -Clean Water Action -Conservation Law Foundation
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¹ The Coalition includes environmental, wildlife, consumer, health and faith-based organizations representing thousands of citizens from all walks of life in New Hampshire

The Coalition provides the following responses to each of these fundamental questions:

1) What economic incentives provided by the current Clean Power Act would be undermined by HB 1673 to the detriment of New Hampshire ratepayers?

To begin with, the original Clean Power Act provided a carefully negotiated set of economic incentives for the early implementation of sulfur dioxide (SO₂) scrubber controls at PSNH's coal plants. These economic incentives are structured on the federal SO₂ emission cap and trade program. Under the federal CAA, PSNH currently has an SO₂ emissions cap of approximately 29,000 tons. They emit on average 54,000 tons of SO₂ annually from 3 power plants, and therefore are *currently purchasing* about 24,000 tons/ credits per year. The costs of these credits fluctuate, from \$600 to over \$1500 per credit currently, and PSNH has therefore been *paying about \$15 million to potentially \$24 million or more annually* to meet its current obligations. (An accounting of these expenditures should be contained in filings by PSNH with the PUC.)

Starting in January 2007, the current Clean Power Act (RSA 125-O:3, III(a)) *lowers* the SO₂ cap to 7289 tons, and PSNH will then need to purchase another 21,000 SO₂ credits per year, at an *additional cost of \$13 million to \$21 million or annually until scrubbers are installed*. The Clean Power Act therefore has an economic incentive provision, negotiated and agreed to by PSNH in 2002, to help it meet the 2007 emission cap. For every ton PSNH reduces its SO₂ emissions, it will: 1) no longer need to buy a SO₂ allowance credit to meet the 7,289 cap, and 2) receive an *additional SO₂ allowance credit* to use as it pleases. RSA 125-O:4,IV (a) (2). These additional credits are capped at 20,000 per year and phase out over 3 years.

So, after PSNH installs scrubbers at the Bow plant to reduce its SO₂ emissions by 90%, i.e from 29,800 tons to 1500 tons, PSNH will earn approximately 20,000 credits in the first 2 years, and about 10,000 credits in year 3. PSNH therefore would:

- a. no longer need to purchase about 28,000 credits per year, **saving about \$28 million per year** (assuming \$1000 per ton), and
- b. **earn an additional 50,000 credits, or \$50 million, over the next 3 years.**²

The current economic incentives therefore work to the benefit of NH ratepayers *the sooner scrubbers are installed*. And, HB 1673 will significantly undermine these economic incentives by allowing PSNH to *further delay installing scrubbers for eight more years*, until 2013. These projections will of course vary with the market value of SO₂ credits, but it is clear that PSNH, and therefore the ratepayers, will save \$ millions by reducing SO₂ emissions as soon as scrubbers are installed. *The value of these economic incentives to ratepayers is clear, and this Committee should request a thorough analysis of these economic impacts by the NH PUC.*

In addition, a complete analysis of the ultimate benefit or impact to ratepayers from installing scrubbers will require a realistic and accurate determination of the costs of scrubber

² While some portion of the credits earned will likely be used by PSNH to meet its cap obligation, the \$ value to ratepayers is the same as PSNH will no longer need to purchase credits on the market.

installation. At this point, the number argued by PSNH is \$250 million; this number appears, however, to be stated in \$2013. A recent estimate by DES, in \$2004, is \$189 million. Moreover, EPA has projected the average costs for scrubber installation to be nearly half of PSNH's estimates. *This variation is clearly significant, and a thorough analysis of a low and high range of projected costs should be completed independently of PSNH's estimates.*

Finally, HB 1673 contains a much-discussed provision allowing the conversion of mercury credits to SO2 credits, as an additional financial incentive to install controls. It is clear, however, that the current economic incentives provide substantial value to PSNH, without the additional issues these mercury conversion credits will raise, such as the legality of converting mercury credits to SO2 credits.

2) Given these economic incentives, what is a reasonable deadline goal for the implementation of sulfur dioxide scrubber controls at the Bow power plant?

Setting a reasonable deadline goal for implementing sulfur scrubber controls should be based on a straightforward, objective determination of how long the design, permitting and construction is likely to take. Scrubber controls have been in use for many years at numerous large coal power plants across the U. S., and other industrial countries across the world. Scrubber technology has significantly advanced, and numerous engineering designs are available. In other words, PSNH would not be starting from scratch, and likely has already done some pre-engineering work to reach its estimation of projected cost. As Director Scott projected at the recent hearing, the state permitting should reasonably be completed by early 2009 at the latest, and construction completed in one to two years. The timeframe for completing the permitting process will depend to some degree on whether there is opposition from interest groups - however a well-crafted bill with acceptable provisions will likely eliminate these types of delays, allowing permitting to be completed well before 2009. A reasonable deadline goal for the implementation of SO2 controls is therefore 2010.

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Among the current flaws in HB1673 is the lack of a requirement to reduce mercury emissions from Merrimack Station in the next few years. Emissions from Merrimack Station are a major contributor to the hotspot of mercury contamination in southeast New Hampshire. As a result, the Committee should focus on achieving the most significant reductions in mercury pollution possible, as quickly as possible. *To argue that HB1673 accomplishes this is misinformed at best, and misleading at worst.*

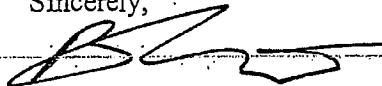
The development of mercury emissions control technology is rapidly advancing, leading Massachusetts, Connecticut, New Jersey - with Pennsylvania and Illinois - to conclude that 90% control of mercury emissions by the end of this decade is a reasonable regulatory target for coal-fired power plants. PSNH took a very brief, first look at Activated Carbon Injection (ACI) this summer, and a report of this test has yet to appear before the Committee. PSNH has indicated, in vague and nonspecific terms, that this test did not go as well as hoped and therefore the emission targets and timelines in SB 128 have been proven infeasible. This Committee and the people of

New Hampshire have a right to see a report on this test in order to understand what occurred, why, and how any challenges encountered could be addressed.

Most importantly, the ACI test performed at PSNH last summer is just the tip of the iceberg of the power of this technology. To draw from it the conclusion that ACI is not an option for mercury control at Merrimack Station, and therefore the plan laid out in HB1673 is the best we can do for mercury reduction, overlooks the significant potential of this technology. Experts in this field readily argue that 90% control of mercury is possible at all types of coal plants, quickly and cheaply. *The Coalition strongly urges the Committee to seek additional testimony from leading experts in this field, and not overlook the feasibility of strengthening HB1673 to require more mercury reduction, sooner, than is currently proposed.*

In conclusion, it is time to go beyond only asking PSNH what's possible for reducing mercury pollution. The people of New Hampshire expect, and deserve, more from the legislative process. The Committee must fulfill its role by taking a hard look at the numbers and assumptions provided by PSNH, and reach its own independent determination as to what must be done in the best interests of New Hampshire's ratepayers and citizens. Scrubbers should have been priority number one for PSNH as soon as the Clean Power Act passed in 2002; if scrubbers were on line by 2007, PSNH would have saved ratepayers about \$47 million in 2007 when the new cap and these incentives kick in. At this point there should be no further delays, a target date of 2010 for scrubbers, and interim controls for mercury should be incorporated into the bill.

Sincerely,



Brad Kuster
Conservation Law Foundation
New Hampshire Advocacy Center

For the: New Hampshire Clean Power Coalition:

Citizens for a Future New Hampshire
Clean Water Action
Conservation Law Foundation
Granite State Disability Coalition
New Hampshire PIRG
New Hampshire River Council
New Hampshire Sierra Club
National Wildlife Federation
New Hampshire Wildlife Federation
Worldview, LTD
New Hampshire UU Social Responsibility Department

NH CLEAN POWER COALITION

A concern for protecting NH

A diverse alliance of conservation, recreation, faith-based and public health groups have come together to advocate for passage of strong power plant clean up legislation because of the well-documented, continuing contamination of our environment and the resulting devastating impacts on human health and wildlife, in addition to the heavy costs to economic, educational and recreational interests in the state of New Hampshire.

Coalition Members & Profiles

Citizens for a Future NH, *Hopkinton, NH* is a citizens environmental group that is concerned for the protection of the environment of New Hampshire and the public health of its citizens. **225-2252**

Clean Water Action, *Portsmouth, NH* is a citizens' organization working for clean, safe and affordable water, prevention of health-threatening pollution, creation of environmentally safe jobs and businesses, and empowerment of people--including our 5,000 NH members--to make democracy work.
www.cleanwateraction.org / 430-9565

Conservation Law Foundation, *Concord, NH*, is a regional organization that works to solve the most significant environmental problems that threaten New England. CLF's advocates use law, economics and science to create innovative strategies to conserve natural resources, protect public health and promote vital communities in our region.
www.clf.org / 225-3060

Granite State Disability Coalition, *Plymouth, NH*. People with every ability actively involved in enlightening people with any ability on the need to look for better ways to sustain a society that supports people of all abilities. **536-1884**

National Wildlife Federation, *Montpelier, VT*
NWF represents the power and commitment of nearly a million members nationwide, over 7,000 of which reside in NH. NWF's mission is to inspire Americans to protect wildlife for our children's future.
www.nwf.org/mercury / 802-229-0650

NH Medical Society, *Concord, NH*. Represents over 2000 NH physicians (MD and DO) to advocate for patients and physicians on matters of public health and medical policy. Governed by member physicians who participate in all policy

and program decisions. Actively participates in the legislative process to educate state and national elected officials and promote its mission. **www.nhms.org / 224-1909**

NH PIRG, *Concord, NH* delivers persistent, result-oriented public interest activism that protects our environment, encourages a fair, sustainable economy, and fosters responsive, democratic government. NHPIRG has about 2000 members statewide. **www.nhpirg.org / 229-3222**

NH Rivers Council, *Concord, NH*, with 200 members, is the only statewide conservation organization wholly dedicated to the protection and conservation of New Hampshire rivers, by educating the public about the value of the state's rivers, designating rivers in the state's protection program, and advocating for strong public policies and wise management of New Hampshire's river resources.
www.nhrivers.org / 228-6472

NH Sierra Club, *Concord, NH*
is a non-profit member-supported, public interest organization with 6,000 NH members, that promotes conservation of the natural environment by influencing public policy decisions through legislative, administrative, legal, and electoral means. Mission: To explore, enjoy, and protect the wild places of the earth; To practice and promote the responsible use of the earth's ecosystems and resources; To educate and enlist humanity to protect and restore the quality of the natural and human environment; and to use all lawful means to carry out these objectives.
www.nhsierraclub.org / 224-8222

NH Wildlife Federation, *Concord, NH* is a non-profit 7,500 member organization promoting conservation, environmental education, sportsmanship, and the outdoor activities of hunting, fishing and trapping.
www.nhwf.org / 224-5953

NH Unitarian Universalist Social Responsibility Department, *Concord, NH* has 200,000 members nationally and 3,500 members in NH. Seeking to make democracy work, honoring the web of existence.
www.nhfaithfuldemocracy.org / 228-8704

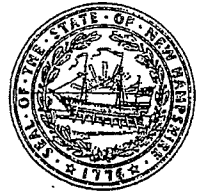
Worldview, Ltd, *Peterborough, NH* is a nonprofit organization that produces educational events linking environmental, economic and social justice issues.
924-9750

The NH Clean Power Coalition represents the interests of over 24,000 NH residents.

Last updated: 9/20/05



The State of New Hampshire
Department of Environmental Services



Michael P. Nolin
Commissioner

January 12, 2006

The Honorable Lawrence C. Ross, Chairman
New Hampshire House of Representatives
Science, Technology and Energy Committee
Legislative Office Building, Room 304
Concord, New Hampshire 03301

Re: HB 1673 - An Act Relative to Emission Reduction Standards as Required by the Clean Power Act

Dear Chairman Ross and Members of the Committee:

Thank you for the opportunity to provide testimony in support of HB 1673 which seeks to reduce mercury emissions from affected fossil fuel burning power plants within New Hampshire. In accordance with the requirements of RSA 125-O, the "Multiple Pollutant Reduction Program", the New Hampshire Department of Environmental Services (DES) made a recommendation to the Legislature on March 31, 2004 to place a cap on mercury emissions from these facilities.

Last year, the NH Senate passed SB 128 which contained similar mercury reductions as those contained in HB 1673. During committee hearings in the NH Senate and in the NH House, the public outcry and the expert testimony for controlling mercury emissions from our state's coal-fired power plants sent a clear message that significant mercury emission reductions must be made, but there were questions as how to best accomplish this task. Over the summer, PSNH in consultation with DES, performed tests with carbon injection control technology and researched the facility's ability to install wet scrubber technology. The results of this work led to the conclusion that while carbon injection can produce quick mercury emission reductions, the installation of the wet scrubber technology produces superior environmental benefits. HB 1673 is the product of months of discussions between Public Service Company of New Hampshire (PSNH), DES, the Office of Energy and Planning, the New Hampshire Governor's Office, and environmental groups that sought aggressive levels of mercury reductions while minimizing cost impacts on electrical ratepayers.

In order to best protect our citizens and environment from excess mercury emissions and to address the biological "hot-spots" documented to exist within our state, we feel a successful mercury bill must meet three goals. First, it must reduce emissions as quickly as possible. Second, the chosen technology used must achieve the greatest mercury reduction technically feasible. And third, the technology must be implemented in a way that maintains our electrical reliability and affordability, without shifting production to upwind states.

HB 1673 meets these goals with the creative use of incentives and the aggressive application of technology. Early reduction will be achieved through additional testing of carbon injection technology with subsequent ongoing implementation on the most successful application of this technology. Critical to the success of this bill is the requirement that wet scrubber technology be installed on Merrimack Units 1 and 2

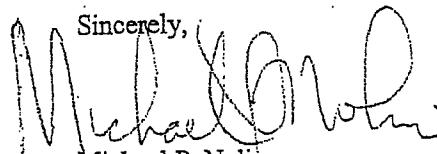
by July 1, 2013. The use of this technology not only reduces mercury very efficiently (greater than 90% in most applications), but it is highly effective in removing sulfur dioxide (SO₂) and small particles. This co-benefit of reducing three pollutants simultaneously with the same equipment reduces implementation costs by allowing PSNH to significantly reduce purchasing SO₂ emission allowances, saving greater than an estimated \$25 million per year (2005\$). Based on data shared by PSNH, the total capital cost for this full redesign will not exceed \$250 million dollars (2013\$) or \$197 million (2005\$), a cost that will be fully mitigated by the savings in SO₂ emission allowances. Finally, while the scrubber technology has been demonstrated to achieve higher levels of mercury reductions than initially called for in this bill, the bill contains a requirement that tightens the required reduction rate to the level that is actually achieved and is sustainable by the scrubber technology. Application of the requirements in this way reduces project risks while still achieving full environmental benefits.

Once completed, the mercury reduction requirements of HB 1673 should bring annual power plant emissions down to below 32 pounds per year and quite possibly below the 24 pound cap envisioned in the former SB 128. Further, HB 1673 is clearly more strict than the federal Clean Air Mercury Rule, that may have to be implemented here in New Hampshire with its own associated costs beginning in 2010, if no other alternative such as an enacted HB 1673 is proposed to EPA prior to November 2006. HB 1673 is consistent with state mercury programs in Connecticut, Massachusetts, New Jersey, and Indiana, as well as regional and national recommendations made by the State and Territorial Air Pollution Program Administrators and Association of Local Air Pollution Control Officials (STAPPA/ALAPCO), the Northeast States for Coordinated Air Use Management (NESCAUM), and the Ozone Transport Commission (OTC) for mercury Maximum Achievable Control Technology (MACT). Consistent with the amended SB 128, HB 1673 does not allow trading of mercury emission credits.

If passed, this bill will be technically challenging to implement because the existing configuration of the boilers, stacks, and air pollution control equipment at Merrimack Station does not easily lend itself to installation of additional equipment. Due to physical constraints, installation of additional equipment to optimally reduce mercury emissions would require major renovations. PSNH has worked hard to find creative solutions to these issues so that operations can be maintained while constructing and testing the required control equipment.

DES is committed to working with the Legislature to develop a prudent course of action to further reduce mercury emissions. Should any members have questions or need additional information regarding these recommendations, please feel free to contact Robert R. Scott, Air Resources Division Director, at 271-1088 or me at 271-2958.

Sincerely,

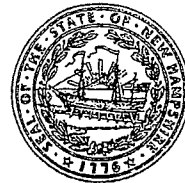


Michael P. Nolin
Commissioner

cc: HB 1673 Sponsors
Science, Technology and Energy Committee Members



The State of New Hampshire
Department of Environmental Services



Michael P. Nolin
Commissioner

April 11, 2006

The Honorable Bob Odell, Chairman
New Hampshire Senate
Energy and Economic Development Committee
Legislative Office Building, Room 304
Concord, New Hampshire 03301

ATTACHMENT #10

Re: HB 1673 - An Act Relative to Emission Reduction Standards as Required by the Clean Power Act

Dear Chairman Odell and Members of the Committee:

Thank you for the opportunity to provide testimony in support of HB 1673, which seeks to reduce mercury emissions from affected fossil fuel burning power plants within New Hampshire. HB 1673 is the result of several months of discussions between Public Service Company of New Hampshire (PSNH), DES, the Office of Energy and Planning, the New Hampshire Governor's Office, interested members of the General Court, and environmental advocacy organizations. DES's goal in these discussions was to seek aggressive levels of mercury reductions while minimizing cost impacts on electrical ratepayers. This bill achieves these goals, *and* provides additional environmental co-benefits of reduced local sulfur and particulate emissions.

While DES can appreciate the concerns some have expressed for greater reductions in a shorter timeframe, we remain steadfast that this bill represents a thoughtful balance of environmental and economic concerns. It delivers significant, yet practicably achievable reductions in a reasonable timeframe, and includes meaningful incentives for additional reductions beyond the bill's specified minimum and/or early action to reduce emissions. Eliminating flexibility in the required reductions and schedule will do little to provide actual environmental benefit, and yet may be detrimental to project financing. We believe this package of an aggressive, yet realistic reduction target /schedule and economic incentives achieves our goals for meaningful environmental benefit, maintaining electricity supply stability, and reducing financial risk and subsequent ratepayer impact.

If passed, this bill will be technically challenging to implement because the existing configuration of the boilers, stacks, and air pollution control equipment at Merrimack Station does not easily lend itself to installation of additional equipment. Due to physical constraints, installation of additional equipment to optimally reduce mercury emissions would require major renovations. PSNH has worked hard to find creative solutions to these issues so that operations can be maintained while constructing and testing the required control equipment. We feel that 2013 represents a practicably achievable goal given these constraints. The specified technology has the potential to achieve reductions well beyond the minimum requirement of 80% from all affected sources (including PSNH's Schiller Station units). However, the bill contains significant incentives and safeguards to ensure higher reductions if achievable.

This bill ultimately results from the requirements of HB 284 (passed in the 2002 session), commonly referred to as the New Hampshire Clean Power Act. In accordance with the requirements of RSA 125-O (as established by HB 284) the "Multiple Pollutant Reduction Program", the New Hampshire Department of Environmental Services (DES) made a recommendation to the Legislature on March 31, 2004 to place a cap on mercury emissions from these facilities. In response, last year, the NH Senate passed SB 128 which contained similar mercury reductions as those contained in HB 1673.

During committee hearings in both the Senate and in the House, the public outcry and the expert testimony for controlling mercury emissions from our state's coal-fired power plants sent a clear message that significant mercury emission reductions must be made. There were questions, however, as to how best to accomplish this task. Over the summer, PSNH in consultation with DES, performed tests with carbon injection control technology and researched the facility's ability to install wet scrubber technology. The results of this work led to the conclusion that while carbon injection can produce quick mercury emission reductions, the installation of the wet scrubber technology produces superior environmental benefits at a lower overall cost.

In order to best protect our citizens and environment from excess mercury emissions and to address the biological "hot spots" documented to exist within our state, we feel a successful mercury bill must meet three goals. First, it must reduce emissions as quickly as possible. Second, the chosen technology used must achieve the greatest mercury reduction technically feasible. And third, the technology must be implemented in a way that maintains our electrical reliability and affordability, without shifting production to upwind states.


HB 1673 meets these goals with the creative use of incentives and the aggressive application of technology. Early reduction will be achieved through additional testing of carbon injection technology with subsequent ongoing implementation on the most successful application of this technology. Critical to the success of this bill is the requirement that wet scrubber technology be installed on Merrimack Units 1 and 2 by July 1, 2013. The use of this technology not only reduces mercury very efficiently (potentially greater than 90% in most applications), but it is highly effective in removing sulfur dioxide (SO₂) and small particles. This co-benefit of reducing three pollutants simultaneously with the same equipment reduces implementation costs by allowing PSNH to significantly reduce purchasing SO₂ emission allowances. Based on data shared by PSNH, the total capital cost for this full redesign will not exceed \$250 million dollars (2013\$) or \$197 million (2005\$), a cost that will be fully mitigated by the savings in SO₂ emission allowances. Finally, while the scrubber technology has been demonstrated to achieve higher levels of mercury reductions than initially called for in this bill, the bill contains a requirement that tightens the required reduction rate to the level that is actually achieved and is sustainable by the scrubber technology. Application of the requirements in this way reduces project risks while still achieving full environmental benefits.

Further, HB 1673 is clearly more strict than the federal Clean Air Mercury Rule, that may have to be implemented here in New Hampshire with its own associated costs beginning in 2010, if no other alternative such as an enacted HB 1673 is proposed to EPA prior to November 2006. HB 1673 is consistent with state mercury programs in Connecticut, Massachusetts, New Jersey, and Indiana, as well as regional and national recommendations made by the State and Territorial Air Pollution Program Administrators and Association of Local Air Pollution Control Officials (STAPPA/ALAPCO), the Northeast States for Coordinated Air Use Management (NESCAUM), and the Ozone Transport Commission (OTC) for mercury Maximum

Achievable Control Technology (MACT). Consistent with the amended SB 128, HB 1673 does not allow trading of mercury emission credits.

DES is committed to working with the Legislature to develop a prudent course of action to further reduce mercury emissions. Should your committee members have questions or need additional information regarding these recommendations, please feel free to contact Robert R. Scott, Air Resources Division Director, at 271-1088.

Sincerely,


for Michael P. Nolin
Commissioner

cc: HB 1673 Sponsors
Senate Energy and Economic Development Committee

ATTACHMENT 3

SB 152 – AS INTRODUCED

2009 SESSION

09-0395

06/10

SENATE BILL **152**

AN ACT relative to an investigation by the public utilities commission to determine whether the scrubber installation at the Merrimack station is in the public interest of retail customers.

SPONSORS: Sen. Janeway, Dist 7; Rep. Cushing, Rock 15; Rep. R. Read, Rock 16; Rep. Borden, Rock 18

COMMITTEE: Energy, Environment and Economic Development

ANALYSIS

This bill requires the public utilities commission to investigate whether installation of mercury scrubber technology at Merrimack Station is in the interest of retail customers of Public Service Company of New Hampshire.

Explanation: Matter added to current law appears in *bold italics*.

Matter removed from current law appears [~~in brackets and struck through.~~]

Matter which is either (a) all new or (b) repealed and reenacted appears in regular type.

09-0395

06/10

STATE OF NEW HAMPSHIRE

In the Year of Our Lord Two Thousand Nine

AN ACT relative to an investigation by the public utilities commission to determine whether the scrubber installation at the Merrimack station is in the public interest of retail customers.

Be it Enacted by the Senate and House of Representatives in General Court convened:

1 Public Utilities Commission Investigation; Purpose. The purpose of this legislation is to require the New Hampshire public utilities commission to investigate, in light of substantial cost increases now projected by Public Service Company of New Hampshire (PSNH), whether installation of the wet flue gas desulphurization system ("scrubber") at the Merrimack Station electric generating facility in Bow, as mandated by RSA 125-O:11 et seq., is in the public interest of retail customers of PSNH.

2 Commission Investigation. The New Hampshire public utilities commission shall investigate whether the installation of mercury scrubber technology at Merrimack Station as required by RSA 125-O:11 et seq. and any associated modifications, including but not limited to those modifications necessary to satisfy scrubber power consumption requirements, are:

1. In the interest of retail customers of PSNH.

II. The least cost means of meeting PSNH's customer requirements in a manner that reduces mercury emissions by at least 80 percent.

III. Consistent with the state's energy policy under RSA 378:37.

3 Scope of Investigation. The New Hampshire public utilities commission shall investigate the following:

I. The projected future operating and capital costs of Merrimack Station, including but not limited to, costs associated with the scrubber project, future projected carbon prices, and other actual or reasonably anticipated environmental compliance costs and coal prices.

II. The projected costs of alternative supply options to serve PSNH's customers, including but not limited to, other utility-owned generation, renewable sources of energy, energy efficiency measures, demand side management, and any combinations of such sources that could reliably replace supply currently generated by Merrimack Station, taking into account the requirements of integrated resource planning under RSA 378:38.

III. Whether it is in the interest of retail customers of PSNH, and consistent with state energy and environmental policy, to complete the scrubber project, or whether alternatives should be considered to meet the energy needs of PSNH customers.

4 Report. This investigation shall be completed as expeditiously as possible, with an opportunity for public participation. The public utilities commission shall submit a report to the senate president, speaker of the house of representatives, and the state librarian no later than 90 days after the effective date.

5 Effective Date. This act shall take effect upon its passage.

- ▶ NH General Court
- ▶ New Query
- ▶ FAQs

New Hampshire General Court - Bill Status System

[Bill Text](#)[Result List](#)[Bill Status](#)[Bill Docket](#)**SB152 Roll Calls**

Bill Title: relative to an investigation by the public utilities commission to determine whether the scrubber installation at the Merrimack station is in the public interest of retail customers.

LSR#: 395 Body: S Local Govt: N Chapter#: none Gen Status: SENATE

House Roll Calls:

No Rolls Calls Made by the House.

Senate Roll Calls:

	<u>Date</u>	<u>Vote #</u>	<u>Question/Motion</u>	<u>Yeas</u>	<u>nays</u>
All Votes	04/08/2009	46	Inexpedient to Legislate Sen. Barnes/Sen. Bragdon	21	1

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New Hampshire General Court Information Systems
107 North Main Street - State House Room 31, Concord NH 03301

New Hampshire General Court - Bill Status System

SB152 Yea Votes

Vote Date: 04/08/2009	Vote#: 46	Question/Motion: Inexpedient to Legislate Sen. Barnes/Sen. Bragdon
Yeas: 21	Nays: 1	

	Party	County	District	Vote
Barnes, Jr., John	Republican		17	Yea
Bragdon, Peter	Republican		11	Yea
Carson, Sharon	Republican		14	Yea
Cilley, Jacalyn	Democrat		06	Yea
D'Allesandro, Lou	Democrat		20	Yea
DeVries, Betsi	Democrat		18	Yea
Fuller Clark, Martha	Democrat		24	Yea
Gallus, John	Republican		01	Yea
Gatsas, Theodore	Republican		16	Yea
Gilmour, Peggy	Democrat		12	Yea
Hassan, Margaret	Democrat		23	Yea
Houde, Matthew	Democrat		05	Yea
Kelly, Molly	Democrat		10	Yea
Larsen, Sylvia	Democrat		15	Yea
Lasky, Bette	Democrat		13	Yea
Letourneau, Robert	Republican		19	Yea
Merrill, Amanda	Democrat		21	Yea
Odell, Bob	Republican		08	Yea
Reynolds, Deborah	Democrat		02	Yea
Roberge, Sheila	Republican		09	Yea
Sgambati, Kathleen	Democrat		04	Yea

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New Hampshire General Court - Bill Status System

SB152 Nay Votes

Vote Date: 04/08/2009	Vote#: 46	Question/Motion: Inexpedient to Legislate Sen. Barnes/Sen. Bragdon
Yeas: 21	Nays: 1	

	Party	County	District	Vote
Janeway, Harold	Democrat		07	Nay

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New Hampshire General Court Information Systems
107 North Main Street - State House Room 31, Concord NH 03301

HB 496 - AS INTRODUCED

2009 SESSION

09-0596

08/09

HOUSE BILL **496**

AN ACT establishing a limit on the amount of cost recovery for the emissions reduction equipment installed at the Merrimack Station.

SPONSORS: Rep. Hamm, Merr 4; Rep. Sad, Ches 2; Rep. R. Holden, Hills 7; Rep. Leishman, Hills 3; Rep. Shattuck, Hills 1

COMMITTEE: Science, Technology and Energy

ANALYSIS

A bill establishes a limit on the amount of cost recovery for the emissions reduction equipment installed at the Merrimack Station.

Explanation: Matter added to current law appears in *bold italics*.
Matter removed from current law appears ~~[in brackets and struck through]~~
Matter which is either (a) all new or (b) repealed and reenacted appears in regular type.

STATE OF NEW HAMPSHIRE

In the Year of Our Lord Two Thousand Nine

AN ACT establishing a limit on the amount of cost recovery for the emissions reduction equipment installed at the Merrimack Station.

Be it Enacted by the Senate and House of Representatives in General Court convened:

- 1 1 Mercury Emissions; Cost Recovery. Amend RSA 125-O:18 to read as follows:
- 2 125-O:18 Cost Recovery. If the owner is a regulated utility, the owner shall be allowed to
- 3 recover [all] prudent costs *up to \$250,000,000* of complying with the requirements of this
- 4 subdivision in a manner approved by the public utilities commission. During ownership and
- 5 operation by the regulated utility, such costs shall be recovered via the utility's default service
- 6 charge. In the event of divestiture of affected sources by the regulated utility, such divestiture and
- 7 recovery of costs shall be governed by the provisions of RSA 369-B:3-a.
- 8 2 Effective Date. This act shall take effect 60 days after its passage.