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PUBLIC MEETING

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UTILITY AIR TOXICS REGULATORY DETERMINATION

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Tuesday, June 13, 2000

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Lake Michigan Room, 12th Floor

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U.S. EPA Region IV

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77 West Jackson Boulevard

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Chicago, Illinois

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Reported by:

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1 MR. ULLRICH: Good morning, everyone. My
2 name is Dave Ullrich. I'm the deputy regional
3 administrator for U.S. EPA here in the Great Lakes
4 Region, Region V.

5 Welcome to wet and wild Chicago this
6 morning. If the lake levels are a little bit low,
7 what's been happening over the last couple of weeks,
8 I think it starts driving them up a little bit, but
9 that's not what we're here to talk about today.

10 I greatly appreciate all of you who have
11 arrived. My guess is that the weather has slowed a
12 few folks and that the crowd will grow a little bit
13 during the course of the day.

14 But we're here today to talk and, more
15 importantly, listen concerning an issue that is very
16 central in importance to environmental quality here
17 in the Midwest as well as the rest of the country.

18 The central issue that is being addressed is
19 whether or not to regulate hazardous air pollutants
20 and, particularly, mercury, under the Clean Air Act
21 with a specific focus on electric utilities.

22 I think with any major decision like this,
23 it is critically important to hear as much as

24 possible from all of those who might be affected by

1 this decision. Obviously, the utilities have a great
2 stake in this, as well as federal, state, local, and
3 tribal governments are very concerned about this
4 issue. The environmental community as well has great
5 concerns as well as the general public that derives
6 the benefit from the resources that are made
7 available, and, particularly, I think we're concerned
8 about whether or not people can eat the fish that
9 they may be so skillful and lucky to catch, probably
10 better than I.

11 But this is an issue, I think, that has been
12 very uppermost on our minds here in Region V of the
13 EPA, not only because of the Great Lakes and the
14 impacts on the Great Lakes, but many of our inland
15 lakes are affected by deposition of mercury and other
16 toxics as well. So this is an issue of central
17 importance, again, here in the Midwest as well as the
18 rest of the country.

19 I encourage all of you to be outspoken,
20 provide as much information and input as you can
21 during the course of the day so that ultimately EPA
22 can be in the best position to make the best decision
23 about how we ought to be approaching the reduction of

1 associated with it and how we might best do that in
2 the future.

3 So, again, I hope you have a very productive
4 day and that you speak out and speak your mind and
5 provide as much good information as possible.

6 At this point, it is my pleasure to turn the
7 podium or the microphone over to Rob Brenner, who is
8 the Deputy Assistant Administrator for the Office of
9 Air and Radiation in Washington, D.C.

10 Rob?

11 MR. BRENNER: Thank you very much, Dave.

12 Good morning. And I want to thank all of
13 you and my thanks to Dave for coming out this
14 morning. As you heard, I am Rob Brenner, and I'm the
15 Deputy Assistant Administrator for the Office of Air
16 and Radiation.

17 And I'm here today with some of my
18 colleagues to hear your views about a very important
19 decision that we're going to be making later this
20 year. That decision, which the Clean Air Act
21 requires the EPA administrator to make, is whether
22 it's necessary and appropriate to regulate hazardous
23 air pollutants, and especially mercury, that's

24 emitted from power plants.

1 We're required to make the decision by
2 December 15th of this year, and if the administrator
3 decides to regulate hazardous air pollutants from
4 power plants, we'll have several additional legal
5 deadlines.

6 December 2003 would be the deadline for
7 proposing a ruling, and December 2004 would be the
8 deadline to issue a final rule. So that means that
9 by the beginning of 2008, which will be the
10 compliance date, all existing coal-fired power plants
11 would need to be in compliance with a regulation that
12 would limit emissions for all those plants that are
13 larger than 25 megawatts in size.

14 So that's the framework that the Clean Air
15 Act has laid out for this process. And it's a
16 particular process, it's a special process that was
17 created for electric power generating plants, and
18 it's different from the requirements from other
19 source categories regulated by the statute.

20 The way it works for power plants is, first
21 of all, we're required to study hazardous air
22 pollutants, or HAPS as we call them, from power
23 plants and then to make a finding.

1 process, in the winter of 1997 and '98, we published
2 two reports to Congress. The first was the Utility
3 Hazardous Air Pollutants study, and that identified
4 mercury from coal-fired utility boilers as the
5 hazardous air pollutant of greatest concern to human
6 health of all HAP emissions from power plants and the
7 Mercury Study which identified coal-fired power
8 plants as the largest source of anthropogenic mercury
9 emissions in the U.S., accounting for fully one-third
10 of all emissions in the country.

11 So mercury, as you are no doubt aware, has
12 long been recognized as a powerful neurotoxin.
13 Exposure to mercury has been associated with serious
14 neurological and developmental effects in humans. At
15 high doses, the effects include tremors, inability to
16 walk, convulsions, and death. At the levels more
17 commonly seen in the U.S., the effects include more
18 subtle losses of sensory or cognitive ability. The
19 developing fetus is the most sensitive to the effects
20 from methylmercury, and so woman of childbearing age
21 are regarded as the population of greatest concern.

22 Mercury from power plants, smoke stacks, and
23 other sources are transported through the air and

24 deposited to water and land. Depending on the form

1 in which it's emitted and the atmospheric conditions,
2 it can be deposited locally or it can travel great
3 distances. In the water, it's transformed into
4 methylmercury, a highly toxic form of mercury that
5 bioaccumulates in fish and other water species where
6 concentrations can be many times higher than in the
7 water.

8 Human exposure to mercury occurs primarily
9 by eating contaminated fish. Mercury is the
10 pollutant most frequently the basis for fish
11 advisories, advice to the public to limit or
12 eliminate fish consumption. 41 states have fish
13 advisories based on mercury contamination.

14 While people who consume average amounts of
15 a variety of commercially available fish are not
16 likely to consume harmful amounts of mercury, those
17 who regularly and frequently consume large amounts of
18 fish, especially marine species that have much higher
19 levels of methylmercury than the rest of seafood or
20 freshwater fish that have been affected by mercury
21 pollution, are more highly exposed.

22 We're working on a number of funds to reduce
23 mercury in our environment. The water program gives

1 developing fish advisories. In the air program,
2 we're regulating other major sources of mercury
3 emission through the air, including stringent
4 regulations for certain types of waste combustors
5 that contribute significantly to mercury pollution.

6 These actions, once fully implemented, will
7 reduce mercury emissions caused by human activity by
8 over 50 percent to 1990 levels. Several other
9 regulations are under development to control
10 emissions of mercury through the air from other types
11 of sources.

12 We're also working through international
13 organizations and agreements to control the
14 international sources of mercury and pollution which
15 account for a significant percentage, about
16 40 percent, of the mercury being deposited in U.S.
17 waters.

18 So in preparation for the decisions about
19 whether to regulate utility mercury emissions, we
20 have several efforts underway. We have funded the
21 National Academy of Sciences to do an assessment of
22 recent mercury health research and to recommend to us
23 in the EPA whether we need to adjust what we call our

24 RfD, which is a measure of toxicity from mercury.

1 The effort will resolve the controversy
2 about whether EPA's assessment of the level of
3 mercury causes health effects is correct. The
4 controversy resulted from findings that appear to be
5 in conflict in recent studies of mercury exposures in
6 the Seychelles Islands, the Faroes, New Zealand, and
7 elsewhere. We expect the National Academy to issue
8 their report in about a month.

9 Congress has also asked us to review the
10 National Academy's study before the administrator
11 decides whether to actually regulate the power plant
12 issue. Several assessments that will give us a
13 current picture of the availability and cost
14 effectiveness of existing emerging mercury control
15 technologies and the extent to which existing
16 controls for sulfur dioxide, nitrogen oxide, or
17 particulate matters can capture mercury.

18 So those assessments that will give us that
19 current picture are the fact that at the time of the
20 Mercury Study and the Utility Study that came out a
21 couple years ago, mercury control costs were
22 estimated to be quite high. So what we're doing is
23 we're collaborating with the Department of Energy now

1 test results. And then an EPA study a year ago
2 estimated that mercury from coal-fired power plants
3 could be controlled to about 70 to 75 percent
4 emission reduction for an annual national cost of
5 about one and a half billion to \$1.9 billion,
6 depending on what other pollutant plants are required
7 to control.

8 The analysis showed no effect on existing
9 coal-fired capacity, the amount of coal-fired
10 capacity that would be generating and about a
11 1 percent effect on the amount of electricity coming
12 from those plants, close to a 1-percent reduction in
13 the amount of electricity that would be produced by
14 those plants as a result of the control. The new
15 study is going to update some of that work, and it
16 should be available later this summer.

17 Also, I should mention that we have been
18 analyzing the 1999 data about mercury emissions from
19 coal-fired electric generating plants. This is going
20 to provide us the most accurate and complete
21 information available about the amount and nature and
22 the species of mercury that are emitted from this
23 sector. That will also be made available to the

24 public later this summer.

1 This finding or determination as to whether
2 it's necessary and appropriate to regulate HAPS,
3 hazardous air pollutant emissions, from electric
4 power generating plants is not a regulation that
5 requires notice of the pilot, but the decision does
6 affect all of you, the public, and we very much want
7 to hear your views regarding the decision, although,
8 as I said, it's not legally required. But we wanted
9 to be here, and we wanted to come here and listen to
10 your comments on this and your thoughts about this
11 upcoming decision.

12 We have a transcript that's being made of
13 your remarks, and we have staff listening in on the
14 phone lines as well from Washington and
15 North Carolina. At least a couple of us will be up
16 here during the course of the day listening to the
17 formal presentations that are being made, and, as I
18 mentioned, a transcript will be made as well.

19 Those of us who are not up here at the table
20 will also be available in the room and outside in the
21 hallway. If you want to informally ask us questions
22 about the process, we'd be happy to talk to you
23 informally, if you'd like.

So let me introduce the people who are here.

1 First let me introduce somebody who will be here
2 soon, Dana Minerva who is my colleague in the Office
3 of Water. She's the deputy assistant administrator
4 for the Water Office, and she will be arriving soon
5 and she will also be up at the table for part of the
6 day.

7 Bob Wayland is the director of the
8 Combustion Group, the Office of Air Quality Standards
9 and Planning, which is our office down in
10 North Carolina that is doing a lot of the analytic
11 work that will contribute to this decision.

12 Ellen Brown is a policy analyst on my staff
13 at EPA headquarters in Washington, and Carl Nash is
14 the chief of the Regulation Development Section, the
15 Air Programs Branch, here at EPA Region V in Chicago.

16 I'd also like to introduce Bill Maxwell
17 who's here, and Bill is from the Office of Air
18 Quality Planning and Standards, and he's the lead
19 engineer on the Utility Air Toxics determination.

20 So let me turn this over to Bob, who's just
21 going to talk for a minute about logistics, and then
22 we can go ahead and get started.

23 MR. WAYLAND: Thank you, Rob.

1 for making this space available for us today and
2 getting the room set up for us. I did notice on the
3 way in, there are pay telephones and restrooms just
4 outside this door, so you should be able to find
5 them. If not, I'm sure if you ask somebody, they
6 will help you get to those.

7 The agenda for today's meeting is very full,
8 so we're going to try to stick to a very rigid
9 schedule as we move through the afternoon. However,
10 because of the weather delays, there are some people
11 who are on the agenda early who haven't been able to
12 get in yet this morning, and we will be fitting them
13 in as we go through the afternoon.

14 We're going to stick to the five-minute
15 presentation schedule. Bill will be sitting down
16 here at the front, and he has a three-minute sign, a
17 two-minute sign, a one-minute sign, and a 30-second
18 sign. We will ask you to stop when your five minutes
19 is up because we want to make sure that we hear from
20 everyone that is here. We will be here as long today
21 as it takes to hear your comments. We will not cut
22 off the discussion until everyone has had a chance to
23 comment.

1 typewritten or electronic version of your comments
2 that you're making today, if you would please see
3 that one of these two ladies over here in the front
4 of the room, if you will hand them to them either
5 before you come up or as you go down, it will help us
6 in making sure that we have everything recorded.

7 The way we're going to work this
8 logistically is, these first two rows here, if you
9 look at your agenda, the meeting is split into
10 one-hour blocks of presentations. We would like one
11 hour's worth of people sitting up here in these front
12 two rows. So if you're in the first block when we
13 break, you need to come up here to the front, and
14 that will facilitate us working you in and out and
15 getting everyone's comments in.

16 After that first group of 11 or so are done,
17 we'll switch out, and the next group will come up
18 here, and then we'll have a break for lunch. If
19 someone for some reason has not arrived yet, we will
20 just skip that person at this time and come back to
21 them if and when they do arrive.

22 Does anybody have any questions about the
23 logistics before we get started?

1 around the room. If you'll sign in and give us your
2 e-mail or your fax number, we will let you know as
3 soon as the transcript is available and up on the
4 web. We'll send it to you so you can go get it. But
5 that will just be a sheet floating around. Just make
6 sure you sign it before you leave.

7 If we have no other questions, we'll begin
8 with the first set of speaks, Sid Nelson from Sorbent
9 Technologies will be the first speaker.

10 I don't think Sid has made it yet, so I see
11 Ralph, so we'll move to Ralph Roberson of RMB
12 Consulting and Research.

13 MR. BRENNER: I have Dave Michaud. Do you
14 want to do a switch?

15 MR. MICHAUD: My name is David Michaud. I
16 work for Wisconsin Electric Power Company in
17 Milwaukee, Wisconsin. However, today I will be
18 speaking on behalf of the Utility Air Regulatory
19 Group. UARG has provided comments, written comments
20 to EPA. I'll just forward those to the gatekeeper
21 over here.

22 As was stated earlier, the legislative
23 intents of the Clean Air Act Amendments of 1990 cut

24 out a special consideration for the utilities as

1 stated here. It had several items that needed to be
2 addressed before a final decision on whether it was
3 necessary to regulate power plants for mercury and
4 other HAPS were to be made. This slide outlines some
5 of those considerations.

6 In terms of coming up with determinations of
7 hazards to public health, there are a number of
8 factors that need to be considered, in our opinion,
9 and I'll briefly go over some of these. As was
10 stated earlier, the EPA report of the Utility
11 Hazardous Air Pollutants Report to Congress that
12 occurred in early 1998 did a number of things. One
13 of the things that it did quite well was identify a
14 number of key uncertainties that EPA at that point in
15 history felt they needed to regulate or to make a
16 regulatory decision.

17 These two slides list a number of these
18 uncertainties, some of which you're already familiar
19 with, looking at mercury contents in the coals; the
20 kind of mercury actually emitted by coal-fired power
21 plants; background levels of mercury as they may
22 impact modeling that occurs for this exercise; what
23 is the relationship between these emissions and

24 levels in the fish so as to permit estimation of

1 environmental benefits; and what are the actual
2 burdens in the U.S. population with respect to
3 mercury exposure; consumption patterns for humans;
4 what are the adverse levels of consumption that
5 result in adverse health affects for humans; and,
6 finally, the most important question, what might be
7 achievable in terms of benefits for human health
8 resulting from controls on utility boilers.

9 I'm actually summarizing things here for
10 you. The executive summary for the report actually
11 devotes about seven pages of description for research
12 needs to back up this decision.

13 The next couple of slides will list what
14 actually has occurred since 1998. We all know that
15 the utilities, by virtue of the Information
16 Collection Request, has been gathering information on
17 mercury and coal. You've heard earlier that EPA has
18 been actively examining control options for utility
19 boilers. However, while there are a large number of
20 uncertainties, quite frankly, a lot of the ones that
21 were listed earlier have not been addressed.

22 By contrast, others, including EPRI DOE,
23 have been working on a number of these uncertainties.

24 They're listed right here. Some of the most

1 important ones are the actual linkage between
2 emission sources and mercury levels in fish.

3 The final -- I guess the final position that
4 we would like to remind folks of here is that while
5 a lot has been accomplished since February of '98,
6 some of the most important questions are, in fact,
7 works in progress. In our opinion, the best
8 estimates for meaningful results are within a year to
9 three years off, and that if we're really interested
10 in form decision-making, the EPA must defer its
11 December decision until these key data needs are
12 fulfilled. And thank you for the time.

13 MR. BRENNER: Thank you.

14 MR. ROBERSON: Good morning. My name is
15 Ralph Roberson. I'm a registered professional
16 engineer and serve as president of RMB Consulting and
17 Research, which is located in Raleigh,
18 North Carolina. I, too, appear here today on behalf
19 of the Utility Air Regulatory Group.

20 In May of 1998, EPA held a public meeting in
21 Washington regarding its proposed mercury information
22 collection request, ICR. A number of individuals,
23 undoubtedly some of whom are here today, spoke in

24 favor of the ICR. Some, in fact, recommended EPA

1 expand the ICR requirements, for example, collecting
2 coal samples for more than one year and sampling more
3 than the 80 or so odd plants.

4 Here we are, about two years later, the
5 utility industry having spent somewhere between \$10
6 and \$20 million complying with that ICR, EPA having
7 spent significant resources to scan, organize, and
8 post the data.

9 But all of a sudden, we may not have time to
10 completely understand those data before EPA has to
11 make a regulatory decision. While still fixable,
12 this decision-making schedule otherwise appears to be
13 somewhat a sad commentary on the state of science.

14 Now, I'm going to resist the temptation to
15 make a humorous comment, like accusing EPA of rushing
16 to judgment. I realize that the Section 112(n)(1)(A)
17 study was required within three years of the 1998
18 amendments, and I expect Congress may have thought
19 that the agency could make its determination in less
20 time than has passed.

21 However, I'm not aware of anything in the
22 legislative history that indicates that Congress
23 really understood just how complicated the "mercury

24 in the environment" issue truly is. While Congress

1 has the power, the duty, and the authority to
2 regulate, Congress generally neither controls nor
3 regulates the advancement of scientific
4 understanding. Such is evident with mercury.

5 Given sufficient time to conduct the
6 analysis, there is much to be gleaned from the ICR
7 data. Even a limited examination of the data yields
8 a couple of important observations. First and
9 perhaps more importantly, we do not observe an
10 increase in the total amount of mercury entering
11 coal-fired plants, even in light of increased coal
12 usage. Second, a cursory examination of the stack
13 test data indicates that removals of already
14 installed control technologies are generally higher
15 than what was reflected in the historical data.

16 Taken together, these two observations mean
17 that, unlike in some previous EPA reports, projected
18 utility emissions are not increasing with time.

19 The last point I wish to make about the ICR
20 data deals with its usefulness for future reporting.
21 As a result of EPA's persistent biocumulative rule,
22 PBT, effectively, every coal-fired plant will be
23 required to estimate and report mercury emissions.

1 understand what the ICR data are telling us, power
2 plants will be reporting mercury emissions annually,
3 and the ICR data will help make those emission
4 estimates as accurate as possible.

5 Understanding mercury emissions is the tip
6 of the scientific iceberg. A prestigious NAS panel
7 is soon to release a report detailing recommendations
8 regarding safe levels of exposure to mercury. Am I
9 suggesting that we need more time to determine if
10 mercury is toxic? Of course not. We know and have
11 known that methylmercury is a potent neurotoxin. The
12 real question is, what is a safe level of exposure to
13 methylmercury?

14 While I don't pretend to be a toxicologist,
15 my reading of the peer-reviewed papers published from
16 Seychelles study suggests that a considerably higher
17 RfD could be justified than the one currently used by
18 EPA. This is important because, conceivably, the
19 number of fish advisories could or should be reduced.

20 Continued reliance on an overly protective
21 RfD may be useful for those who wish to cite the
22 number of fish advisories in their speeches, but an
23 overly protective RfD can cause unnecessary anxiety

24 and may drive people away from an otherwise healthy

1 source of nutrition. I doubt there is anyone here
2 who doesn't believe that grilled fish might be better
3 for you than fat-laden fast food.

4 Lastly, there's a major question about the
5 efficacy of reducing mercury emissions. What do I
6 mean? I mean that we do not know that mercury
7 emissions will translate into any measurable decrease
8 in mercury in fish. So, given our current knowledge,
9 we could easily embark on a costly experimental
10 control program and not get the tangible benefits
11 that we all want.

12 So in closing, I would just repeat the theme
13 that I'm sure will be recurring today, let's take the
14 time and let the resource material and make
15 appropriate and the best possible scientific
16 decision. Thank you.

17 MR. WAYLAND: The next speaker this morning
18 will be Tim Hagley from Minnesota Power.

19 MR. HAGLEY: My name is Tim Hagley. I'm a
20 senior environmental compliance specialist for
21 Minnesota Power. I'm also chair of the Minnesota
22 Chamber of Commerce mercury task force. I am here
23 today representing the Minnesota Chamber of Commerce.

1 lobbying organization representing 3200 small, medium
2 and large size businesses. The mission of the
3 Chamber is to represent the interests of Minnesota
4 companies on governmental policy issues that impact
5 their bottom line.

6 Many Chamber members rely heavily on
7 electricity for their processes, and also must
8 compete in a global marketplace. These businesses
9 will be directly impacted by increased electric rates
10 due to costs associated with utility HAP emissions
11 reductions.

12 The Chamber believes that any decision to
13 regulate electric utilities for hazardous air
14 pollutants must be made only at that time that there
15 is sufficient information to do so. However,
16 realizing that it will be some time before that
17 information is available and that mercury is of
18 concern, the Chamber recommends that EPA establish a
19 voluntary program to encourage mercury reductions as
20 an interim measure.

21 The 1998 Utility Study by EPA identified
22 several areas where additional research was
23 necessary. Some very fundamental questions need to

24 be answered or at least better understood before a

1 sound regulatory decision can be made. A lot of
2 effort is currently underway by the utility industry
3 and others to try to answer these questions.

4 A decision on whether to regulate should be
5 made only when sufficient information is available.
6 The Chamber believes that the EPA will not have
7 sufficient information by the end of this year upon
8 which to make a regulatory decision, therefore, only
9 a postponement of that decision is appropriate at
10 that time.

11 The Chamber believes instead that a
12 voluntary program to address utility mercury
13 emissions would be appropriate at this time. The
14 success of the Federal Climate Challenge Program, a
15 voluntary program for reducing greenhouse gases,
16 demonstrates that a national voluntary program to
17 reduce emissions can be effective.

18 Minnesota has already developed a voluntary
19 program for mercury. In Minnesota, estimated mercury
20 emissions have decreased since 1990 by 50 percent due
21 to efforts of the Minnesota Pollution Control Agency,
22 industry, and others.

23 Even so, a broad-based effort was begun

24 about three years ago by the MPCA to try to further

1 reduce mercury emissions. The goal of the Minnesota
2 Mercury Reduction Initiative was to achieve a
3 significant reduction in mercury contamination, using
4 the most cost-effective means available, and
5 involving all stakeholders in the process.

6 The Minnesota Pollution Control Agency
7 pulled together an Advisory Council to assist them in
8 developing a program to achieve the goals of the
9 Initiative. This Advisory Council, made up of
10 industry, environmental groups, regulators, and
11 others, spent over two years gathering information,
12 evaluating options and strategies and setting
13 reduction goals.

14 The Chamber took a very active role in the
15 process, as did all of the larger utilities in the
16 state. The outcome of that process is a consensus
17 document outlining the Advisory Council's results and
18 recommendations, dated March 1999.

19 After over two years of extensive effort by
20 all of the stakeholders, the resultant
21 recommendations for reducing mercury in Minnesota are
22 largely voluntary in nature. This is due at least in
23 part to the same issues that EPA faces in making a

1 The cornerstone of the recommendations is to
2 encourage mercury sources to enter into voluntary
3 agreements with the MPCA to reduce or work towards
4 reducing mercury releases. Larger sources have
5 committed to participate in the voluntary agreement
6 process, and their voluntary agreements are in place
7 or are nearing completion. Even without all of the
8 voluntary agreements finalized, sources have already
9 begun efforts to further address mercury releases
10 through such efforts as control technology research,
11 fuel choices, product and waste management, and
12 customer outreach programs.

13 To conclude, the Minnesota Chamber of
14 Commerce believes that the EPA should postpone a
15 regulatory determination on utility HAP emissions
16 until such time as sufficient information exists to
17 make a sound decision. In the interim, the Chamber
18 supports a voluntary approach to address utility
19 mercury emissions. At the same time, the Chamber
20 supports efforts by EPA, the utility industry, and
21 others to continue to find the answers necessary for
22 a sound regulatory determination. If EPA deems that
23 a regulatory program is necessary to address HAP

1 gathered and evaluated, the Chamber believes that any
2 regulation should allow for flexible approaches, and
3 give credit for reductions that have already been
4 achieved.

5 Thank you for the opportunity to provide
6 comments.

7 MR. WAYLAND: The next speaker is Patti Leaf
8 representing Northern State Power.

9 Then moving along, we next have the Electric
10 Power Research Institute, EPRI, which has, I believe,
11 three people scheduled to speak, and they decided to
12 combine that into one presentation, and Leonard Levin
13 will be giving that.

14 MR. LEVIN: EPRI is a nonprofit research
15 organization. It does research on issues in energy
16 and the environment for a number of partners,
17 including both electric utility companies, broader
18 energy companies, and public agencies, such as the
19 California Energy Commission.

20 The work on the mercury that I'm going to be
21 reporting on today, I'll be covering work that's
22 managed by a number of people at EPRI, including
23 Paul Chu, who's here today, and George Offen, who are

24 the ones who had signed up to speak.

1 To provide some background on the work on
2 mercury that's been going on long before the start of
3 this slide, which is ten years ago, research by EPRI,
4 EPA, Department of Energy, and others was going on,
5 particularly mercury into fuels and in the cycling in
6 the environment.

7 In 1990, before the Clean Air Act Amendments
8 were passed, about six months before that, EPRI field
9 crews were out in the field doing the first quality
10 assured measurements of operating power plant mercury
11 emissions. Those data and the methods were shared
12 with EPA and DOE over the years and led to extensive
13 measurement programs by both agencies.

14 The work that's gone on over the past ten
15 years and out into the future as shown here, this is
16 my schematic of where we stand on mercury research,
17 and I think it's important to note that at the time
18 of the reports to Congress, which were in this
19 period, we are still in the middle of a great number
20 of studies that are still going on throughout the
21 country and internationally as well. And this only
22 shows some of that work that's going on now.

23 The main point to remember is that much of

24 this work is just getting underway. A large DOE

1 program to evaluate control measures at full-scale
2 power plants is only now reaching the bidding stage
3 for setting up partner arrangements and will be going
4 on for another couple of years or so.

5 My conception of where we are in the mercury
6 research is that we still have a great deal to do on
7 some very basic questions to get at the issue of
8 source receptor relationships. How much do fish
9 levels of mercury change in response to changes in
10 deposition and ultimately to emissions to the
11 atmosphere.

12 That work is just beginning. We have some
13 field experiments that are going on in partnership
14 with EPA, Canadian Government, and others in
15 South Western Ontario. It just started last year and
16 will be going on for another couple of years. And
17 they're getting at this by adding mercury to an
18 experimental lake system. There are other
19 experiments going on as well with aircraft and others
20 to look at these issues.

21 The key point to remember as I go through
22 these research programs is that EPA itself stated in
23 the time of the Utility Report to Congress in early

24 '98 that there was a linkage between these

1 uncertainties and the ability to make informed
2 decisions, and we agree very strongly with that.

3 Dave Michaud showed you some of the key
4 questions on utility mercury. I have given my
5 shortening of those, and I've grouped them to make
6 them perhaps a bit more comprehensible under what I
7 call issues. The first is emissions and source
8 inventory, transport and cycling, community exposure,
9 moving onto health effects, controls, and some issues
10 that deal with integration and synthesis of the
11 problem. And it's in that last where the issues of
12 source receptor relationships really come together.
13 So I'll talk about these briefly, each.

14 Emissions and source inventory, the mercury
15 Information Collection Request that was underway in
16 1999 gave us roughly 40,000 coal analyses, certainly
17 sufficient statistically to look at the data and
18 trying to draw some general conclusions about the
19 utility industry emissions of mercury from coal
20 plants.

21 The mercury levels appear to be, when summed
22 across the industry, appear to be slightly lower or
23 perhaps the same level in terms of emissions than the

24 previous analyses that were done in '94, I believe,

1 by EPA and for 1990 data. These are the datum years
2 that were analyzed somewhat after the years that they
3 reflect. And it appears that we're not -- we may be
4 talking about a trend, but we have two or three
5 points in time. We don't know exactly what happened
6 in between, but it appears from these data in 1999
7 that were collected, that those numbers were perhaps
8 lower than the 1990 data. The analyses are still
9 underway, subject to significant revisions by EPRI,
10 EPA, and whoever else wants to whack away at the
11 data.

12 Part three, as it's called, was the stack
13 testing of power plants to look at mercury emissions
14 and how those were speciated, in other words, the
15 ionic state of the mercury as it left the stack.
16 This is critical because the transport of mercury in
17 particular is strongly dependent on the ionic state
18 that it is in the atmosphere at the time of its
19 transport through the atmosphere. If it's issued
20 from stacks as ionic mercury, mercury two, it is
21 highly water-soluble and is likely to be deposited
22 much closer to the source and, therefore, higher
23 concentrations than if it is elemental mercury,

24 mercury zero. Mercury zero has an atmospheric

1 lifetime of about one and a half to two years before
2 it gets ionized and deposits to the ground, although
3 there's some dry deposition that occurs as well.

4 These analyses are still ongoing. We have
5 some slight trends that are clear from these data
6 that tie the mercury ionic state to operations of
7 each power plant as well as the type of coal being
8 burned there, and I'll talk about that briefly.

9 It is critical that these data be fully
10 incorporated into any determination by EPA of whether
11 to regulate and what form any regulation would take
12 if it were decided to do so.

13 The coal consumption clearly increased
14 between 1990 and 1999 at those two points in time.
15 And at the same time, there was a substantial
16 increase in the use of Powder River Basin coal,
17 western coals, because of sulfur compliance due to
18 the Clean Air Act requirements.

19 Mercury and coal analyses that were done,
20 that is, part two analyses, seem to show, again, that
21 there may have been a slight drop between 1990 and
22 '99 in the total amount of mercury being emitted by
23 power plants. In other words, business as usual with

1 stringencies for sulfur may have produced a flat
2 trend or perhaps a downward trend. We don't know for
3 sure. Those analyses will be completed later this
4 year.

5 Mercury removals are highly dependent on the
6 different kinds of controls that are in a plant. The
7 first two listed here are controls for particulate
8 matter, the third is for sulfur. The speciation and
9 the emission data are sufficient to develop
10 predictive relationships, but there may be some
11 constraints in those relationships between the
12 parameters that were measured across the 80 or so
13 power plants that actually had measurements taken of
14 the stack and the larger family of 600 or so power
15 plants that are actually burning coal. So that small
16 subset may not have been representative for all
17 parameters such as chlorine, and we're currently
18 looking at how representative those were.

19 This is important because EPRI, as I may
20 have mentioned, but as we have done, EPRI has issued,
21 primarily on a bi-annual basis, synthesis reports on
22 mercury, integrative studies of mercury in the
23 environment that kind of catch up on the research as

24 it stands. And the work we're doing this year, to

1 come out in a report in the fall, is going to look at
2 these data and put those into fate and transport
3 models to try to get a feel for a national risk
4 assessment for mercury from utility power plant
5 emissions.

6 The correlations that we've developed to
7 date seem to indicate that there is some relationship
8 between a mercury removal factor shown here and the
9 chloride content of coal shown on the bottom of the
10 logarithmic scale. The removal ratio in this case is
11 the amount of mercury coming out of the plant divided
12 by the amount going in, and so it takes into account
13 all the different control devices. In this case, it
14 is an electrostatic precipitator that is the control
15 parameter used. So there appears to be some
16 relationship there that we've been able to derive to
17 date.

18 This is very preliminary, with some scatter
19 around it. We hope to extend this to the full range
20 of chloride content in the next few months. We have
21 hopes of finishing this work by August and reporting
22 it to EPA and eventually to the public.

23 I move on to the issue of other emissions

24 that we have to account for. There is another

1 component to emissions, the background emissions,
2 which are composed of both natural emissions from
3 crustal material and what we might call legacy
4 emissions, which are disturbed areas from old mining
5 sites and so on that have exposed mercury to the
6 atmosphere and are emitting quite a large ratio of
7 the mercury into the atmosphere. Primarily, it's
8 elemental mercury.

9 Those measurements again have been underway
10 for several years. Scaling those up to a national
11 total is quite difficult because we don't have enough
12 data basically at this point. As a first-cut scaling
13 just by land area, you can arrive at one number that
14 this total background emission is roughly equal to
15 all industrial emissions in the United States,
16 including utilities.

17 We don't know yet if we can find this
18 background signal in the deposition data that we're
19 getting on mercury. We have field studies underway
20 this year jointly with EPA and others to look at
21 these background sites in Nevada and Tennessee and
22 also to do an aircraft study to see if forest fires
23 may be one mechanism for moving this background

24 mercury into the atmosphere. That work is being done

1 jointly with the Canadian government.

2 Transport and cycling issue. The important
3 point to remember is that the amount of mercury
4 winding up in fish, even in two lakes that are next
5 to one another, can be very different. In
6 experiments done in Little Rock Lake in Wisconsin in
7 the late '70s and early '80s, one lake which had an
8 artificial barrier that was put across the two arms,
9 between the two arms of the lake, found very
10 different methylation rates in the same lake
11 basically, which obviously had the same atmospheric
12 deposition to it. It was far from ground sources and
13 far from local sources. This is background
14 deposition. We don't know yet if methylation rate is
15 linear with deposition. We have lots of assumptions,
16 models that use these assumptions, but no data at
17 this point.

18 This year we have underway field
19 experiments, and other agencies as well are doing
20 field experiments in many areas, but three shown
21 here, Lake Superior, Lake 658, which is the
22 experimental lake in Ontario, and work in Florida
23 which is winding up this year as well. All this work

24 should be completed roughly 2003.

1 Community exposure. The National Academy
2 report will be out in mid-July, as we understand it.
3 The two key studies, and of course there are others,
4 Faroes Island study did tests of their kids' cohort
5 at one age, age seven, and found effects at levels
6 similar to the EPA reference, those levels, perhaps
7 levels below that.

8 The Seychelles group has done testing at
9 multiple ages on their kids. They're up to now the
10 fifth set of tests that's going on and plan to test
11 up to age 11, and they're finding no effect at
12 exposure levels roughly equivalent to U.S. exposure
13 levels. There are a number of questions remaining on
14 these tests that I'll talk about in a couple of
15 minutes. Were the tests comparable that were used to
16 find these effects or no effects?

17 In the case of the Faroes, all of the
18 mercury exposure is from consuming pilot whale meat
19 and blubber. This is the report of the
20 investigators. They do eat fish. Fish is the
21 background, basically the baseline food, but the
22 mercury levels in the whale are much higher and
23 basically are the route of exposure to the mothers.

1 PCBs, which are potent neurotoxins as well going
2 along in the same flesh that's eaten, and in
3 addition, those consumption levels can be described
4 as binge eating. They're large meals held
5 infrequently rather than regular meals. In the case
6 of the Seychelles, the exposure was regular fish
7 meals done basically every day.

8 There's a survey now underway at the
9 national level that EPA is a participant in, Food and
10 Drug, Centers for Disease Control, called NHANES IV.
11 Those data are being used to survey people
12 nationally, U.S. residents, and look at levels of
13 mercury, arsenic, and other potential toxicants in
14 their blood and in their hair. The first data are
15 expected in 2002, but the work will be underway
16 until, again, 2003.

17 This study is a good chance to look at what
18 are called the high-end consumers that have been
19 referred to already. Do we have people that eat
20 a lot of fish that are getting a lot of mercury?
21 There is the assumption that some high-end consumers
22 have, in fact, been found, actual people, that eat
23 a lot of fish. They've turned out to be, in many

1 interest.

2 The NAS report will be a snapshot. I think
3 it's important to remember that the work in the
4 Seychelles will be continuing, and the NAS report
5 will not be the final word on health effects. There
6 may, in fact, turn out to be a lower level of
7 Reference Dose that is supportable from the data that
8 are continuing to emerge from the Seychelles study.
9 The study had different designs, and one of the
10 pieces of work that EPRI is doing is to see if the
11 two studies can be combined.

12 Finally, on the issue of controls, we have
13 very limited commercial data, including looking at
14 coal cleaning as a mechanism. Controls can
15 potentially give you very different levels of
16 effectiveness. This is one portrayal of that showing
17 how much mercury was removed along the bottom, and
18 cost, shown along the side, for a single power plant.
19 This is a 500-megawatt plant with an electrostatic
20 precipitator, and the cost ranged from basically
21 \$10 to \$20 million per year. In the case of the
22 electrostatic precipitator alone, as the mechanism of
23 control, there is an alternative control device

24 devised at EPRI which uses the combined control

1 mechanisms that give you some lower costs for these
2 removals.

3 These are very preliminary data. What we
4 need now are full-scale tests, which, as I indicated,
5 are just getting underway now to continue for several
6 years. Thank you.

7 MR. WAYLAND: Next we have Dana Debel from
8 the Michigan United Conservation Club.

9 MS. DEBEL: I guess I'm lucky enough to be
10 the first environmentalist to speak today, so.

11 My name is Dana Debel, and I'm speaking here
12 today on behalf of the Michigan United Conservation
13 Clubs. We are an organization that was founded in
14 1937 in Michigan, and we represent currently about
15 100,000 individual members and over 500 affiliated
16 clubs within the state, making us the largest
17 statewide conservation organization in the United
18 States.

19 Since 1937, MUCC has been devoted to the
20 protection and enhancement of Michigan's natural
21 resources as promotion of outdoor education and
22 recreation. Part of that reason is obviously the
23 natural resources that we have in Michigan, one of

24 those being the 11,037 inland lakes. And right now

1 in Michigan, we have fish consumption advisories for
2 mercury in every single one of those 11,037 inland
3 lakes within the state.

4 Michigan also generates 81 percent of its
5 electricity from coal right now. We just finished
6 electric deregulation within the state. And as we
7 increase transmission, as mandated under electric
8 deregulation, by 2000 megawatts, we're probably going
9 to see an increased capacity of coal as well as some
10 gas coming into the state. Right now that coal,
11 though, that 81 percent, is responsible for about
12 40 percent of the mercury emissions into the air
13 within the state. That's the leading source, and
14 yet, as you all know, it's unregulated.

15 The reason that MUCC is concerned about this
16 and the sport fishing community is concerned about
17 this is because the sport fishing community every
18 single year basically pays for itself in Michigan.
19 We invest about \$20 million a year in Michigan based
20 on license fees and taxes off of boating and fishing
21 equipment, everything.

22 For the most part, I think with the
23 exception of about 6 percent of our revenue or our

1 community, pays for the management of the sport
2 fishing resource itself through these fees that they
3 impose upon themselves. And what do we get for that?
4 We get these. We get fish consumption advisories.
5 These don't do anything for the sport fishing
6 community in Michigan. In fact, they could
7 potentially be a problem for the sport fishing
8 community in Michigan. And that's where our concern
9 comes in.

10 Right now, Michigan waters attract close to
11 two million anglers a year. That represents about
12 5 percent of the total fishing public within the
13 nation. We rank fourth in the nation in terms of
14 fishing public. Like I said, we spend about
15 \$20 million a year.

16 In total, tourism represents the second
17 biggest contributor to revenue generated within the
18 state behind the automobile industry, and the
19 Michigan Department of Natural Resources estimates
20 that the sport fishing community spends about
21 \$1.4 billion annually in the state of Michigan and
22 into our economy. So sport fishing is big business
23 in Michigan.

1 of a number of other factors, which I'm sure other
2 people will be talking about today, Michigan has
3 identified mercury as one of the primary pollutants
4 concerns for decades. An example of that was the
5 1996 Mercury Pollution Prevention Task Force that we
6 had within the state. One of the subgroups of that
7 was the utility sector, and it is something that we
8 refer to again and again and again within the state
9 in terms of the need to regulate mercury.

10 In fact, most recently, the Department of
11 Environmental Quality -- that's a regulatory branch
12 within the state, as you all know -- Director,
13 Russell Harding, sent a letter to you saying, yes,
14 it's time to regulate mercury from coal-fired power
15 plants. The impact to the sport fishing community is
16 one of the reasons why. And we're here today
17 basically to agree with Director Harding. It's time
18 to regulate mercury. It's time to get something
19 going and not force the sport fishing community to
20 endure these fish consumption advisories that have no
21 benefit for them.

22 Thank you very much.

23 MR. WAYLAND: Next we have Sarah Welch from

1 MS. WELCH: Thank you for giving us this
2 opportunity to speak today. I am Sarah Welch from
3 the Isaak Walton League of America from the Midwest
4 office in St. Paul, Minnesota, and we represent
5 nationally about 50,000 anglers, hunters, and
6 conservationists across the country who are committed
7 to responsible environmental stewardship. I serve as
8 the coordinator of the Minnesota Power Plant
9 campaign, and today I'm going to focus my comments
10 specifically on the effects of the mercury in
11 Minnesota.

12 Emissions of hazardous air pollutants from
13 power plants are a serious problem that need to be
14 addressed. Although there are numerous air toxics of
15 concern, we're most concerned about the unregulated
16 mercury emissions from electric utilities because
17 most of our members are active anglers and basically
18 cannot eat their catch. If they do eat their catch,
19 of course, as data references, there are serious
20 potential health effects.

21 We're also concerned because Minnesota is
22 known for its lakes, and our tourism industry is
23 strongly dependent on the quality of those lakes for

1 state.

2 Minnesota generates nearly 70 percent of its
3 electricity from coal-fired power plants. The
4 electric utility industry as a whole is responsible
5 for a third of the mercury emissions in the state and
6 is essentially the single largest, unregulated
7 industrial source of mercury emissions.

8 It has been well documented that when
9 mercury is emitted into the air, it ends up in water
10 bodies both close to and far away from the power
11 plants. We know that mercury is toxic in
12 infinitesimal amounts. 1/70th of a teaspoon of
13 mercury deposited each year is enough to contaminate
14 a 25-acre lake. We know that once deposited into a
15 water body, mercury is converted through natural
16 processes to methylmercury. It enters the food chain
17 when it is consumed by plankton and small fish. It
18 bioaccumulates in ever larger organisms until it
19 reaches the highest levels of the food chain. And as
20 we all know, this top level consists of predatory
21 wildlife, eagles, loons, otters, and, of course,
22 humans.

23 We also know that mercury is a potent

24 neurotoxin for both humans and wildlife. Even at low

1 levels, it interferes with the development of the
2 nervous system, especially during prenatal and early
3 childhood development. We know that mercury's
4 effects on the development of the central nervous
5 system are irreversible and include delayed mental
6 development, learning disabilities, and delayed
7 development or deficiencies in language, motor
8 function, attention, and memory.

9 We also know that several human populations
10 in Minnesota eat disproportionately high quantities
11 of fish that contain potentially high levels of
12 mercury. Sport anglers and their families consume
13 fish on a more regular basis than those who don't
14 fish. And subsistence anglers and their families,
15 like southeast Asians and Native Americans are more
16 susceptible.

17 Minnesota has issued 844 fish consumption
18 advisories specifically for mercury. There are over
19 3,000 river miles covered by a mercury advisory and
20 almost 1.4 million lake acres. Fish consumption
21 advisories don't do anything but warn us from eating
22 contaminated fish and certainly don't address the
23 problem of where the mercury is coming from. They're

24 simply a band-aid solution, and I would argue that we

1 know enough about the negative effects of mercury to
2 know that regulations that address the source of the
3 emissions are needed.

4 Mercury emissions are also an economic issue
5 in Minnesota. According to a recent study by the
6 American Sport Fishing Association, the overall
7 impact of freshwater sport fishing in Minnesota in
8 1996 was \$3.6 billion. Minnesota anglers directly
9 spent \$1.8 billion that year, and these are
10 significant expenditures which bring revenue to
11 resorts and small businesses and provide an estimated
12 47,000 jobs.

13 As Tim Hagley mentioned earlier, we're kind
14 of in a unique situation in Minnesota. Last year,
15 the Minnesota legislature passed the voluntary
16 mercury reduction legislation requiring a 60-percent
17 reduction in mercury emissions by 2000 and a
18 70-percent reduction by 2005. The Isaak Walton
19 League, along with industries and other stakeholder
20 groups, continues to be a participant in this
21 initiative.

22 At the moment, those companies who emit more
23 than 50 pounds of mercury a year are in the process

1 demonstrating their proposed reductions. The jury is
2 still out as to the success of this voluntary
3 initiative.

4 What you will hear from industry today is
5 that, while they're willing to address their mercury
6 emissions, Minnesota electric utilities are only
7 responsible for about 10 percent of the emissions
8 that actually fall in the Minnesota lakes. The
9 remaining 90 percent of emissions originates at
10 stacks out of state and is deposited downwind, into
11 our lakes. This may very well be true, but it
12 certainly does not exonerate Minnesota utilities from
13 having to curb emissions from their plants. In fact,
14 it very powerfully demonstrates the need for a
15 national policy addressing unchecked mercury
16 emissions from the electric utility sector.
17 Certainly one state cannot do it alone.

18 In closing, because mercury is such a
19 serious public health and economic issue, and because
20 mercury emissions don't seem to respect political and
21 state boundaries, the Izaak Walton League urges the
22 EPA to make a positive regulatory determination in
23 this matter. Thank you.

MR. WAYLAND: Thank you, Sarah.

1 Next we have John Venners from KFx,
2 Incorporated.

3 Before we close out this session, has
4 Sid Nelson arrived yet? Patty Leaf from Northern
5 State Power?

6 We're about five minutes ahead of schedule
7 right now, but we'll go ahead and move into the 10:45
8 to 11:45 block, and as these people come in,
9 hopefully we can get them in prior to lunch.

10 There have been several that have called and
11 left messages that the airport is currently closed
12 and they cannot get in. So hopefully the weather
13 will break and they'll get in later this afternoon.

14 Next we have Eric Uram from the Sierra Club
15 Midwest.

16 MR. URAM: Good morning. My name is
17 Eric Uram. I am an Associate Representative for the
18 Sierra Club at their Midwest Office's Great Lakes
19 Program. The Sierra Club is the nation's largest
20 grassroots environmental organization representing
21 over 600,000 members nationally that are working at
22 all levels to protect our nation's environment for
23 our families and for our future.

I'd like to thank EPA for the opportunity to

1 present our views on this important upcoming
2 determination on regulating the hazardous air
3 pollutant emissions from utilities.

4 Looking very quickly at the issue, I wish to
5 say basically, we have enough knowledge about mercury
6 emissions and their fate, especially those from
7 coal-fired utilities, to demonstrate a need to
8 regulate them.

9 There is sufficient knowledge that exists
10 surrounding the environmental and human health
11 effects of mercury and also adequate knowledge that
12 exists surrounding the sources of mercury in our
13 environment.

14 We have had numerous inventories that have
15 been done, including EPA's 1997 Mercury Report as
16 well as the CEC's North American Regional Action Plan
17 for Mercury, demonstrating that we know where it's
18 coming from and who is emitting it.

19 There's sufficient knowledge that is
20 surrounding the bioaccumulation and biomagnification
21 of methylmercury. We know that in our water systems,
22 that mercury levels can increase five or six orders
23 of magnitude or more from background levels that are

24 in those lakes and cells.

1 We have sufficient knowledge that exists
2 surrounding the severity of the problem. Here in the
3 Great Lakes region alone, over 70,000 lakes and
4 stream segments have fish consumption advisories on
5 them for mercury, and many of those fish consumption
6 advisories are based upon an FDA Reference Dose,
7 nothing more restrictive than that.

8 Sufficient knowledge exists surrounding
9 whose mercury emissions are causing problems and
10 where. We see that some of the most recent research
11 that has been done shows that up to 50 percent of the
12 mercury released from power plants is falling up
13 locally, and the research that is being done in the
14 Everglades is adequately documenting this.

15 There is sufficient knowledge that exists
16 surrounding the efficiencies of control technologies.
17 The 1999 studies that EPA did that looked at coal
18 burning and the different technologies that are used,
19 electrostatic precipitators, wet and dry scrubbers,
20 and background filters, demonstrated that we do have
21 the ability to know what emission breaks and what can
22 result in lower emissions.

23 Sufficient uncertainty exists regarding

24 whether interaction with other chemicals cause

1 increased adverse health effects. As we pointed out
2 earlier, we don't know if PCB is another chemical or
3 exacerbating mercury toxicity in humans or even in
4 wildlife. There is sufficient uncertainty existing
5 as to whether or not a genetic predisposition can
6 alter an individual's sensitivity to mercury toxic
7 effects. As well, some of the research that has been
8 done in the Seychelles Islands shows that we don't
9 know if a genetically homogenous population is
10 adequately representative of what's going on here in
11 the United States and the people that eat the fish
12 that are caught here.

13 Sufficient uncertainty exists regarding
14 whether other sources of exposure to mercury are
15 adequately considered in our health assessments. We
16 don't know if dental amalgams that release small
17 amounts of mercury over long periods of time could
18 basically be affecting humans because their mouths
19 may contain reducing bacteria that can methylize this
20 elemental mercury into methylated mercury.

21 Sufficient uncertainty exists regarding
22 whether the level of mercury emissions and exposure
23 that we are now considering are safe. The current

24 assessment is to now protect 100 percent of the

1 population. Children are more severely affected and
2 have higher intakes than adults. Yet, most studies
3 look at the toxicity through single routes of
4 exposure and single chemical toxins.

5 Without any previous -- without considering
6 any previous body burden and only in relation to a
7 healthy adult, when making decisions regarding the
8 safety of human health, we need to err on the side of
9 caution and ensure adequate safety factors to allow
10 all members of the population adequate protection
11 from mercury's toxic effects.

12 Sufficient research has been done on
13 alternative energy sources and increasing energy
14 efficiency that, when implemented, reduce our need to
15 burn coal and reliance on, including power plants.

16 Therefore, we adequately understand the cause of
17 controlling or not controlling mercury emissions.

18 It must be noted here that interested
19 parties representing power companies are voicing
20 their concerns. As you hear their testimony that the
21 technologic and economic aspects of this issue
22 prevent utilities from making changes or
23 transitioning to less polluting alternatives, keep in

24 mind that these business decisions are made to

1 increase and maximize profits and not to place
2 external costs into their ledger. Therefore, their
3 decision-making processes ignore important health
4 aspects of this issue and tend to show change, and
5 we'll continue to argue against this.

6 Sierra Club would like to place on the
7 record that in the early '70s, we, as a society, made
8 the regulatory initiatives necessary when lead was
9 found to be a health concern, and yet even today, we
10 are still mopping up residual sources of possible
11 lead exposure from our environment. Because of the
12 universal regulation of lead, market competition did
13 not unfairly burden the automotive and fuel
14 industries. Why should we hesitate when deciding
15 whether utilities should be regulated as we move to
16 eliminate mercury emissions.

17 Therefore, you must understand the bottom
18 line of this decision, which is whether we protect
19 the profits of an industry that has decades to
20 review, reinvest, and resolve the mercury pollution
21 problem, an industry which chose to place and produce
22 continuing investment reliance and old antiquated
23 methods of producing electricity, an industry which

1 population and demand which needs to reduce reliance
2 on coals and energy source, not only because of the
3 associated mercury emissions, but also because of the
4 many other forms of pollution associated with this
5 use and effect.

6 Or, do we move forward and regulate these
7 emissions and in so doing, protect the health and the
8 environment and the food and water resources that
9 many humans as well as animals rely on, and in
10 addition to eliminating this pollution, help make the
11 transition to a new economy that is less relying on
12 fossil fuels and places stock in economic development
13 through the generation of jobs and not pollution.

14 It is now vital that EPA move forward. The
15 Sierra Club urges you to proceed and regulate this
16 source, thus providing the groundwork for the
17 eventual virtual elimination of anthropogenic sources
18 of mercury in our lifetime while providing for
19 sustainable economic growth.

20 Sierra Club and I thank you for this
21 opportunity to express our views on this important
22 decision.

23 MR. WAYLAND: Thank you, Eric.

1 Energy Group.

2 MR. VAN ATTEN: Thanks for having me. I'm
3 glad to be here after an exciting flight this
4 morning.

5 Again, my name is Chris Van Atten, and I'm
6 presenting comments on behalf of the Clean Energy
7 Group. Members of the Clean Energy Group are major
8 electric generating companies that are committed to
9 the provision of clean energy and to responsible
10 environmental stewardship, and support policies that
11 are sustainable from both an economic and an
12 environmental perspective.

13 The Clean Energy Group supports the
14 development of federally adopted mercury emission
15 standards for coal-fired power plants provided that
16 adequate time is allowed for a more accurate
17 characterization of mercury emissions from different
18 power plants providing different types of coal and
19 adequate time for the development of cost effective
20 mercury control technologies. The group has put
21 forward a national integrated strategy for regulating
22 mercury and other priority pollutants, which I will
23 outline today.

1 Energy Group supported EPA's efforts to more
2 accurately characterize mercury emissions from
3 coal-fired generating units. Several of our member
4 companies have participated in EPA's mercury
5 Information Collection Request, both as part of the
6 formal survey and on a voluntary basis to supplement
7 the data being collected. We expect that the ICR
8 data will play an important role in forming a future
9 regulatory strategy in the industry.

10 The Clean Energy Group has also been
11 supportive of EPA's efforts to lower the reporting
12 threshold for mercury under the toxics release
13 inventory, or TRI program. Several Clean Energy
14 Group companies released last year mercury emissions
15 data on a voluntary basis in advance of EPA's change
16 to the reporting threshold.

17 As I said, the Clean Energy Group companies
18 support the development of a national integrated
19 regulatory framework for the electric generating
20 industry, including national emission limits for NOx,
21 SO2, carbon dioxide, and mercury. A copy of the
22 Integrated Strategy will be filed with our testimony
23 today.

1 number of states are evaluating mercury controls for
2 coal-fired power plants and is opposed to the
3 adoption of mercury control programs on a
4 state-by-state basis. The Clean Energy Group firmly
5 believes that the control of mercury emissions needs
6 to occur at the federal level and be based on a
7 thorough analysis of all of the relevant data. Our
8 current understanding of this pollutant indicates
9 that certain species cycle on a national and even a
10 global scale, and therefore requires a national
11 emission reduction strategy.

12 Specifically, the Clean Energy Group has
13 proposed, as part of its Integrated Air Quality
14 Strategy, a two-phase program for reducing mercury
15 emissions to be implemented as a national
16 cap-and-trade program. Reduction targets and
17 schedule are as follows: A 50-percent reduction from
18 current estimated emission levels beginning in 2008,
19 and a 70- to 90-percent reduction from current levels
20 in 2012. This schedule is proposed to allow for
21 better coordinated pollution control investments and
22 the achievement of maximum co-benefits, and is
23 therefore coordinated with proposed further

1 emissions of carbon dioxide.

2 A national, integrated regulatory framework
3 which incorporates market-based mechanisms and
4 reasonable time frames for implementation will
5 provide a high level of regulatory and business
6 sector certainty that will result in substantial cost
7 efficiencies. By establishing a long-term
8 coordinated schedule, companies will have an
9 incentive to evaluate the impact of their compliance
10 strategies for all of these pollutants
11 simultaneously, for example, optimizing scrubbers for
12 mercury control and also to help avoid straining
13 investments.

14 This face approach, which includes
15 compliance flexibility in the form of allowance
16 trading will facilitate the development and testing
17 of innovative mercury control technologies.
18 Notwithstanding the technical and scientific
19 uncertainties that persist with regard to mercury,
20 the Clean Energy Group companies support the
21 development of federally adopted mercury emission
22 standards as outlined in the proposal.

23 Thanks for your time today.

1 the Great Lakes National Wildlife Federation.

2 MR. BUCHSBAUM: Thank you.

3 My name is Andy Buchsbaum. I'm with the
4 National Wildlife Federation. I'm the waterfall and
5 the project manager. I'm here testifying today on
6 behalf of NWF and its four million members across the
7 country. As we said in our initial comments, we very
8 strongly support a positive determination to control
9 mercury emissions from power plants, and so we've
10 provided some written comments which -- written
11 testimony, which I'm not going to read all of because
12 it would take way too long, and I'm also not going to
13 go into detail on some of the aspects of what I'm
14 going to say because other speakers have already said
15 it or will say it, and it's in writing.

16 I wanted to outline the compelling case that
17 we believe there is right now today to control
18 mercury emissions from power plants for EPA to make a
19 positive determination. First, these are really
20 undisputed facts. First, many lakes and streams
21 across the country and much of the water in them and
22 fish in them are contaminated with mercury to levels
23 that are unacceptable for human health purposes, for

24 contamination of wildlife purposes, and also violate

1 federal standards. That's not in dispute.

2 Second, most of the mercury in lakes and
3 streams comes from the atmosphere. We released a
4 report last year called "Clean the Rain, Clean the
5 Lakes," that documents the level of mercury in rain
6 in Chicago and throughout the Midwest. Those levels
7 are parallel to levels that are being found
8 everywhere.

9 We know that power plants are the major
10 source of mercury emissions in this country, the
11 leading source, about a third of the mercury
12 emissions, which is approximately 50, 51 tons,
13 somewhere in that neighborhood. We also know -- this
14 is not disputed either -- well, it may be disputed,
15 but it's in the Utility Study -- that 30 percent of
16 the mercury emissions from power plants are estimated
17 to fall in the continental United States. So doing
18 the math, that's 15 tons are being deposited, 15 tons
19 of mercury from power plants are being deposited in
20 the U.S. That's about 29 percent of the total
21 mercury deposited from all U.S. sources. It's about
22 17, 18 percent of the total mercury deposited in the
23 United States from all sources, including global.

24 There is no other source of mercury deposition, not

1 just emissions, deposition that is anywhere close to
2 that level.

3 Now, we've heard in the past still an
4 argument that, unless EPA can actually track mercury
5 from specific power plants into specific fish or at
6 least fish in general, that EPA does not have the
7 authority or should not regulate mercury from power
8 plants, that is, unless EPA can show how much mercury
9 in the fish comes from power plants. EPA does not
10 bear that burden. That's an impossible burden. EPA
11 doesn't bear it. It's never had to bear that burden
12 in previous regulatory decisions. And in our written
13 testimony, we provide in detail through case studies
14 of regulation of toxic chemicals that EPA has done in
15 the past, the Great Lakes initiative regulations for
16 mercury and other toxics, and also the 1976 -- well,
17 mid 1970s regulation where EPA banned lead in
18 gasoline, and the burden that EPA had to bear was far
19 less and the data that EPA had available was far less
20 before it took those decisions.

21 And I'm not going to go into those studies
22 in detail, but let me just highlight one or two
23 aspects of those case studies. The GOI mercury

24 standard, EPA had to make a determination of what the

1 bioaccumulation factor would be for mercury water
2 quality standards in the Great Lakes, that is, how
3 fast, how much, how high this mercury concentrate
4 from water and fish. That number, in reality, is not
5 a single number. There's a wide variety of
6 bioaccumulation factors depending on the water body,
7 depending on the condition of the sediments,
8 depending on species of fish, and individual fish
9 eaten.

10 Also, EPA didn't have any field studies to
11 make that determination. Yet, EPA set a single,
12 nonvariable bioaccumulation factor for mercury. It
13 did so without a single field study because none were
14 available. It didn't wait to act. It acted. That
15 regulation was challenged in the federal courts. The
16 federal courts upheld EPA's regulation. I'm just
17 going to read one brief passage from the D.C. Circuit
18 1997 opinion. As you know, the D.C. Circuit has been
19 no friend to U.S. EPA regulations, but in this one,
20 it was. This one is because EPA did the job it had
21 to do.

22 We begin by noting that this case presented
23 the agency with a classic and difficult choice.

1 to decide whether to proceed on that basis or to
2 invest the resources to conduct the perfect study.
3 It chose to do the former. This is the type of
4 decision to which this court would generally apply a
5 deferential standard. EPA didn't need to do the
6 perfect study. It didn't do the perfect study, and
7 the courts upheld that under the GOI.

8 The lead case parallels are even more
9 striking. EPA knew in the mid '70s that, number one,
10 lead in high concentrations are toxic; number two,
11 lead can be absorbed from ambient air; and number
12 three, the leading source of lead in ambient air was
13 tail pipe emissions because of leaded gasoline. And
14 yet, EPA didn't know a whole lot. EPA didn't know,
15 in fact, how much lead in people's blood was coming
16 from the atmosphere. It particularly didn't know how
17 much lead in people's blood was coming from tail pipe
18 emissions.

19 Scientists had an incomplete understanding
20 of the different sources of lead and how they
21 contribute to the body -- diet, paint, drinking
22 water -- and yet, EPA did not let itself be
23 paralyzed. EPA again -- these are exactly the same

24 arguments that you could hear from some members of

1 the Utility industry -- we don't know enough; we
2 don't know enough; we don't know enough. EPA did not
3 let itself be paralyzed by those arguments then.
4 Again, the D.C. Circuit upheld that. We now have --
5 and it turns out, in fact, that that was one of the
6 wisest moves that EPA has made. It, in fact, reduced
7 lead levels in people's blood.

8 The case for EPA's regulation of power plant
9 emissions is compelling and it's clear. EPA needs to
10 make that decision and it needs to make it soon.

11 Thank you.

12 MR. WAYLAND: Felice Stadler.

13 MS. STADLER: We're Clean Air Network out of
14 Washington, D.C.

15 MR. WAYLAND: Sorry.

16 MS. STADLER: Thank you for providing us the
17 opportunity to speak here today. My name is Felice
18 Stadler. I'm the Policy Director of the Clean Air
19 Network. We're a national alliance of environmental
20 and public health organizations, and my remarks today
21 represent the opinions of 190 different environmental
22 organizations that have actually endorsed our
23 principles. And we are here to speak, urging EPA to

24 make a positive regulatory determination this fall.

1 We've provided more technical comments, and I'm not
2 going to repeat those technical comments here, but we
3 will be doing something a little bit differently
4 today.

5 For the past two years, skeptics have
6 misconstrued, some would argue successfully, what we
7 know about mercury to cast doubt on the need for and
8 feasibility of national mercury controls for
9 coal-fired power plants. Today, I would like to
10 highlight some of these recurring arguments on why
11 controls at this point in time are not warranted and
12 provide our response to these claims.

13 Claim number one: U.S. mercury emissions
14 only account for a small fraction, 3 percent, of the
15 total global mercury emissions, and since global
16 emissions are a significant source of mercury
17 contamination in the U.S., it does not make sense to
18 impose costly controls on U.S. sources.

19 Response: According to U.S. EPA,
20 approximately 87 tons of mercury are deposited in the
21 U.S. annually. About 60 percent of the mercury,
22 52 tons, comes from U.S. sources, with the rest
23 coming from the global pool. In the northeastern

24 U.S., that number is even higher, with 77 percent

1 coming from U.S.-based sources. Since coal-fired
2 power plants are the largest known source of U.S.
3 man-made mercury emissions, they are a major
4 contributor to the 52 tons of mercury being deposited
5 in the U.S.

6 Since the Clean Air Act reauthorization
7 debates of the late 1980s, electric utilities have
8 argued that it was counterproductive and unfair to
9 require U.S. companies to control their mercury
10 releases. Despite ten years of extensive research in
11 the area of mercury deposition patterns and trends,
12 the utility industry continues to argue this point.
13 Interestingly, no other mercury-emitting industry has
14 used this argument to oppose regulation.

15 Claim number 2: There is no evidence that
16 mercury emissions from coal-fired power plants
17 contaminate fish being consumed by U.S. residents.
18 We also do not have compelling evidence that mercury
19 emissions from coal-fired power plants are posing a
20 risk to human health, and until we do, national
21 controls are not justified.

22 Response: EPA's Utility Study Report to
23 Congress evaluated power plant mercury emissions,

24 their potential impact on lakes, rivers, and streams,

1 how mercury enters the aquatic food chain, and to
2 what extent humans are exposed through fish
3 consumption. Using modeling data, EPA calculated
4 that up to 15 percent of the mercury emissions from
5 coal-fired power plants deposited within 30 miles of
6 a plant and up to 50 percent fall within 600 miles.
7 Despite using a conservative estimate, EPA's analysis
8 demonstrated that mercury exposure above the EPA safe
9 level can occur for certain segments of the
10 population. Because mercury emissions from power
11 plants are linked to increases in methylmercury
12 concentrations in fish tissue, we can safely conclude
13 that hazards to public health are reasonably
14 anticipated from such emissions.

15 Given that mercury levels in the environment
16 have risen over the past several decades, and
17 deposition models show more mercury deposited
18 downwind of the Ohio River Valley, we can safely
19 conclude that mercury emissions from coal burning
20 have contributed to increased deposition. Similar
21 conclusions were drawn with acid rain where
22 ecological damage was monitored downwind of
23 coal-burning sources. Although a particular power

24 company's acid rain-forming emissions could not be

1 linked to the acidification of a specific stream, the
2 evidence was overwhelming that coal burning created
3 acid rain.

4 Finally, nothing in the Clean Air Act
5 requires EPA to definitively prove a link between
6 diagnosed human health damage and emissions before
7 applying regulatory requirements to meet the goals of
8 the Clean Air Act. This is not only scientifically
9 impossible, but also assumes that human health damage
10 is acceptable until the exact culprit is
11 identified -- clearly at odds with the premise of the
12 Clean Air Act. In fact, no other major source of
13 toxic air emissions other than the electric utility
14 industry has given EPA such intense scrutiny on
15 whether air toxics controls are justified.

16 Claim number 3: There is significant
17 disagreement within the scientific community on the
18 health risks associated with mercury toxicity and
19 exposure.

20 Response: There is no disagreement within
21 the scientific community that methylmercury is
22 extremely toxic to the nervous system, especially to
23 the developing system in utero, in infants, and young

24 children. Where the scientific community has not

1 reached consensus is in the amount of exposure that
2 can occur without damaging a child's development.

3 As of today, 40 states have issued fishing
4 advisories because of mercury contamination. 11 of
5 those have advisories on every freshwater lake,
6 river, and stream in the state. Thirteen states
7 advise the public to restrict the consumption of
8 ocean fish.

9 According to U.S. fish consumption surveys,
10 about four million, or 7 percent, of all women of
11 childbearing age eat enough mercury-contaminated fish
12 to potentially exceed what EPA considers a safe dose
13 of mercury. About three million children ages three
14 to six also are at risk.

15 Reducing current mercury emissions will
16 reduce levels in the food chain over time. However,
17 given its ability to persist in the environment,
18 without severely restricting current emissions, it
19 will take decades before improvements are realized.

20 Some scientists predict that even if all sources
21 ceased emitting mercury today, it could take up to
22 50 years before fish are safe to eat.

23 Claim number 4: It is premature to impose

24 mercury controls on coal-fired power plants because

1 control technology is not commercially available.

2 Response: Based on data presented in
3 peer-reviewed journals, mercury controls are
4 technically feasible and can achieve significant
5 mercury emissions reductions within EPA's likely
6 regulatory time frame.

7 Pollution control equipment vendors have
8 acknowledged that the technology to reduce mercury
9 emissions from coal-fired power plants exists.

10 However, because there's currently no market for this
11 technology, it's not being developed full scale.

12 With the prospect of national controls looming, there
13 has been a lot more attention paid to developing and
14 testing new mercury control technology.

15 Claim number 5, final claim: It is far too
16 expensive to control mercury emissions, and if we
17 impose national controls, it will be the consumer who
18 pays through higher utility rates.

19 Response: The electric utility industry,
20 with its \$400 billion annual revenue, has a solid
21 track record for overestimating the cost of pollution
22 controls. During the acid rain debate, utilities
23 argued that it would cost \$6 billion a year to comply

1 is closer to \$800 million annually.

2 In the late 1990s, the industry argued that
3 nitrogen oxide controls would run about \$10,000 a
4 ton; now the cost of control is closer to \$2,000 a
5 ton.

6 In a recent study completed by EPA, the
7 agency revised its cost estimate downward for power
8 plant mercury controls from \$5 billion annually for
9 the entire industry to \$1.8 billion annually. This
10 would amount to less than half of 1 percent of their
11 annual revenue. This price will likely further
12 decrease as more cost-effective controls are
13 developed to meet new regulatory requirements.

14 Finally, the public is bearing the cost of
15 no mercury control through diminished capabilities in
16 children and a food supply that's contaminated.

17 Conclusion: Only utility boilers enjoy a
18 temporary exemption from the air toxics provisions of
19 the Clean Air Act. The EPA has more than enough
20 information in hand to move forward with evaluating
21 control strategies for utility boilers as it has done
22 for numerous other mercury sources and for all other
23 major sources of air toxics.

1 suggests that EPA should apply a standard different
2 for electric utilities from that established by
3 Congress for other air toxics sources. Some have
4 suggested that before EPA can issue controls, it must
5 prove that the mercury in fish originated from
6 utility boilers. Not only would this be impossible
7 to document, but the utility industry is presenting a
8 hurdle for EPA that is not required by the Act for
9 this or any other air toxics source.

10 Mercury is a local, regional, and global
11 problem, so a national mercury emissions standard for
12 electric utilities needs to be designed to address
13 all three aspects of the problem. Reductions on the
14 order of 90 percent are not only feasible, but
15 necessary given the widespread public health and
16 ecological impacts associated with mercury releases.

17 In evaluating what strategy to pursue to
18 meet this level of reduction, we urge EPA to look
19 beyond existing controls currently installed on
20 coal-fired boilers and evaluate the use of carbon
21 injection, scrubbers, and increased use of gas,
22 renewables, and efficiency. EPA's control strategy
23 must look simultaneously at reducing mercury along

24 with other pollutants of concern, including acid

1 gases which the industry emits in very large volumes,
2 and criteria pollutants. We also firmly believe that
3 no regulatory strategy should be pursued that reduces
4 overall risk at the expense of increasing, or
5 ignoring, individual risk.

6 Finally, I submit to you a national mercury
7 position statement signed by 268 organizations,
8 businesses, and individuals representing 41 states
9 and the District of Columbia calling on EPA to issue
10 national mercury controls for power plants. The
11 public understands the problem at hand -- our fish
12 are unsafe to eat -- and the public demands national
13 action to restore a critical part of their food
14 supply and to protect current and future generations.

15 Thank you.

16 MR. WAYLAND: Next we have Patricio Silva
17 from the Natural Resource Defense Council.

18 I would like to remind those of you who are
19 coming in late, you do need to stick to the five
20 minutes allotted to you so that everyone in the room
21 will have the opportunity to speak today.

22 MR. SILVA: Thank you.

23 My name is Patricio Silva, and I'd like to

24 thank the agency for the opportunity to submit

1 comments on the regulatory determination.

2 I am the Midwest Activities Coordinator for
3 the National Resources Defense Council. NRDC is a
4 nonprofit citizen organization dedicated to
5 environmental protection. We have more than 400,000
6 members nationwide. Since 1970, NRDC has followed
7 closely the implementation of the Clean Air Act and
8 has stopped the current actions. Under the law, that
9 would carry out Congress's policy decisions to
10 protect public health and the environment from harm
11 caused by air pollution.

12 NRDC urges the administrator to regulate
13 mercury emissions from electric utility steam
14 generating units under Clean Air Act Section
15 112(n)(1)(A). Mercury is a toxic heavy metal that
16 exists in the environment once released into the
17 atmosphere. It has also, until recently, escaped
18 regulatory attention because of the difficulty in
19 detecting and quantifying mercury emissions from the
20 largest single combustion source category of
21 emissions, coal-fired electric steam generating
22 units.

23 In a study of hazardous air pollutants

24 emitted by power plants, EPA identified mercury as

1 the pollutant with greatest potential concern,
2 growing concern, and awareness of the peril presented
3 by release of mercury have been, in large part, the
4 result of efforts by NRDC and other advocates to
5 publicize the risks and educate regulators.

6 In the 1990 Clean Air Act amendments,
7 Congress instructed EPA to perform a study of the
8 hazards to public health reasonably anticipated to
9 occur as a result of emissions by electric utility
10 steam generating units. EPA, in its final Report to
11 Congress, stated that mercury is the HAP emission of
12 greatest potential concern in coal-fired utilities.
13 Congress intended that the risks from hazardous air
14 pollutants emissions from this unit to be all
15 characterized prior to regulation. Through the
16 completion of the Utility Toxics and Utility Mercury
17 Reports to Congress, serious risks posed from mercury
18 emissions from electric utility steam generating
19 units are now well characterized in merit regulation.

20 We also wish to take note that Section 112
21 should not be misconstrued to provide electric
22 utility steam generating units with special or
23 preferential treatment different from other industry

24 sectors for which EPA has issued MACT regulations.

1 While anticipating the legal pre-determinations by
2 consideration of risk assessment is inappropriate and
3 unwarranted under Section 112, EPA has developed MACT
4 regulations reducing mercury emissions and other
5 industry sectors without reference or consideration
6 of any assessment. Efforts by opponents to opt to
7 the regulatory determination to clad the issue by
8 injecting risk assessment or other ordinance should
9 be soundly rejected.

10 Congress provided that hazardous air
11 pollutants from electric steam generating units
12 should be well characterized before regulation, not
13 excused or exempt from MACT applicability. The
14 industry has not demonstrated it is entitled to
15 special or extraordinary treatment, nor should EPA
16 offer special treatment to the electric utility
17 industry on mercury emissions.

18 The issue should appropriately turn on
19 examining the growing body of evidence reflected in
20 the docket in this matter, over 164 pages to date, on
21 a continuing risk posed by HAP emissions from
22 electric utility steam generating units. The mercury
23 MACT determination is a long-awaited and delayed

24 regulatory concern which is completed and supported.

1 Releases in mercury and other heavy metals
2 from electric generating facilities posed a serious
3 public concern for over a decade as reflected in the
4 directives in the 1990 Clean Air Act amendments for
5 EPA to study mercury emissions generally and
6 emissions of hazardous air pollutants from the
7 electric power sector. As EPA recently concluded,
8 there are approximately 158 tons per year of
9 anthropogenic mercury emissions through the electric
10 generating units, releasing approximately 52 tons per
11 year.

12 Given the serious concern for human health
13 and the environment associated with the releases of
14 mercury, because of persistence and a bioaccumulation
15 of methylmercury in the environment increase its
16 toxic adverse impact, we urge EPA to make a positive
17 regulatory determination to commence ruling on
18 mercury not through electric steam generating units.

19 In conclusion, we urge that the agency
20 consider reductions in the order of 90 percent within
21 ten years, preferably within an even shorter time
22 span. And that concludes my remarks.

23 MR. WAYLAND: Next we have Karen

1 We will move to John Blair, Valley Watch,
2 Incorporated.

3 MR. BLAIR: My name is John Blair, and I am
4 here representing Valley Watch, Inc., which is
5 located in Evansville, Indiana. Our purpose is to
6 protect the public health and environment of the
7 lower Ohio Valley.

8 Before I get into my formal comments, I just
9 want to make a comment about the need for mercury
10 controls in relation to, somebody mentioned renewable
11 energy a while ago. I think it's about 85 degrees
12 today, and everybody in this room is sitting here
13 with coats on.

14 In the 1960s, a large Japanese corporation
15 became world famous not because it developed some new
16 nifty electronic device or initiated some new
17 automotive technology. No, the Chisso Company became
18 world famous because it left a legacy of disease,
19 disability, and birth defects for the people who ate
20 fish from the bay that Chisso used to dump
21 mercury-tainted waste in Minamata, Japan.

22 Minamata's disaster awakened the world to
23 the horrors of mercury contamination and its effects

24 on human development. Some Japanese called the

1 Minamata calamity a crisis comparable only to the
2 effects of radiation that were suffered in Nagasaki
3 and Hiroshima after America chose to use the nuclear
4 bomb to win World War II.

5 Mercury from industrial waste, whether
6 dumped directly into surface water or indirectly from
7 air emissions from coal-fired power plants, is on par
8 with lead as a potent neuro and developmental toxin.

9 In Indiana, we already have contaminated our
10 water to the point that 100 percent of our streams
11 and lakes have "Fish Consumption Advisories," warning
12 children and women of childbearing age to severely
13 limit their consumption of fish from those once major
14 food sources.

15 One of those lakes is only 24 years old, the
16 Patoka Reservoir in Orange County, which is still
17 considered a fisherman's paradise. But mercury from
18 the numerous coal-fired power plants that surround
19 the region has rendered it dangerous. Just 24 years,
20 and already so much mercury has been deposited in
21 this water supply reservoir to make its bounty unfit
22 for large segments of our population.

23 Failure to act now to turn this morbid

24 agency around will result in greater peril for its

1 victims, whether they live in Paoli, Indiana or
2 Minamata, Japan. Acquiescing will only serve the
3 cause of greed and commerce while subjecting greater
4 numbers of children to the agony of mental
5 retardation and developmental disability and even
6 death.

7 I wanted to hand out to each of you one of
8 my comments because I have a picture on there, and
9 this is a picture of three sections of brains. The
10 top section is of a seven-year-old boy after four
11 years of mercury poisoning; the second section is an
12 eight-year-old girl after two years and nine months
13 of mercury poisoning; and the bottom is a
14 30-year-old's normal brain.

15 If you look closely at these, the lesions
16 that took place in the seven-year-old boy must have
17 made almost the entire time that he had on this earth
18 a living hell. The same goes for the second picture
19 of the eight-year-old girl. These lesions in the
20 brain were horrible. And I just want you to think,
21 whenever you're considering this whole deal about
22 whether to make a determination that mercury should
23 be regulated from coal-burning power plants, I want

24 you to think about this picture and how it relates to

1 the normal brain.

2 I have a daughter with Down's Syndrome, and
3 I know the effects of mental retardation. She's a
4 blessing. She doesn't have to cope with anything
5 like this. This is pure hell. I hope you do
6 something about it.

7 MR. WAYLAND: Thank you, John.

8 Next we have John Thompson from the Illinois
9 Environmental Council.

10 The sign-up sheet is going around the room
11 again, so if you signed it the first time, just pass
12 it on. I just want to make sure we have a record of
13 who all is here.

14 MR. THOMPSON: My name is John Thompson, and
15 I'm the Director of Clean Air Programs for the
16 Illinois Environmental Council, a coalition of 70
17 environmental groups based here in Illinois.

18 It's fitting that the U.S. EPA hold its
19 mercury hearing here because greater Chicago ranks
20 first among metropolitan areas in mercury emissions
21 from power plants to plants in the city, and four
22 that circle Chicago contributed some 3,310 pounds of
23 mercury emissions in 1998.

1 plants are especially driven, ranking 15th, 17th, and
2 19th on the list of the nation's largest power plant
3 mercury sources. No other city, large or small, has
4 such a cluster of polluting power plants. All these
5 plants are owned by one company, California-based
6 Midwest Generation.

7 Chicago's situation makes clear why it is
8 that U.S. EPA should regulate mercury. Here, massive
9 mercury emissions are emitted upwind of both one of
10 the nation's most populous regions of the nation and
11 one of the nation's most important ecosystems, the
12 Great Lakes. No industry or government-sponsored
13 risk assessment ever contemplated such a scenario,
14 and yet, every day Chicago residents live with it.

15 I'd like to use the balance of my time to
16 point out some unusual aspects about the Chicago
17 power plants that I think may be important in your
18 regulatory determination. These emissions from
19 these Chicago area plants come from power plants that
20 burn low-sulfur coal without scrubbers. They're in
21 full compliance with agency rules, and yet they are
22 twice as polluting in sulfur dioxide as a modern
23 plant because they've been grandfathered from

24 stricter sulfur dioxide emissions.

1 The particular western coal that these
2 plants burn is -- and this is true just of these
3 plants, not of western coal in general -- is about
4 four times higher in sulfur -- four times higher in
5 mercury content than the particular Illinois coals
6 that are burned further south in Illinois' power
7 plants. These plants have burned switch to this
8 lower sulfur western coal some 20, 30 years ago in
9 order to meet the federal regulations, and we're
10 seeing more and more of Illinois' coal-fired power
11 plants switch to lower sulfur coal. Whether or not
12 we end up with higher mercury sources of -- higher
13 mercury emissions from these downstate Illinois power
14 plants as a result of the switch, we won't know for
15 another year or two when the data comes out.

16 But what it illustrates is the unintended
17 consequences of a policy that regulates power plant
18 emissions piecemeal. I would hope that you would
19 begin in December regulating mercury, but that you
20 also make clear plans to regulate nitrogen oxide,
21 sulfur dioxide, and carbon dioxide from power plants
22 soon so that we don't end up just shifting pollution
23 from one form to another. In attempts to control

24 sulfur, we end up with higher mercury; to control

1 mercury, we end up with more carbon. We need a
2 comprehensive program. We need to do this
3 immediately.

4 Thank you for your attention.

5 MR. WAYLAND: Next we have Susan Jones
6 National Resource Council of Maine.

7 MS. JONES: Good morning. My name is
8 Sue Jones, and I represent the National Resources
9 Council of Maine. We represent over 5,000 members
10 throughout Maine and the country. We are the largest
11 environmental advocacy group in Maine. Our mission
12 is to seek to conserve and protect Maine's resources
13 for now and future generations.

14 On behalf of the Council, I strongly urge
15 EPA to regulate under Section 112 of the Clean Air
16 Act all hazardous air pollutants, including mercury,
17 emitted from electrical steam generating units. In
18 accordance with Section 112(n)(1)(A) of the Clean Air
19 Act, EPA should make a finding that it is appropriate
20 and necessary to control HAPs from utility units and
21 should waste no additional time in implementing and
22 initiating the rulemaking process to implement this
23 finding. Additional time in delaying regulation and

24 reductions by the utility sector will only further

1 the harm to the public and environmental health in
2 Maine and all areas downwind of coal-fired power
3 plants.

4 Utilities are significant emitters of toxic
5 air pollution and should not be exempt from
6 Section 112. The recently-released toxics release
7 inventory confirmed what we have long been
8 suspecting: Utilities emit the same HAPs as other
9 sectors and in significant amounts, sometimes in even
10 greater amounts than currently regulated sectors.
11 There is no justifiable reason for EPA to regulate
12 HAPs emitted from other sectors and yet not regulate
13 HAPs from the utility industry. EPA should subject
14 utilities to performance standards reflecting MACT
15 technologies for hazardous air pollutants.

16 Because EPA concluded in its final Report to
17 Congress that mercury is the HAP of "greatest
18 potential concern" from utilities, the remainder of
19 these comments will address mercury. In the
20 Northeast and Maine, NESCAUM has modeled mercury
21 deposition and found that measurable quantities of
22 mercury are deposited throughout the Northeast,
23 including remote areas. It is well-documented that

24 50 percent of mercury is deposited in 600 miles of

1 being emitted. While municipal solid waste
2 combusters are responsible for almost half of the
3 mercury deposited regionally, nearly one-third comes
4 from utility and non-utility boilers (from in-region
5 and out-of-region).

6 NESCAUM attributes more in-region deposition
7 from utility boilers from outside the Northeast than
8 inside the region. Furthermore, because mercury so
9 easily recycles and cycles throughout the atmosphere,
10 settling out from the air and then re-volatizing into
11 the atmosphere again and finally settling to rest in
12 the colder climates, it is clear that much of the
13 mercury emitted in the Midwest is ending up in the
14 Northeast and ending up in Maine. It is important,
15 therefore, to reduce mercury emissions from all
16 coal-fired power plants and utilities as soon as
17 possible, such as by removing the Section 112
18 exemption.

19 Currently, Maine has statewide mercury
20 advisories posted on every river and on every one of
21 the 2,314 lakes in the state. They warn women,
22 children, and sensitive populations to limit their
23 consumption of fish caught in those waters. While it

24 is important to educate and warn the public about the

1 dangers of mercury and methylmercury, it is far more
2 important and efficient to address ways to reduce
3 these toxins. EPA should protect the public health
4 by reducing mercury emissions from utility units as
5 well as from other sources.

6 I think it's really important to note here
7 that Maine has no coal-fired utilities in the state,
8 and yet has some of the highest levels of mercury
9 found in fish and loons in the country. The impacts
10 of mercury poisoning to Maine's ecology are
11 well-established. Maine's mercury levels pose risks
12 to fish-eating wildlife. Predators such as eagles,
13 loon, osprey, mink, and otter are at particular risk
14 from mercury exposure, and, therefore, risk adverse
15 effects. Documented effects in wildlife include
16 reduced reproductive success, impaired growth and
17 development, behavioral abnormalities, and death.

18 Specifically, let's talk about Maine's bald
19 eagles. Reproduction has remained 15 to 40 percent
20 below other injured populations of eagles in the
21 United States. It is having a significant impact to
22 our eagle population. In loons, concentrated levels
23 have been found to exceed thresholds where adverse

24 reproductive and health effects are predicted. In

1 Maine, 60 percent of loon chicks are at risk of not
2 hatching and 17 to 24 percent are definitely
3 affected. Mussels, significantly we have found
4 higher levels of mercury in tissues than collected on
5 the east coast and other parts of the east coast or
6 on the west coast. Mercury is lethal to mink and
7 otter, and harbor seals in the Gulf of Maine have
8 exhibited elevated levels.

9 Maine is committed to researching mercury.
10 We've had significant state resources already
11 devoted. We've been looking at fish research for
12 almost 25 to 30 years at this point. Significant
13 studies are now being conducted throughout Maine,
14 including Encasco Bay, which is right outside of our
15 largest city, Portland, as well as as far north as
16 Akagin National Park, which is one of the crowned
17 jewels of our national parks.

18 EPA has repeatedly demonstrated through
19 numerous, well-documented studies that mercury and
20 other HAP emissions threaten public health and the
21 environment. In fact, EPA proactively regulates
22 other sectors to reduce mercury and HAP emissions.
23 In contrast to utilities, the other major sources of

24 mercury pollution are reducing, or will soon be,

1 their fair share of emissions. Recently issued EPA
2 regulations for municipal and medical waste
3 incinerators will require mercury emissions to be
4 reduced by 90 percent and 94 percent respectively by
5 2002. Similarly, domestic industrial demand for
6 mercury decreased by more than 75 percent from 1988
7 to 1996 as a result of pollution prevention efforts
8 and restrictions on mercury in paints and pesticides.

9 Moreover, states, including the state of
10 Maine, are going beyond federal requirements and are
11 capitalizing on maintaining and updating mercury
12 emissions inventories and reducing mercury deposition
13 in the region. Maine is the second state in the
14 country to have recently adopted a comprehensive new
15 recycling and labeling program for mercury-containing
16 products. States are going beyond the federal
17 requirements at this point, doing all they can under
18 federal legislation to make this happen.

19 EPA has all the scientific evidence that it
20 needs to show that reducing mercury from utility
21 sources is appropriate and necessary. Now, all it
22 needs to do is act. Remove the Section 112 exemption
23 immediately that has given utility sources the free

1 without control. The sooner EPA exercises its
2 authority overall utility emissions, the sooner that
3 the citizens and wildlife of Maine living downwind
4 will be able to live without threat of toxic
5 poisoning. Thank you.

6 MR. WAYLAND: Next we have Gene Trisko,
7 United Mine Workers of America.

8 MR. TRISKO: Good morning, ladies and
9 gentlemen. My name is Eugene M. Trisko. I'm an
10 attorney admitted in the District of Columbus. I'm
11 pleased to be here with you today on behalf of the
12 United Mine Workers. The UMWA represents all
13 union-organized coal miners in coal-producing regions
14 throughout the United States.

15 The union historically has supported
16 technological approaches that allow coal to be burned
17 cleanly. The union was actively involved in the acid
18 rain debate in the 1980s, advancing constructive
19 proposals before EPA and Congress, designed to reduce
20 acid deposition while protecting coal mining jobs.
21 We are here today because of our interest in
22 preserving our job base.

23 The purpose of our statement here today is

24 twofold; first, to highlight a couple of key

1 scientific uncertainties and related analytical
2 issues for EPA's mercury control decisions; and
3 second, to outline preliminary views on the design of
4 an electric utility mercury emissions control plan
5 should the agency proceed in that direction.

6 Item 1: The Science Jury is Out. No
7 determination about the need for mercury controls at
8 electric utilities is appropriate prior to the
9 release of the National Academy of Sciences'
10 committee report on the toxicological effects of
11 mercury.

12 Evidence presented before the NAS committee
13 (for example, the Seychelles Islands analyses) could
14 support a determination that additional mercury
15 controls are unnecessary and would not yield any
16 significant public health benefits.

17 Other federal agencies that have examined
18 the risks posed by current levels of mercury exposure
19 in the U.S. have found no basis for concern. We note
20 in this regard the findings of the Agency for Toxic
21 Substances Disease Registry of the U.S. Department of
22 Health and Human Services, and I quote, "These
23 state-of-the-science studies of exposed sensitive

24 subpopulations (pregnant women, developing fetuses,

1 and young children) indicate that mercury levels to
2 which the U.S. public is currently exposed pose no
3 health risk under current exposure conditions."

4 In contrast, we recognize that other
5 evidence presented to the National Academy may point
6 to other conclusions, supporting EPA's current
7 recommended Reference Dose for methylmercury.

8 But until the NAS report is released, it is
9 premature to discuss the need for additional mercury
10 emission controls from any emitting sector. Once the
11 NAS has issued its report this summer, we encourage
12 EPA to seek additional public input to its mercury
13 control determination through hearings and comment.

14 Item 2: Control Benefits are Uncertain and
15 Require Assessment. As discussed by previous
16 speakers, mercury is a global pollutant with long
17 biological residence times. Decisions to control
18 mercury emissions are similar to those for
19 controlling greenhouse gas emissions. Actions
20 undertaken by the U.S. alone may not result in
21 meaningful public health benefits. For example, we
22 understand from public research that roughly one-half
23 of mercury deposition in New York comes from Canadian

1 We are struck by the absence of analyses
2 indicating the health benefits, or reductions in
3 relevant health risks, posed by alternative levels of
4 domestic utility mercury emissions controls. For
5 example, it would be helpful for policy-makers to
6 understand the expected reduction in cord blood or
7 hair mercury content among average and sensitive
8 members of the U.S. population at alternative levels
9 of utility mercury control (for example, across a
10 range of 33 to 90 percent) over relevant time
11 horizons, (10, 50, and 100 years, and so forth),
12 based on fate and transport and related modeling. We
13 strongly urge EPA to undertake such quantitative
14 analyses in support of its current regulatory
15 determination and in any subsequent actions directed
16 at the electric utility industry.

17 Item 3: EPA Has Flexibility in Regulatory
18 Design. In the event that EPA determines that
19 mercury emission controls are appropriate and
20 necessary, the Agency has discretion under
21 Section 112 of the Clean Air Act to fashion control
22 strategies. A single-phase application of maximum
23 achievable control technology (MACT) is not dictated

24 by the statute or by its legislative history.

1 Several commercially-available control
2 technologies, such as scrubbers and baghouses, are
3 effective in removing mercury in combination with SO₂
4 or particulates. EPA will know more about the
5 effectiveness of these options once it completes the
6 collection and analysis of data under its on-going
7 information requests to the utility industry.

8 Item 4: Avoid Single-Phase MACT. The UMWA
9 is apprehensive about the imposition of a MACT
10 requirement based on the hypothetical performance of
11 technologies that are not in widespread commercial
12 use. The absence of successful large-scale
13 commercial operating experience with activated carbon
14 injection technologies -- viewed by EPA as the most
15 effective means of reducing mercury -- is a major
16 impediment to a single-phase MACT approach.

17 As EPA's March 1999 CAPI-3 analysis pointed
18 out, "The control of mercury emissions from
19 coal-fired boilers is not commercially practiced in
20 the U.S." On the other hand, EPA finds that units
21 equipped with wet scrubbers remove 30 percent to
22 90 percent of mercury as a co-product of SO₂ removal.

23 We know with interest that EPA's initial

24 CAPI proposal in 1996 offered a two-phase approach to

1 mercury reduction, involving a 50-percent cut by 2005
2 and another 50-percent reduction by 2010, for an
3 overall reduction of 75 percent. Similar, perhaps,
4 to the Clean Energy Group proposal that we heard
5 earlier. The UMWA prefers a phased approach to a
6 single-phase MACT because it would provide additional
7 time for technological improvement, as well as
8 opportunities for integration with other EPA air
9 programs.

10 Item 4: Explore Other Opportunities for
11 Integration. As EPA considers the need for
12 additional mercury control, it also is proceeding
13 with other regulatory programs (regional haze,
14 PM 2.5, SIP Call, NSR Reform -- the list grows
15 longer) that will have the direct effect of reducing
16 emissions of SO₂, NO_x and particulates. Mercury
17 emissions will be reduced as a co-product of many of
18 the technologies required by these programs.

19 The UMWA is sensitive to the risk of job
20 losses associated with increasingly stringent,
21 piecemeal emission controls applied to existing
22 plants. We, therefore, urge EPA to analyze an array
23 of regulatory options for achieving mercury emission

1 emission control strategy. In our view, EPA has yet
2 to determine the extent of mercury reduction that may
3 occur with full implementation of the PM 2.5 and
4 renal end haze programs.

5 Item 5: Consider Phased Approaches With
6 Trading. It will be more cost-effective, and less
7 disruptive to coal mining jobs, to achieve a given
8 level of utility mercury control through trading
9 programs that allow controls to be concentrated among
10 large baseload plants, with allowances freed up for
11 use at intermediate-load or cycling units.
12 Consideration also should be given to programs that
13 provide credits (or avoid penalties) for installed
14 technologies that already are reducing mercury.

15 Finally, in view of these considerations,
16 the UMWA respectfully urges EPA not to include
17 language in any regulatory determination for mercury
18 that would bind the agency to particular forms of
19 technological controls, or, specifically, to a
20 single-phase MACT control program similar to that
21 described in EPA's March 1999 CAPI analysis.

22 We appreciate the opportunity EPA has
23 provided to appear at this hearing, and we look

1 on this important regulatory determination.

2 Thank you very much.

3 MR. WAYLAND: We've got one more speaker
4 this morning, and then Rob Brenner is going to close
5 this morning's session with a few comments, and we'll
6 break for lunch.

7 Cliff Porter from the Lignite Energy
8 Council, has he been able to get here? He had called
9 earlier saying he would be late.

10 Let me double back and see if any of the
11 ones from earlier, Sid Nelson? Patti Leaf?

12 MS. LEAF: Yes.

13 MR. WAYLAND: That is Patti Leaf from the
14 Northern States Power.

15 MS. LEAF: Good morning. I am happy to be
16 clear considering the meteorological conditions both
17 in Minneapolis and in Chicago.

18 I'm Patty Leaf, and I'm a senior
19 environmental analyst for Northern States Power, an
20 electric utility located in Minneapolis, Minnesota.
21 NSP has been very active in regards to mercury since
22 the early '90s at both the state and federal levels.
23 NSP was the only utility to, on its own, test all of

24 its coal-fired boilers for mercury and to share that

1 information with the EPA for use in its studies on
2 utility air toxic releases and mercury. I appreciate
3 the opportunity to provide input today on EPA's
4 regulatory determination on the need to regulate air
5 toxic releases from utility power plants.

6 I'd like to follow up on the comments you
7 heard earlier from Tim Hagley of the Minnesota
8 Chamber of Commerce. NSP concurs with the Chamber
9 that EPA's regulatory determination must be made
10 based on sound science with a complete understanding
11 of the impacts to human health from utility mercury
12 releases. NSP thinks it extremely important to wait
13 until the questions identified in the EPA's Utility
14 Air Toxics Report can be fully answered before a
15 sound regulatory determination can be made. It would
16 be disappointing, at best, to implement a mandatory,
17 costly, regulatory program only to find out later
18 that it didn't appropriately address the main concern
19 at hand, that is, of mercury contamination.

20 Recognizing that mercury is of concern and
21 that answers to many of the questions identified in
22 EPA's report are not yet available, NSP encourages
23 the EPA to take a multi-pronged approach at this

1 First, we encourage the EPA to continue to
2 try and fully answer the questions posed in its own
3 report. We encourage the EPA to await the results of
4 the National Academy of Sciences' determination on
5 the impacts of mercury to human health. We also
6 encourage the EPA to take the time necessary to fully
7 evaluate, process, and understand the information
8 recently collected in the ICR process, both the fuel
9 analysis information and the stack test results.

10 Unfortunately, this may lead to other questions, as
11 it has for NSP.

12 Data collected in January 2000 for NSP's
13 Sherco unit 3 drastically conflicts with information
14 previously collected on the unit regarding the
15 removal efficiency of mercury across the unit's dry
16 scrubber/baghouse. Previous test results indicated
17 mercury removal of between 40 and 60 percent; current
18 test results indicate a disheartening zero percent
19 removal.

20 Secondly, we encourage the EPA to develop a
21 voluntary reduction program while awaiting the
22 results needed to make a sound regulatory
23 determination. The Minnesota Chamber representative

24 spoke to you of the process that took place in

1 Minnesota. I was a very active participant in that
2 process that took over two years to complete and is
3 currently in the process of being implemented.

4 The Minnesota reduction initiative focused
5 on the fact that what was of concern was the desire
6 to reduce mercury in the most cost-effective manner
7 possible. Out of this was born a voluntary, flexible
8 program with an aim of reducing mercury releases cost
9 effectively. NSP believes that the Department of
10 Energy's Voluntary Climate Challenge Program has been
11 very effective in reducing emissions of greenhouse
12 gases, and a similar program could be promoted by the
13 EPA to encourage utilities and other mercury sources
14 to creatively and voluntarily take steps to reduce
15 mercury releases from any and all sources. In fact,
16 if a voluntary program is established and is
17 successful, instead of relying on traditional command
18 and control technology, future MACT determinations
19 may rest on voluntary programs.

20 As NSP's commitment to the Minnesota Mercury
21 Reduction Initiative, we have filed a voluntary plan
22 with the Minnesota Pollution Control Agency that
23 considers mercury sources throughout our company.

24 NSP has, through the years, implemented many programs

1 that have reduced mercury releases to the environment
2 because we thought it a wise and prudent thing to do.
3 However, NSP has filed a plan that goes beyond what
4 we've already done. Our plan calls for continued
5 mercury sampling of our coal, retesting all of our
6 coal-fired boilers, conducting mercury control
7 research in conjunction with EPRI, converting two
8 coal-fired boilers to natural gas, and conducting
9 studies on the feasibility of converting other
10 boilers, inventorying mercury containing devices in
11 use, and developing a phase-out plan for those
12 devices deemed high-risk, evaluation of gas transfer
13 stations for potential mercury contamination,
14 implementation of stricter purchasing protocols
15 eliminating the purchase of mercury containing
16 products except in certain cases, and my favorite,
17 the promotion of a mercury sniffing dog in
18 conjunction with the Minnesota Pollution Control
19 Agency.

20 I have not given you the full rundown of our
21 plan, but wanted to present you with a sampling of
22 the wide variety of reduction options available to
23 companies when they are allowed the flexibility to

24 evaluate options for themselves. Several other

1 companies in Minnesota, including all of the major
2 utilities, are participating in this process, and we
3 are hopeful that Minnesota's 70 percent mercury
4 reduction goal will be met by 2006.

5 NSP does not believe that the scientific
6 information on mercury is currently at a level that
7 allows for EPA to make a sound determination
8 regarding the need for regulation. We need to wait
9 for some answers to figure out how best to address
10 mercury. However, while we are waiting, we don't
11 need to sit idly by. There are actions that
12 companies can voluntarily take, and should be
13 encouraged to take, to reduce mercury releases.
14 These companies should be encouraged by the EPA to
15 undertake voluntary mercury reductions and should be
16 recognized by EPA when they do so. A key component
17 in early voluntary reductions is the promise of
18 recognition of those efforts if a mandatory program
19 is established. As in Minnesota, sound goal levels
20 could be established with the understanding that the
21 matter will be revisited if the goals are not met.

22 We hope that EPA takes the time necessary to
23 thoroughly review the additional information on

24 mercury that is expected in the near future.

1 However, whatever the EPA's regulatory determination
2 may be, NSP encourages the development of programs
3 that allow for maximum flexibility and creativity
4 similar to that allowed for SO₂ and NO_x reductions
5 mandated by the 1990 Amendments to the Clean Air Act.

6 I seriously hope the EPA considers our
7 suggestion to wait for needed answers in conjunction
8 with the establishment of a voluntary reduction
9 program. It's a win-win situation for all.

10 Thank you for the opportunity to comment
11 today.

12 MR. WAYLAND: Is John Venners from KFX?

13 Then we have -- has Karen Kendrick-Hands
14 arrived yet.

15 UNIDENTIFIED SPEAKER: Karen is not coming
16 tonight.

17 MR. WAYLAND: John will be the last speaker
18 of the morning, and then Rob will close the session,
19 and then we'll break for lunch at that time.

20 MR. VENNERS: Thank you.

21 My name is John Venners I apologize for the
22 delay. I'm a co-founder of KFx, Inc., headquartered
23 in Denver, Colorado. KFx focuses on providing total

1 fuel production processes, intelligent software
2 technologies, and professional services, enhancing
3 the operational efficiency of energy production while
4 preserving the environment.

5 KFx's core technology, the K-Fuel process,
6 is a pre-combustion process that upgrades low-rank
7 coal, as found in the Powder River Basin, into a high
8 Btu, premium solid fuel by removing the moisture and
9 restructuring the product. During the high
10 temperature, high pressure process, numerous
11 reactions take place producing an environmentally
12 superior product that can be blended or fired
13 directly in the utility boilers without special
14 handling.

15 Over \$120 million has been invested over the
16 past 16 years to develop, improve, and demonstrate
17 the K-Fuel process. Actual test results have been
18 most encouraging and clearly demonstrate the many
19 environmental benefits of the pre-combustion process.
20 For example, the reported results from the
21 Clifty Creek plant in Ohio showed that the NOx was
22 reduced by approximately 20 percent, SO2 was .67
23 MMBtu, and heat rate improvements of 2 percent

24 further reduce total emissions as a result of

1 utilizing premium fuel.

2 In addition, test results have confirmed
3 that under the superheated conditions of the K-Fuel
4 process, mercury was substantially reduced, and, in
5 fact, in several cases it was impossible to even
6 detect any traces of the mercury. It was apparent to
7 us during the development of the K-Fuel process that
8 the utility industry and the environment could
9 benefit from the enhanced product at little or no new
10 cost to the consumer.

11 Kennecott Energy, a subsidiary of Rio Tinto,
12 recognized the many benefits of the K-Fuel process
13 and has partnered with KFx to further exploit this
14 proven process. Kennecott Energy is the nation's
15 leading producer of low sulfur western coal and is
16 actively involved in meeting the fuel management
17 challenges facing their customers, the power
18 industry.

19 A recent trace elements analysis of K-Fuel
20 by Rio Tinto indicated that the mercury content of
21 the processed coal was below .03 ppm. Test results
22 indicate that mercury in coal is present in elemental
23 form rather than chemically bound with other

24 elements. Based on the vapor pressure of mercury at

1 elevated temperatures, mercury flashes from a liquid
2 state to vapor when the pressure in the processor is
3 let down.

4 In the early stages of the process, mercury
5 in liquid form is expelled from the pores of the coal
6 along with water. Mercury evolved from the coal in
7 the K-Fuel process is disposed of in its original
8 elemental form along with the incinerator ash.

9 Since the early days of the oil industry,
10 the producers of crude oil found ways to process this
11 natural resource into various new products to meet
12 the market demand and requirements. As a result, the
13 petroleum industry, in large part, has been able to
14 address the growing environmental needs and
15 requirements with new processes and applications
16 prior to combustion.

17 Perhaps it's time for government and
18 industry to look seriously at pre-combustion
19 solutions and opportunities in the coal industry as
20 we deal with growing environmental and health
21 concerns. Why not work on solving the problem before
22 it becomes a problem.

23 Economics and cost always play a major role

24 when considering new approaches and technologies. In

1 addition to the many environmental and economic
2 benefits previously mentioned, the end-user utility
3 can largely eliminate these hazardous air pollutants
4 without the capital, operating, and disposal costs of
5 post combustion.

6 KFx, together with its partner, Kennecott
7 Energy, welcomes the opportunity to provide this
8 cost-efficient solution. The K-Fuel technology
9 exists today. It can provide a highly
10 energy-efficient and environmentally sound fossil
11 fuel with little or no cost to the economy.

12 Thank you for the opportunity.

13 MR. BRENNER: I just wanted to say a couple
14 of things very briefly before we break for lunch. As
15 I said this morning, this is a very important
16 decision for us, and it's very valuable to have the
17 opportunity to receive comments from a broad and
18 diverse group such as this.

19 I expected to get a lot of comments about
20 this classic issue that we're facing. It is, in some
21 ways, a classic regulatory issue, and there is
22 uncertainty that has been addressed over the past
23 decade and more under this whole set of issues and

1 then in this case also, a whole set of legal
2 requirements that we have to consider, requirements
3 of the Clean Air Act and ensuing litigation, and all
4 of that leads to the question of, when is the
5 appropriate time to act. There was a lot of
6 discussion of that this morning.

7 But I was also surprised at the extent of
8 detail here on issues such as the health issues,
9 especially health effects and implications for
10 children; the ecosystem concerns and the discussion
11 of considerations that we should be taking into
12 account as we make this decision with respect to
13 ecosystems; the economic issues affecting the coal
14 and utility industries and the employees of those
15 industries, such as the mine workers; some of the
16 technology issues, what are the availability of
17 technology, what's the likely availability of future
18 technology; and then discussion of a whole array of
19 regulatory strategies that we should be considering
20 if we do, in fact, go ahead and decide to control.

21 So I wanted to thank everybody at the
22 midpoint today for the amount of time that was
23 clearly devoted to putting together this really

1 of comments. Thanks on behalf of all of my
2 colleagues at EPA. And I look forward to starting up
3 again this afternoon. We'll start up again at
4 1 o'clock in this room and complete the day.

5 Thank you very much.

6 (Whereupon, a luncheon break was
7 taken until 1 o'clock p.m.,
8 after which the following
9 proceedings were had:)

10 MR. WAYLAND: Okay. We are now ready to
11 begin the afternoon session. Rob will be back with
12 us in just a few minutes.

13 We'll start the 1 o'clock session with
14 Casi Cramer of the Ohio Environmental Council.

15 MS. CRAMER: The Ohio Environmental Council
16 would like to urge the U.S. EPA to rule with a
17 positive determination concerning the regulation of
18 mercury. The hazardous air pollutant mercury poses a
19 very serious problem for Ohio. Ohio is currently
20 under a statewide fish consumption advisory due to
21 mercury contamination. The Ohio Department of Health
22 advises women of childbearing age and children under
23 six to limit their intake of fish to one meal per

24 week. Coal-fired power plants alone released

1 7,770 pounds of mercury into Ohio's environment in
2 the year 1998, earning the state a ranking of third
3 largest emitter of mercury emissions in the nation.

4 The impact of mercury on Ohio's environment
5 is also a potential threat to Ohio's economy. In
6 1996, according to the American Sports Fishing
7 Association, the freshwater sport fishing industry in
8 Ohio contained more than 1.2 million anglers and had
9 an overall economic impact of over \$1.8 billion. In
10 the words of Dennis R. Becker, President of the Ohio
11 B.A.S.S. Chapter Federation, one of OEC's member
12 groups, "While we are a catch-and-release
13 organization, we are very concerned about the
14 continuing decline in fishing license sales and the
15 impact fish advisories have on them." The Division
16 of Wildlife operates on the income from license
17 sales, and this decline threatens their ability to
18 properly manage the resource. Therefore, fish
19 advisories affect both sport and meat anglers. If we
20 know mercury is there and the problems it can cause,
21 we have a moral obligation to address it.

22 The U.S. EPA has the ability to relieve our
23 environment from the detrimental impacts of mercury

24 by implementing adequate regulations to control

1 mercury emissions on power plants. In doing so, the
2 Agency will help us avoid a future environment that
3 has become so polluted that simple summer time
4 pleasures, the jobs created by sport fishing, and the
5 consumption of fish as part of a healthy diet are off
6 limits to entire statewide populations.

7 I would now like to read a letter from the
8 sport fishing and conservation organizations that is
9 addressed to the administrator.

10 "The pending Environmental Protection Agency
11 determination regarding whether or not to regulate
12 mercury emissions from coal-fired power plants is of
13 utmost concern to Ohio's sporting and conservation
14 organizations, which represent 1,258,379 Ohioans.
15 Coal-fired power plants in Ohio contribute
16 approximately 54 percent, or 7,770 pounds, of our
17 state's total mercury emissions.

18 "In 1997, the Ohio Department of Health
19 issued a statewide fish consumption advisory due to
20 mercury contamination. This year's advisory states
21 that children under age six and women of childbearing
22 age should eat no more than one meal of fish per week
23 from any body of water in the state, and that fish

1 water bodies in between should be eaten no more than
2 once a month.

3 "As Ohio sport fishermen and
4 conservationists, we urge the U.S. EPA to take into
5 the account the current state of our water bodies. A
6 positive mercury determination for the regulation of
7 mercury from coal-fired power plants would be a step
8 toward assessing the damage that has occurred, and
9 moving forward into a time that will allow our
10 rivers and streams to mend themselves.

11 "Sincerely, Ohio League Sportsmen,
12 representing a membership of 10,000 Ohioans; the
13 Isaak Walton League of America, Ohio Division,
14 representing a member of 2,500 Ohioans; the Ohio
15 B.A.S.S. Chapter Federation, representing a
16 membership of 1,855 Ohioans; the Ohio Smallmouth
17 Alliance, representing a membership of 130 Ohioans;
18 Ohio Coastal Resource Management Project,
19 representing a membership of 70 Ohioans; and the
20 Ohioan Environmental Council representing a network
21 of 624 member and individual groups that consist of
22 over 1,243,824 Ohioans.

23 Thank you very much.

1 Hoosier Environmental Council.

2 MR. KNOTT: Thank you.

3 My name is Andy Knott. I am the air and the
4 energy policy director for the Hoosier Environmental
5 Council based in Indianapolis, Indiana. The Hoosier
6 Environmental Council is Indiana's largest nonprofit
7 environmental advocacy group with over 30,000
8 individual members and over 60 member groups.

9 Indiana is one of the most co-dependent
10 states in the nation, with approximately 98 percent
11 of our electricity coming from coal-burning power
12 plants. Indiana is home to some of the largest
13 coal-burning power plants in the United States. As a
14 result, Indiana is both a perpetrator and a victim
15 when it comes to power plant pollution.

16 Indiana's power plants are ranked 5th in the
17 U.S. for mercury emissions. Also, every single
18 water body in Indiana is covered by a fish
19 consumption advisory for mercury.

20 Prior to 1999, the relationship between
21 airborne mercury deposition from power plant
22 emissions had never been studied at depth. Using
23 existing data, the Hoosier Environmental Council

24 examined this relationship and produced a report in

1 September of last year entitled, "Air Raid: Mercury
2 Falling into Indiana Lakes." And I will submit a
3 copy of the report along with some of the newspaper
4 articles written about it with my testimony today.

5 Our report examined seven lakes chosen based
6 on three conditions. First, five natural lakes were
7 selected based on their location as upstream
8 headwaters with few or no tributaries. With these
9 types of lakes, there is a significantly reduced
10 chance that their mercury contamination is caused by
11 direct discharge from industry.

12 Secondly, two human-made reservoirs were
13 chosen because they were constructed in the previous
14 20 years. The short time it has taken these
15 reservoirs to become contaminated is an indication of
16 the severity of the air deposition problem.

17 Thirdly, because mercury can come from
18 direct discharge from industry, we examine permit
19 information. We determined that there are no NPDES,
20 or National Pollution Discharge Elimination System,
21 permits for mercury in any of the tributaries that
22 flow into any of the seven lakes that were covered by
23 our report.

1 large source of mercury emissions, we then examined
2 the proximity of coal-fired power plants to the seven
3 lakes. We found that there are nine coal-fired power
4 plants within 15 to 100 miles of the seven lakes.

5 While it's currently impossible to target where
6 emissions from specific smoke stacks go, based on
7 preexisting computer modeling studies, wind, and
8 precipitation patterns, we can at least infer that a
9 large part of the mercury in these lakes comes from
10 local power plants.

11 The impacts of mercury pollution are
12 significant. Take, for one example, Olin Lake, one
13 of the natural lakes that we covered in our report.
14 Olin Lake is the largest uninhabited lake in Indiana
15 and it is surrounded by a nature preserve. Yet, it
16 is covered by the highest possible level of fish
17 consumption advisory, a Level Five. A Level Five
18 advisory means that absolutely no one should eat fish
19 from water with this ranking. The fact that a lake
20 that would otherwise be pristine is contaminated to
21 such an extent that no one should eat fish from it is
22 a travesty.

23 We implore the EPA to regulate mercury and

24 other hazardous air pollutants from power plants.

1 EPA should develop national emissions standards for
2 electric utilities that will require a 90-percent
3 reduction from all coal-fired power plants over the
4 next decade. It is time that this largest source of
5 unregulated mercury emissions is brought under
6 control.

7 Indiana's governor is suing the U.S. EPA
8 over its proposed nitrogen oxide reductions for power
9 plants, also known as the "NO_x SIP Call." As
10 evidenced by this recalcitrant attitude towards ozone
11 pollution, we in Indiana cannot rely on our state
12 government to regulate toxic mercury at this time.
13 Only strong emission reduction standards from EPA
14 will solve this serious and pervasive problem.

15 Lastly, when EPA does impose these emissions
16 standards, EPA must also evaluate impacts on other
17 pollution media, such as the massive solid waste
18 stream that is generated by coal-fired power plants,
19 and adequately regulate this waste stream to ensure
20 that the environment is protected. We cannot allow
21 toxic pollutants to simply be transferred from one
22 waste stream to another.

23 Thank you for this opportunity.

1 We will move on. We have Melissa Scanlan
2 from Midwest Environmental.

3 MS. SCANLAN: Good afternoon, and thanks for
4 the opportunity to comment.

5 My name is Melissa Scanlan. I'm a legal
6 director at Midwest Environmental Advocates, and I'm
7 appearing today on behalf of the Indigenous
8 Environmental Network, a national grassroots
9 organization, whose mission is to encourage
10 sustainable life styles among indigenous people and
11 to protect the earth.

12 I have written comments that I'm submitting
13 that will go into more of the technical aspects of
14 the requirements of federal Indiana law and the
15 responsibilities that that places on the EPA. So
16 today I'm just going over the general outline of
17 this.

18 We've heard a lot of great testimony today
19 about the impacts of mercury on fish and on eagles
20 and on people, pregnant women. We've also heard a
21 lot of testimony from the industry reps talking about
22 the need for more analysis, more studies, and the
23 industry would like us to believe that we need to

24 study this problem more. They're leading us to an

1 analysis paralysis. They want the EPA to not take
2 action, because every day that the EPA does not take
3 action, they save money. And as outlined by the
4 National Wildlife Federation, the EPA doesn't need to
5 fall prey to this. The EPA has enough information
6 today to take action. And we cannot wait.

7 Over the history of this country, there have
8 been numerous federal policies directed towards
9 destroying native American tribes, the allotment
10 period, termination period, removal. Indigenous
11 people are now experiencing the latest mutation in
12 this policy -- destruction of natural resources that
13 prevents them from maintaining their cultural and
14 spiritual practices and maintaining a healthy source
15 of food.

16 Contamination of fish on tree lands is
17 occurring due to Agency inaction, and I know that EPA
18 will correct this problem. They have the
19 responsibility to do so under the Trust
20 Responsibility of the tribes, and we know that the
21 EPA has been a leader amongst other federal agencies
22 in Federal Indian policy, and we hope that you will
23 live up to that in making this decision.

1 regulators must maintain the quality and quantity of
2 water resources and fish. Treaty rights are not the
3 mere chance to dip your net into the water and, by
4 chance, pull out an uncontaminated fish. They are
5 the right -- the right -- for indigenous people to
6 have an adequate and uncontaminated supply of fish,
7 and this right imposes a duty on the Federal Agency
8 to consider how their actions are going to uphold
9 treaty rights and how their, conversely, inaction
10 impair treaty rights.

11 Mercury contamination of fish in the western
12 Great Lakes region in particular has already been
13 shown to impair treaty rights. This is evident in
14 accounts by indigenous people who have stopped
15 fishing due to health advisories as well as in blood
16 tests of five -- of members of five Chippewa tribes
17 in Wisconsin during traditional spear fishing season
18 that have shown elevated levels of mercury, up to 15
19 times the level associated with adverse health
20 effects.

21 This is a very sad state of affairs, when,
22 in order to exercise your treaty rights, you have to
23 run the risk of adverse health effects due to mercury

24 contamination that can be stopped and should be

1 stopped by this agency.

2 The trust responsibility that goes to every
3 Federal Agency, including the EPA, requires the EPA
4 to ensure that its actions are consistent with the
5 protection of tribal rights to hunt and fish. And at
6 a minimum, the EPA has a duty to consult with tribes
7 before taking final action affecting treaty rights.

8 It's not by chance that there are not tribal
9 representatives in this room today from the western
10 Great Lake states. They are waiting for a government
11 -- to government consultation with the EPA on this
12 decision. And the Indigenous Environmental Network
13 urges you to enter into this consultation and to take
14 your responsibilities seriously. We trust that you
15 will. Thank you.

16 MR. WAYLAND: Next we have Keith Reopelle of
17 Wisconsin Environmental.

18 MR. REOPELLE: Good afternoon. My name is
19 Keith Reopelle. I'm the program director with
20 Wisconsin's Environmental Decade, a statewide group
21 that's been in Wisconsin for about 30 years at this
22 point in time, about 25,000 members. I thank you
23 very much. I truly appreciate this opportunity to

24 speak to you today.

1 It's a special day for me, in part, because
2 I have a seven-year-old-daughter, Teal, who's turning
3 seven today, whose birthday is today. That's an
4 excellent reminder of kind of why we're all here.
5 These regulations are needed to protect our children,
6 to protect their children, and future generations.

7 Wisconsin, with its many thousands of lakes
8 at the top of the Canadian shield, is extremely
9 susceptible to mercury contamination. And, as you
10 know, Wisconsin's Department of Health issues a fish
11 advisory which lists about 340 lakes and rivers due
12 to unsafe levels of mercury contamination. Roughly a
13 third of all the lakes our Department has tested have
14 been added to the advisory with a .5 parts per
15 million threshold for inclusion, but they only
16 publish and print 40,000 of those fish advisories.
17 We sell about 1.2 million fishing licenses. So
18 clearly, the vast majority of anglers are not seeing
19 the fish advisory and are not able to follow it.

20 That list has been building for a long time.
21 We've actually known about this problem for at least
22 30 years, in 1970, that then governor Warren Knolls
23 actually banned, closed a 40-mile stretch of the

1 mercury contamination found in some of the fish on
2 the river at that time. So we've known about this
3 problem for 30 years, and its action is long overdue
4 for the largest emitter of mercury emissions.

5 Others have talked a lot about the effects
6 of mercury contamination, the impacts of mercury
7 contamination. I'll just make two quick points about
8 that. One is, based on EPA's Report to Congress and
9 the estimate of the number of pregnant women, women
10 of childbearing ages, and children who consume as
11 much as a fish meal per day on the average, we
12 extrapolated that and came up with more than 40,000
13 people in Wisconsin are likely affected, and that's
14 very conservative. It assumes that people in
15 Wisconsin eat no more fish than people in any other
16 state, which is, undoubtedly, not the case.

17 But we have a much more stark reminder of
18 all the damage that mercury can do to humans in
19 Wisconsin. His name is Henry Henk. He is a
20 gentleman who lives in Hayward, Wisconsin, northern
21 part of the state, who, several years ago, over a
22 six- to eight-month period ate a lot of fish.
23 Admittedly he ate fish for breakfast, lunch, and

24 supper. And those fish were mostly all from one

1 lake, which was on the fish consumption advisory.

2 He ended up losing about 100 pounds of

3 weight, losing the use of his legs, losing his mind

4 literally -- he didn't recognize his own wife;

5 grinding his teeth to the bone. He was in a hospital

6 in Hayward and then he moved to Duluth, where they

7 ran blood tests and CAT scans and everything they

8 could think of and were miffed until somebody asked

9 his wife, did he have any unusual dietary habits.

10 And she said, well, yeah, in fact, all he's been

11 eating for the last half of year or so is fish for

12 most of his meals. And they put two and two together

13 and sent a hair sample down to the clinic, and as

14 soon as they started treating him for mercury

15 contamination, all his symptoms began to reverse.

16 The doctor said he would never walk again. He is

17 walking. I've met with him several times. He uses

18 braces and such.

19 But if mercury can -- and it wasn't a

20 confirmed case by the Department of Health because

21 the tests were done on hair and not blood and not in

22 the right time frame, but you could certainly ask his

23 doctors, and they have no question of what did it.

24 And if mercury can do that to an adult human -- this

1 gentleman is over 200 pounds -- it is not at all hard
2 to imagine that it could impact fetuses or small
3 children.

4 Wisconsin has also done a tremendous amount
5 of research, our Department of Natural Resources, on
6 loons, and I just want to mention too, others have
7 said a lot. We're concerned about wildlife as well,
8 and I hope you see some of that research. There
9 appears to be a clear link to loons on the lakes in
10 northern Wisconsin do not reproduce as well as those
11 on lower mercury lakes.

12 Power plants are, like most states, by far
13 the largest source of mercury emissions in the state.
14 They account for about 40 percent of the mercury
15 emissions in Wisconsin. And we feel Wisconsin
16 desperately needs a regulation of the mercury
17 emissions from those power plants.

18 In fact, the state has pursued such a
19 regulation on its own. There was a bill introduced
20 into legislature last two sessions, Senate Bill 177,
21 to regulate mercury emissions from power plants. And
22 I just want you to know that there is much broader
23 support in Wisconsin than maybe is represented here

24 today. The bill was introduced by 15 Democrats and

1 six Republicans. The leading author of the bill in
2 the State Assembly was a Republican. The bill had
3 various run support from our Department of National
4 Resources. And I'm sure that Secretary Meyer will
5 contact you on his own in terms of his interest in
6 mercury regulations.

7 Over a hundred organizations in the state
8 pass resolutions pushing for mercury regulation in
9 the state, including about 40 fishing and hunting
10 conservation clubs, including many resort owners,
11 including fishing guides and including lake
12 associations.

13 At this point, we have also petitioned our
14 Department of Natural Resources because we believe
15 they have the authority to regulate mercury emissions
16 already, so we've petitioned them to do that. And,
17 again, groups like the Isaak Walton League of
18 Wisconsin, the B.A.S.S. Federation of Wisconsin, all
19 these groups are co-petitioners. I will leave a copy
20 of our petition so you can see that.

21 But obviously if we regulated mercury in
22 Wisconsin, that would not solve the problem.
23 Obviously this is a contaminant that doesn't know

24 boundaries, and obviously the one thing I think that

1 utility representatives and environmentalists can
2 agree on is there needs to be a national, regional
3 national solution, and that's why this agency is so
4 critical and this action is so critical.

5 In summary, we've known about the problem
6 for 30 years, and that's far too long to wait to take
7 action on the largest source of mercury emissions.
8 We need to do this now. The timing is critical and
9 it's critical (A) because 30 years is far too long,
10 and children's health is at stake, but (B) because we
11 need -- the sooner we do this, the sooner mercury
12 planning for mercury reductions at utilities can
13 coincide with planning for reductions of other
14 emissions, like NO_x in particular. And it's
15 important, I think, and for rate errors, it's
16 important to think about these multiple groups
17 at once because we'll spend a lot more money
18 reducing them if we don't consider them all at the
19 same time.

20 The other thing I wanted to mention, I'll
21 leave copies of our report, which, by the way, has a
22 more detailed description of Henry Henk and the
23 impacts that he realized from eating

24 mercury-contaminated fish. I'll give you copies of

1 that report. We've also gotten a couple hundred
2 postcards from members of ours in Wisconsin addressed
3 to the Administrator, which I'll leave with you.

4 Thank you very much for the opportunity to
5 speak today.

6 MR. WAYLAND: Next we have Isaac Elnecaze.

7 MR. ELNECAZE: Good afternoon. My name is
8 Isaac Elnecaze. I'm the Air Quality Specialist in
9 Michigan, Environmental Council. Today you've heard
10 from several environmental groups discussing the
11 health effects and the effects on inland lakes of the
12 Midwest, and certainly here in Michigan, we have many
13 of the same concerns.

14 In my testimony today, I want to discuss
15 more in terms of the magnitude of the emissions that
16 come from the utilities, as I've been able to figure
17 them out. I would like to include, beyond mercury,
18 some of the other toxics that are involved, certainly
19 from the TRI reports, and briefly talk about the
20 health effects of some of these other toxics, what I
21 would consider to be the economic -- the perverse
22 economic incentives, exemption that utility boilers
23 enjoy from regulation which causes, I think, problems

24 and which, I think, need to be addressed. Finally, I

1 want to discuss the mercury trading issue because
2 I've heard several people discuss it today, and I
3 want to bring our viewpoint on this.

4 In Michigan, utility boilers are about
5 40 percent of the mercury. However, they also
6 constitute about 40 percent of the nickel, quarter of
7 the chromium, 82 percent of the hydrogen chloride,
8 and 90 percent of the hydrogen fluoride that is
9 emitted in the state.

10 More importantly, and this is something that
11 we've noticed as a trend, we have noticed that, as a
12 result of many of the regulations that have occurred
13 since 1990, that the level of toxic emissions from
14 sources has decreased in Michigan. However, I found
15 some data, it'll be, in the journal of Fuel
16 Processing Technology -- don't ask me how I found
17 that one -- that showed that the two leading
18 utilities in Michigan, Consumers Energy and Detroit
19 Edison, have actually increased mercury emissions
20 25 percent between 1994 and 1998. In other words,
21 what we're having is that regulation does succeed in
22 reducing toxic releases, and, in my mind, it's
23 somewhat irrational to exempt one of the largest

24 sources, in which case, it kind of offset many of the

1 gains you make.

2 Very quickly, both chromium and nickel are
3 considered by the EPA as Class A carcinogens which
4 means that there is a direct -- the agency considers
5 them a direct causal link between cancer and these
6 two. It is a cause of lung cancer. The toxic acid
7 gases, like hydrochloric acid and hydrofluoric acid,
8 are responsible for pulmonary irritation and up to
9 and including things such as what is called pulmonary
10 edema, which is the buildup of fluid in the lungs.

11 Moving on to just a quick discussion of the
12 economic incentives, there are two things that strike
13 me by having this exemption. Many other sources are
14 working towards reducing mercury, and obviously as
15 other sources make reductions in mercury, additional
16 reductions become progressively more expensive and
17 you get less of them as you continue on reductions.

18 So, therefore, it seems to me that the most
19 cost-effective way of dealing with something like
20 mercury emissions is to deal with utility boilers,
21 since you can certainly get the largest amount of
22 emissions at the least cost without unduly burdening
23 other sources, and it becomes a much fairer policy.

1 utility boilers, what seems to happen -- at least
2 what seems to be making common sense is that it
3 provides a disincentive, almost a perverse
4 disincentive to move towards cleaner forms of energy,
5 to move towards renewables, because it's not costing
6 anything for utilities to continue emitting mercury.
7 If regulations come into place, now you're taking
8 into account the cost of health effects that mercury
9 emissions and other toxics cause, in which case you
10 now provide incentives to move towards cleaner forms
11 of energy and kind of a coal on a much more level
12 playing field.

13 Finally, I want to discuss, very quickly, we
14 support the maximum flexibility for industry to meet
15 whatever standard eventually comes up, and we would
16 like to see a 90-percent reduction in mercury from
17 all power plants within the next ten years.

18 However, we want to mention specifically
19 that we do oppose mercury emissions trading. It's a
20 very quick -- there are trading schemes for other
21 pollutants, but putting them in place of mercury and
22 other toxics ignores the fact that mercury and other
23 toxics are different than NO_x or SO₂. NO_x and SO₂

24 are fun pollutants; they spread out. Mercury and

1 other toxics are very often very localized, have very
2 localized effects, and are, in a case like mercury,
3 they are persistent and bioaccumulating. So,
4 therefore, formation of a hotspot for a toxic is of
5 much graver concern. And so we do not, given the
6 tendency for hotspots to occur, and the fact is, many
7 of the older plants in Michigan are in low-income
8 areas, are in minority areas, like in the southeast
9 part of the state. We feel like it would be very
10 counterproductive and would offset a lot of the gains
11 you could make by putting in mercury reductions by
12 having a mercury trading system.

13 Thank you very much for your time.

14 MR. WAYLAND: Next we have Angela Ledford,
15 Clear the Air.

16 MS. LEDFORD: My name is Angela Ledford. I
17 represent Clear the Air. Clean the Air is the
18 National Campaign Against Dirty Power. We're
19 relatively new on the scene, so it's a pleasure to be
20 here today and to talk about this particular EPA
21 determination.

22 Clear the Air is a project initiated by the
23 Pew Charitable Trust. It is a project of three

1 the National Environmental Trust, and U.S. PIRG. We
2 also work with dozens of grassroots organizations
3 across the country to really face the power plant
4 issues in Washington.

5 I'm here today to urge you to take immediate
6 steps to limit mercury pollution from power plants.
7 As you well know, every other major source of mercury
8 and air toxics are subject to regulations under the
9 Clean Air Act. And I was putting testimony together,
10 I realized I was quoting EPA stats over and over
11 again, so rather than quote you to yourself, let me
12 just focus in on kind of what our summary look at
13 some EPA work as well as some of the latest State
14 information has to say about the issue of mercury
15 from power plants.

16 Recently we released a report that I handed
17 out to you called "Casting Doubt: Mercury, Power
18 Plants, and the Fish We Eat." The report was
19 prepared by the Clean Air Task Force for Clear the
20 Air. Essentially what the report does is takes a
21 look at the most recent fish advisories data from
22 around the country. As you know, the State fish
23 consumption advisories recommend either limiting or

1 bodies or from specific types of water bodies. And I
2 want to run through kind of the summary of what that
3 look at that information showed us.

4 We noted that health departments in 40
5 states have issued thousands of fish consumption
6 advisories, and there are 27 state advisories. This
7 indicates an increase actually over the last few
8 years. In 1993, there were 27 state advisories; and
9 by '97, that number had grown to 40. So states are
10 becoming more and more aware and concerned about this
11 issue and urging their public to be and their
12 consumers to be more concerned as well.

13 Ten states have issued statewide mercury
14 fish consumption advisories on every water body, and
15 13 states have advisories for certain saltwater
16 species; and since 1993, the number of mercury
17 advisories has increased by 128 percent.

18 Another interesting thing, I think, from the
19 report to look at is that the TRI data shows us that
20 power plants are responsible for more than 50 percent
21 of mercury emissions in 13 states. And just taking a
22 look at some of those states and what kinds of fish
23 consumption advisories they're issuing. 17,254 acres

24 of Colorado's lakes are under advisory; 35,673 miles

1 of Indiana's rivers; 321,858 acres of Montana's
2 lakes; 69,377 acres of lakes in North Dakota; 29,000
3 acres of New Mexico's lakes; and over 100,000 acres
4 of Wisconsin lakes. Again, a lot of those states
5 aren't here today, so I thought it was important to
6 take a look at the combination of power plant mercury
7 emissions and what that's showing in terms of their
8 fish consumption advisories.

9 The data that I did think was important for
10 us to raise today about the health risks associated
11 with mercury -- and, again, that is down as a result
12 of the EPA research -- is the following: Four
13 million women of childbearing age are consistently
14 exposed to methylmercury at levels above what the EPA
15 consider safe. Of these four million women, about
16 380,000 are predicted to be pregnant in any given
17 year.

18 Nearly three million children between the
19 ages of three and six are consistently exposed to
20 methylmercury at levels above which EPA considers
21 safe.

22 Recreational anglers, Asian-Americans,
23 members of some Native American tribes, Native

1 methylmercury exposures two to five times higher than
2 exposures experienced by the average population.

3 While it's true that not every single
4 mercury source is covered by EPA rules, the most
5 glaring omission is the utility sector. Man-made
6 emissions in the U.S. total 158 tons of mercury each
7 year, and of that total, coal-fired power plants are
8 estimated to emit about 52 tons a year.

9 We think it's time that the utility sector
10 do their part to reduce mercury emissions. We would
11 like to see reductions reduced by an overall
12 90 percent by 2003. I just realized there's a typo
13 in the testimony. I'll correct that in the record.
14 Ideally, we would like the EPA to require reduction
15 of mercury from the power plants to at least that
16 level and by the same year. We believe tight caps
17 and tight time frames are really essential to rush
18 the technologies to market that it's going to take to
19 get to these reduction levels. So we hope you
20 consider setting some very strict standards.

21 I think what our reports says, and I'm sure
22 a lot of the testimony here, is that, the more we
23 look for mercury in fish and the more we look for a

1 that we work with the power sector to reduce mercury
2 emissions. Thank you.

3 MR. WAYLAND: Next we have Conrad Schneider
4 for the Clean Air Task Force. He's pooling time for
5 two slots.

6 MR. SCHNEIDER: Good afternoon. My name is
7 Conrad Schneider, and I represent the Clean Air Task
8 Force, an organization that advocates federal, state,
9 and private sector action to reduce power plant air
10 emissions. We are part of Clear the Air Campaign,
11 and we also work with over 50 local state, regional,
12 and national organizations in 26 states around the
13 country.

14 I should say thank you for allowing me to
15 pool time today. Our consultants on mercury,
16 Martha Keating and Margaret Round, had planned
17 originally to come and testify, but were unable to be
18 here on this date, and so I'm standing in for them.
19 But rest assured, these remarks were prepared by
20 Martha and by Margaret.

21 We would like to say at the outset that this
22 is the most important decision that the U.S. EPA will
23 make during the remainder of the Clinton

1 Power plants are the number one industrial
2 source in the U.S. of emissions of carbon dioxide,
3 sulfur dioxide, and nitrogen dioxide. According to
4 results thus far from the coal sampling data
5 collected under EPA's Information Collection Request,
6 power plants are the number one source of mercury
7 emissions in the U.S. And, recent data from the
8 Toxics Release Inventory indicate that power plants
9 are the number one emitters of acid gases, including
10 hydrochloric acid and hydrofluoric acid.

11 Power plants are also the only source
12 category to have enjoyed an exemption from the
13 requirements of Section 112 of the Clean Air Act.
14 It's time for EPA to level the regulatory playing
15 field and evaluate control strategies for utility
16 boilers as has been done for numerous other mercury
17 sources.

18 We submit that EPA's own study of utility
19 hazardous air pollutants confirms that power plant
20 HAP emissions should be treated the same as HAP
21 emissions from other sources. Utility sources are
22 significant toxic emitters. The HAPs released by
23 power plants are known to have adverse effects on

1 concluding that current exposures to toxics released
2 by power plants are innocuous. There are already
3 readily available means to dramatically reduce
4 releases of toxic air pollutants from utility
5 sources. All of these factors require EPA to address
6 toxic releases from utility sources in a manner
7 that's consistent with your obligations under
8 Section 112.

9 EPA has previously concluded that mercury is
10 the HAP of most concern from power plants. The
11 Utility Study evaluated power plant mercury emissions
12 and their potential impact on deposition to your
13 watersheds, subsequent uptake of mercury into the
14 aquatic food chain, and exposure to humans through
15 the consumption of fish.

16 The exposure analysis demonstrated that
17 elevated mercury exposure -- that is, exposure in
18 excess of EPA's Reference Dose for methylmercury --
19 is of concern for key segments of the U.S.
20 population. Other analyses since the Utility Study
21 show that an individual who consumes a single
22 high-mercury fish meal has elevated methylmercury
23 concentrations for about two weeks. And another

24 study found that a recreational angler who consumes

1 fish daily during a one-week vacation could be
2 exposed to methylmercury levels that exceed all
3 federal guidelines for several weeks. This
4 information is particularly relevant to women who may
5 be pregnant or planning pregnancy. It also
6 illustrates that while reducing uncertainty in the
7 Reference Dose is important, exposure is even more
8 important. Consuming fish with methylmercury levels
9 commonly measured in U.S. waters can result in
10 exceedances of even the least conservative federal
11 methylmercury benchmark.

12 Thus, because mercury emissions from power
13 plants are linked to increases in methylmercury
14 concentrations in fish tissue, EPA must conclude that
15 hazards to public health are reasonably anticipated
16 from such emissions.

17 Now, we also encourage EPA to consider other
18 pollutants in the context of a regulatory
19 determination. In the Utility Study, EPA indicated
20 that, in addition to mercury, nickel, arsenic, lead,
21 cadmium, and dioxin are all pollutants of "potential
22 concern." While an analysis was performed in the
23 Utility Study of the potential impacts of the

24 short-term releases of acid gases, only routine

1 emission scenarios were considered.

2 We urge EPA to evaluate the potential impact
3 of these acid gases under other emission scenarios,
4 such as start-up, malfunctions, short-term emissions
5 from peaking units, and inversion weather events. In
6 addition, we believe EPA should evaluate exposures
7 other than inhalation for lead and for cadmium,
8 pollutants that persist in the environment and
9 bioaccumulate in the food chain. Of critical
10 importance is the recent reassessment of the cancer
11 potency of dioxin. The proposed ten-fold increase in
12 potency will increase EPA's cancer risk estimates for
13 dioxin exposure to as high as 1 in 1,000 for some
14 segments of the population.

15 In terms of control technologies, we believe
16 that based on data presented in the peer-reviewed
17 literature, mercury controls are technically feasible
18 and mercury emissions can be significantly reduced.
19 Mercury reductions are being documented for a variety
20 of control device configurations and different types
21 of coal, while ongoing research is focusing on
22 optimizing mercury capture by existing control
23 devices and developing new technologies. We believe

1 reduce mercury emissions from power plants can be
2 achieved within EPA's likely regulatory time frame.
3 In the absence of a positive determination however,
4 the promising research and development in this area
5 will cease.

6 Controlling air toxics through criteria
7 pollutant controls has been recognized by EPA as a
8 way to achieve concurrent reductions in a number of
9 pollutants. The Agency should capitalize on this
10 approach with power plants by actively seeking ways
11 to integrate the criteria and air toxics programs.
12 Fuel switching to natural gas and renewable energy
13 are options that would significantly reduce all
14 emissions, both criteria pollutants and air toxics.
15 We urge EPA to consider a multi-pollutant control
16 approach, not only to achieve control of criteria
17 pollutants and mercury, but the other air toxics as
18 well.

19 Now, some other issues that the Agency
20 should consider are those of children's health,
21 environmental justice, and reducing emissions of
22 persistent bioaccumulative toxics. These areas have
23 been repeatedly identified as priorities of this

1 Children's Health from Environmental Threats" was
2 developed in recognition that children are more
3 highly exposed to environmental toxins and may be
4 more susceptible to them during prenatal development
5 and childhood. Both the Utility Study and the
6 Mercury Study conclude that children face the highest
7 risks from consuming fish contaminated by mercury
8 emissions, with upwards of three million children
9 between ages of three to six having mercury exposures
10 greater than the Reference Dose. Clearly, such a
11 finding warrants a positive regulatory determination.

12 The Utility Study also indicates that, in
13 addition to children, subsistence fishers shoulder a
14 disproportionate amount of the risk from eating
15 mercury-contaminated fish. The Mercury Study
16 identified a number of ethnic groups that consume
17 fish far more frequently and in greater amounts than
18 the general population. These includes Native
19 Americans, Alaskan natives, persons of Caribbean
20 ethnicity, and persons of Asian/Pacific Islander
21 ethnicity.

22 Environmental justice as well is important
23 in the sense that people in poverty are also

24 disproportionately affected by power plant emissions.

1 People living within one mile of power plants are
2 twice as likely to be poor and about 30 percent more
3 likely to be non-white than the national average.
4 Low-income communities and people of color are also
5 exposed to numerous power plant pollutants other than
6 mercury, as well as pollution from nearby industrial
7 facilities.

8 A positive regulatory determination for our
9 power plants is also a critical step in meeting the
10 objectives of the Persistent Bioaccumulative Toxic
11 Strategy. Implementing the strategy through an
12 industrial sector, such as power plants, provides the
13 opportunity to include many important persistent
14 toxics in addition to mercury, such as cadmium,
15 arsenic, manganese, chromium, and nickel.

16 In conclusion, there are few cases where
17 regulatory action to control one industry sector will
18 have such a pervasive benefit within and across all
19 media. We urge EPA to take the appropriate action
20 and issue a positive regulatory determination for
21 power plants.

22 Thank you for your time.

23 MR. WAYLAND: Next we have Cindy Luppi from

1 UNIDENTIFIED SPEAKER: She's not here.

2 MR. WAYLAND: Dennis Leonard from Detroit
3 Edison.

4 MR. LEONARD: Good afternoon. I'm
5 Dennis Leonard, principal engineer from Detroit
6 Edison. I'd like to speak on one aspect, but one
7 very important aspect of the mercury debate before
8 you this afternoon, and that aspect concerns the
9 deposition of mercury.

10 Several commenters today pointed out that
11 the EPA Report to Congress estimated that 15 tons per
12 year of mercury is deposited in the U.S. from power
13 plants, and they argue that that was a sufficient
14 basis for making a regulatory determination that that
15 modeling, in essence, is sufficient. I'd like to
16 point out that it is, in fact, -- well, in essence, I
17 agree with the recommendation in EPA's Report to
18 Congress that there's a low degree of confidence in
19 that modeling, and additional research is needed in
20 this area.

21 Additional research is needed for two
22 reasons. One is, there's been a new understanding of
23 chemistry of mercury cycling in the atmosphere. It

24 points out that oxidized mercury is reduced to

1 elemental form through chemical reactions that were
2 not understood a couple years ago; and the other
3 reason is the results of the mercury deposition
4 network.

5 First let me talk a second off of this
6 slide. This slide has a crosshatching of different
7 mercury deposition levels in the United States. The
8 western United States has either less than one
9 microgram per cubic meter or somewhere between one to
10 three micrograms per cubic meter according to the EPA
11 simulation in the Report to Congress. In contrast,
12 the model simulation points out, or predicts rather,
13 that the eastern U.S. has 10 to 30 micrograms per
14 cubic meter and in some places, greater than 30. So
15 the prediction is approximately an order of magnitude
16 difference in deposition levels between the western
17 United States and the eastern United States.

18 I'd like to contrast that prediction with
19 actual data. This is data gathered from a mercury
20 deposition network maintained by the United States
21 Geological Survey. A couple interesting things to
22 look at is the lack of a pronounced west to east
23 gradient. There is a slight gradient, but nowhere

1 Congress simulation had predicted.

2 I'd also like to point out that the
3 concentrations of mercury on the eastern edge of the
4 prairie in Minnesota are essentially the same as the
5 concentrations in Pennsylvania. Pennsylvania is
6 downwind of probably one of the largest, if not the
7 largest, concentration of power plants in the
8 country. You don't see a signature of power plant
9 emissions resulting in deposition when you look at
10 the data. And for certain, the data does not
11 correspond -- the data does not support the modeling
12 results that are in the Report to Congress.

13 So before EPA makes a regulatory
14 determination, it's very important to go back and
15 revisit that model and incorporate the new science
16 that has been learned about chemical reaction to
17 mercury in the atmosphere, what caused the greater
18 role that global natural mercury plays, and other
19 advances that have been made in science.

20 Thank you.

21 MR. WAYLAND: We are running a little ahead
22 of schedule. I'd like to check to make sure that
23 there is no one who has arrived late that was on the

24 agenda who has not had an opportunity to speak.

1 Is anyone that's come in that was on this
2 morning's agenda that we inadvertently skipped over
3 because they weren't here?

4 We'll move ahead to the next session. We
5 have Joshua Frank from Baker Botts.

6 MR. FRANK: Good afternoon. My name is
7 Joshua Frank, and I'm from the law firm of Baker
8 Botts. I'm speaking on behalf of the Class of '85
9 Regulatory Response Group. The Class of '85 is a
10 voluntary ad hoc coalition of 34 electric generating
11 companies from across the country that was formed in
12 1990 to address environmental issues affecting the
13 electric utility industry.

14 We appreciate the opportunity to present
15 comments today on EPA's upcoming determination on the
16 need to regulate air toxic releases from electric
17 utility steam generating units.

18 The Class of '85 supports regulations based
19 on informed decision-making and sound science. In
20 the context of this regulatory determination, this
21 means that EPA must possess a full understanding of
22 the health risks posed by utility hazardous air
23 pollutant releases prior to making any decision to

24 regulate on the basis of health hazards.

1 In its Report to Congress on air toxics
2 emissions from electric utility steam generating
3 units, EPA identified further research that was
4 needed in order to quantify the magnitude of health
5 risks posed by utility emissions of several hazardous
6 air pollutants, particularly mercury. Among other
7 things, the Agency noted that there needed to be a
8 better assessment of the effect that a reduction in
9 utility emissions would have on methylmercury levels
10 in fish; that further research was needed into the
11 actual consumption levels and methylmercury exposures
12 of subpopulations of concern; and that additional
13 study was required to determine the mercury exposure
14 levels that were likely to result in adverse health
15 effects in humans.

16 By way of example, the first of these issues
17 alone -- the effect of reductions in utility
18 emissions on methylmercury levels in fish -- requires
19 additional data to fill in deficiencies in three
20 categories: First, uncertainties associated with
21 atmospheric modeling; second, uncertainties
22 associated with aquatic cycling modeling; and third,
23 lack of analysis on whether sufficient reduction in

24 mercury sources may have already taken place to bring

1 methylmercury in fish below levels of concern.

2 The data needed to reduce uncertainties in
3 atmospheric modeling include speciation of point
4 source emissions, measurement of mobile sources,
5 resolution of global background, and better knowledge
6 of basic atmospheric processes such as chemical
7 transformations, meteorological influences, and
8 long-range transport to distinguish between global,
9 regional, and local sources. The data needed to
10 improve the predictability of aquatic cycling models
11 include bioaccumulation rates at all levels of the
12 food web, sedimentation, burial rates, methylation
13 and demethylation rates under different conditions.

14 The answers to the questions raised in the
15 Report to Congress go to the very heart of whether it
16 is necessary and appropriate to regulate hazardous
17 air pollutant emissions from electric utility units.

18 At the very least, the Agency should fully answer
19 these and the other questions posed in its Report to
20 Congress before making any decision to implement a
21 costly regulatory program. The Class of '85
22 understands that several studies intended to answer
23 these and other critical questions related to mercury

24 are currently being performed by EPRI and others. It

1 behooves the Agency to await this upcoming
2 information and undertake a thorough review of the
3 results of these studies so as to make an informed
4 decision.

5 Further, the Class of '85 is concerned that
6 EPA is not giving itself enough time to review and
7 analyze the voluminous data collected from utilities,
8 at great expense, during the Information Collection
9 Request process. A complete evaluation of this data
10 is required to characterize utility emissions and
11 model the transport and fate of the various forms of
12 mercury. These results, in tandem with studies of
13 health risks from mercury -- such as the upcoming
14 National Academy of Sciences report -- have a direct
15 bearing on whether emissions from electric utility
16 units in the United States adversely affect human
17 health such that regulation is necessary. Moreover,
18 it appears that EPA has not conducted, and does not
19 plan to conduct, the research necessary to make a
20 determination on the other HAPs that the Agency
21 identified in its Report to Congress for which
22 additional study was needed.

23 The Class of '85 implores the Agency to take

24 the necessary time to fully synthesize and analyze

1 the available data, including identification of
2 information gaps, and to conduct the additional
3 research needed rather than rushing to make a
4 decision. EPA must allow science to dictate the
5 appropriate policy, rather than allowing policy to
6 precede the state of the science.

7 Thank you again for accepting these comments
8 on behalf of the Class of '85 Regulatory Response
9 Group.

10 MR. WAYLAND: Next we have Brian Urbaszewski
11 from American Lung Association.

12 MR. URBASZEWSKI: My name is Brian
13 Urbaszewski. I am the Director of the Environmental
14 Health for the American Lung Association of
15 metropolitan Chicago. We've been advocating for
16 people who suffer from lung disease since 1906, and
17 there are several hundred thousand people in our
18 service area, Cook County, Illinois.

19 Representing an organization dedicated to
20 lung health, I wish to express a concern about toxic
21 pollutant and that have an impact on respiratory. I
22 am aware of concerns regarding the impact of mercury
23 emission. This is not my area of expertise, and I

24 will focus my comments on other toxic pollutants

1 emitted by power plants.

2 For the first time ever, generating
3 facilities were required to report TRI emissions
4 figures for 1998 one year ago. According to the
5 recent release of final national 1998 TRI data, coal-
6 and oil-fired power plants are the largest source of
7 toxic air emissions nationwide, surpassing such known
8 toxics giants as the chemical industry, the metal
9 smelting industry, and the pulp and paper industry.

10 The majority of the pollution emitted by the power
11 generating industry were, in fact, acid gases,
12 pollutants known to irritate the respiratory tract.

13 Over 40 percent of all TRI emissions in
14 Illinois are from power plants. In the Chicago ozone
15 non-attainment area -- an area of about six counties
16 plus a few townships incorporating most of the
17 metropolitan area -- the largest source of TRI air
18 emissions were older coal-fired power plants owned by
19 Midwest Generation. Recent TRI figures show these
20 facilities annually emit a total of over 2.6 million
21 pounds of toxic material to the air. Of this
22 material, approximately 91 percent of the emissions
23 from these plants were acid gases, primarily HCL and

24 HF, hydrochloric and hydrofluoric.

1 Some of the potential lesser health effects
2 of HCL include inflammation and ulceration of the
3 respiratory tract, rhinitis, bronchitis, cough, and
4 choking. Health effects of HF are similar.
5 Inhalation can cause severe respiratory tract
6 irritation that, in large concentrations, may be
7 fatal. Overexposure can cause irritation of the
8 eyes, nose, and throat; pulmonary edema, or water on
9 the lungs; nasal congestion; and bronchitis.

10 Electric utilities should be treated like
11 any other source facing regulations under the air
12 toxics provision of the Clean Air Act.

13 The Act requires significant emitters of
14 listed toxic air pollutants to meet performance
15 standards reflecting the capability of modern
16 pollution control methods. EPA's own utility air
17 toxics study confirms that utilities are a major
18 source toxics, and therefore should be subject to
19 national standards like any other major source of
20 toxics, especially air toxics.

21 An agency control strategy must look
22 simultaneously at reducing acid gases, which the
23 industry emits in very large quantities, along with

24 other pollutants of concern, such as mercury, and

1 criteria pollutants.

2 Scrubber technology can capture acid gases
3 such as hydrochloric, hydrofluoric acid, but only
4 20 percent of all coal-fired boilers have scrubbers
5 installed. An even smaller proportion of Illinois
6 facilities use such modern controls. There is
7 evidence that mercury specific control technologies,
8 such as carbon injection, may also hold promise to
9 reduce acid gas emissions.

10 In closing, we feel the Agency should look
11 at all options and formulate a technology forcing
12 standard that examines the whole array of toxic
13 pollutants emitted by power plants, both Criteria and
14 HAPs.

15 Thank you for allowing me to make a
16 statement.

17 MR. WAYLAND: Michael Fiorentino of the
18 Clean Air Council.

19 MR. FIORENTINO: Good afternoon. My name is
20 Michael Fiorentino. I am Staff Attorney for Clean
21 Air Council. We were founded in 1967. We are a
22 Pennsylvania-based, membership, nonprofit
23 organization. We work through a combination of

1 of government enforcement of the environmental laws
2 to ensure that all can live in a healthy environment.

3 We have offices in Philadelphia, Harrisburg,
4 Pennsylvania and Bloomington, Delaware.

5 Because the EPA has held only one hearing in
6 the entire nation, public hearing on power plants air
7 toxics issue, I had to come a great distance to
8 provide views from the Council today, but we feel
9 that the resource expenditure is justified because
10 air toxics are so abundant in Pennsylvania. In fact,
11 Pennsylvania ranks number one in the nation for
12 mercury emissions from power plants and ranks third
13 for all toxic air emissions from electric utilities,
14 with over 58 million pounds in 1998.

15 Now, as you probably heard today, fully
16 one-third of the mercury air emissions in the U.S.
17 result from the burning of coal in electric utility
18 steam generating units. In the Commonwealth of PA,
19 that is higher than 36 percent. A gap has existed in
20 EPA's strategy for reducing the threats from mercury
21 emissions in the environment, and that is the lack of
22 regulation of mercury air emissions from power plants
23 in particular.

1 EPA, of course, for a number of other industries
2 under the NESHAPs. But EPA is under court order to
3 fully comply with Section 112(n)(1)(A) of the Clean
4 Air Act and make a determination by December.
5 Section 112 requires EPA to regulate mercury and
6 other air toxics from power plants if such would be
7 "appropriate and necessary" considering the threats
8 posed to human health. We are waiting for the
9 results of your commission study.

10 As you've heard today as well, mercury is a
11 potent neurotoxin. It does greatest damage to the
12 most vulnerable among us, children, infants, and
13 developing fetuses. There is little doubt that air
14 emissions of mercury are bringing this toxin into the
15 food chain. The pathways from mercury deposition to
16 bioaccumulation in fish are well known.

17 In addition to holding the distinction of
18 being the number one state for mercury emissions from
19 power plants, PA also has the misfortune of being
20 downwind from other high emitters of mercury air
21 pollution. Ohio is number three for mercury.
22 Illinois, Indiana, and West Virginia are 4th, 6th,
23 and 7th respectively. All these states are within

24 range to deposit significant mercury on Pennsylvania.

1 Deposition modeling indicates that one half of
2 mercury emissions deposit within 600 miles and
3 15 percent within the first 30 miles from the source.
4 Power plant sources from within and without
5 Pennsylvania, therefore, are contributing to mercury
6 degradation in our waterways.

7 Fish advisories for high mercury content are
8 prevalent in many states and may also exist in
9 Pennsylvania. Some states have issued advisories on
10 all waters within the state, and many of these
11 advisories warn of the associated risks of eating a
12 small amount of fish perhaps in a week, perhaps in a
13 month, perhaps not at all. Clearly, that is not
14 acceptable.

15 Clean Air Council is not alone among
16 Pennsylvania organizations in urging the EPA to act
17 in this matter. There are numerous organizations
18 that agree that mercury from power plants must be
19 regulated, and at least four groups that actually
20 signed on to a national statement that is being
21 submitted to the Administrator.

22 The Council believes that EPA can come to no
23 other conclusion, but that it is entirely

1 emissions from power plants. It is unacceptable for
2 this \$400-billion-a-year industry to remain exempt
3 from controls that many other industries have already
4 contended with.

5 The technological and economic feasibility
6 of significant reductions in mercury emissions that
7 are necessary is no obstacle to a regulation
8 governing power plants. Scrubbers, electrostatic
9 precipitators, absorption techniques, fuel-switching,
10 as well as other options are available to achieve
11 these significance reductions.

12 Indeed, Congress intended that the Clean Air
13 Act of 1990 would force technological advances in
14 pollution control. Furthermore, it is clear that the
15 electric power industry is well-equipped financially
16 to make the necessary investments to these fossil
17 steam plant. Time after time, industry has
18 overstated the projected costs to add the necessary
19 pollution controls in other areas of air pollution,
20 and EPA has not been and should not be deterred by
21 these arguments. Even if there is a modest price
22 increase that would result from the application of
23 these technologies to reduce mercury, it should be

24 done. The public has consistently stated a

1 willingness to pay more for environmental benefits.

2 There must be swift action to reduce mercury
3 and other air toxics. The clean Air Council agrees
4 with other environmentalists and health advocates who
5 have gathered here today that mercury must be reduced
6 by 90 percent from electric utility steam generating
7 units. The 90 percent, we believe at the Council,
8 may be achieved as a company-wide average or agree to
9 not favor the use of trading, mercury trading. In no
10 event should a single unit be permitted to emit
11 mercury at more than 40 percent of their baseline
12 levels. Clean Air Council urges that EPA make the
13 promulgation of this regulation accomplishing mercury
14 reductions of this nature an Agency priority.

15 I want to thank you for the opportunity to
16 comment on this critical public health matter. Thank
17 you.

18 MR. WAYLAND: Karen Hadden from the SEED
19 Coalition.

20 MS. HADDEN: Hi. My name is Karen Hadden,
21 and I am here on behalf of this SEED Coalition,
22 Sustainable Energy and Economic Development. We're
23 an environmental organization in Texas statewide with

24 4,000 members, and we work closely with many other

1 citizen and environmental organizations.

2 And I'd like to urge the EPA to adopt strong
3 air toxics regulations for electric utilities,
4 especially for mercury emissions.

5 In Texas, there are numerous coal-burning
6 power plants located along the lignite seam in the
7 Eastern part of the state. The older coal-burning
8 plants are much more polluting, sometimes up to ten
9 times more than newer, more modern plants.

10 Michael Fiorentino pointed out that
11 Pennsylvania is number one nationally for mercury
12 emissions from power plants. It's not something we
13 are proud of, Texas is number two. So we do not have
14 a good record on this.

15 As discussed earlier today, mercury
16 contamination is a serious environmental and health
17 problem. Together with Clear the Air and other
18 environmental and citizen organizations, SEED
19 coalition recently held a series of press conferences
20 throughout the state in five major Texas cities. And
21 as we traveled, reporters and citizens everywhere we
22 went expressed a great deal of concern when they
23 learned about the high levels of mercury

1 It takes only a fraction of a teaspoon, just
2 one gram, of mercury to contaminate a 25-acre lake to
3 the point that fish are unsafe to eat. And, yet, in
4 Texas, we have many times this amount being emitted
5 routinely by power plants, and as a result, thousands
6 of our children are at risk. Here are some examples:
7 In San Antonio, the J.T. Deely plant is located very
8 close to neighborhoods. It emits 381 pounds of
9 mercury each year.

10 W.A. Parish near Houston releases 1,326
11 pounds of mercury every year.

12 In the Dallas/Fort Worth area, Martin Lake
13 releases 1,200 pounds of mercury annually, and there
14 are over a quarter of a million children within 50
15 miles of that plant. There are similar numbers for a
16 different plant in that region, the Monticello plant.

17 In Austin, which is my home, 321,000
18 children live within 50 miles of a coal-burning plant
19 that does emit mercury.

20 Mercury ends up in our lakes, rivers,
21 estuaries, and the Gulf of Mexico. Health risks
22 result from methylmercury in fish that is consumed.
23 As noted earlier today, health effects can range from

24 subtle to severe, and there is a high level of risk

1 for developing fetuses and children. Even when
2 debilitation is not automatically noticeable, mercury
3 can cause delayed mental development, learning
4 disabilities, and difficulty with language, motor
5 development, attention, and memory. So the health
6 concerns absolutely need to be taken seriously, and
7 the mercury issue needs to be addressed.

8 Fishing is a huge industry in Texas. In
9 fact, it's the number one recreational sport in the
10 state. The state plays host to numerous bass fishing
11 tournaments that receive national publicity and
12 participation, special guides, lead fishing trips,
13 and provide vacation packages. Overall, freshwater
14 sport fishing contributes over \$4 million to our
15 Texas economy. This does not include recreational
16 Gulf fishing and commercial operations which would
17 increase that figure.

18 Mercury contamination, therefore, represents
19 a threat to the fishing industry. There are fish
20 consumption advisories for 10,000 lake acres at
21 Steinhagen Reservoir, and this is for largemouth,
22 striped, and white bass and freshwater drum. And
23 these are some of the fish that people really like to

24 eat. Bass and drum advisories exist for other lakes,

1 reservoirs, and rivers. It is unsafe to eat
2 shellfish, fish, and crabs from upper Lavaca Bay, and
3 there is a statewide advisory not to eat king
4 mackerel from the Gulf of Mexico due to mercury
5 contamination.

6 Earlier, one of the speakers addressed the
7 concern of jobs for mine workers, but there are
8 people in the fishing industry in Texas who are also
9 concerned about their jobs if the mercury
10 contamination is not remediated.

11 A recreational angler who spends a week
12 fishing and ate fish every day could have elevated
13 mercury levels in his or her body for several weeks
14 or months because the body excretes mercury very
15 slowly. Many people in Texas are subsistence
16 fishers, relying on fish as their primary food
17 source. These individuals may be continuously
18 exposed to methylmercury. Advisories are not always
19 well-publicized, and the serious nature of mercury
20 contamination is not always well understood. Texas
21 does no routine monitoring for mercury, and there
22 would probably be many more mercury advisories for
23 fish if routine testing was in place. It's likely

24 that we are looking at the tip of the iceberg in

1 terms of mercury contamination in Texas.

2 Now, earlier we talked about the \$1.5
3 billion cleanup tag, which may, in fact, be an
4 overestimate, and I want to note that this is a
5 figure that applies to the whole country. I'd like
6 to take a moment and get some financial perspective
7 on the issue. If in one state alone, the cleanup of
8 the mercury is essential to protecting a \$4 billion
9 fishing industry, then the nationwide investment
10 seems like a sound economic move because there are
11 industries throughout the nation and many other
12 states that need to be protected as well.

13 So I'd like to conclude by urging you to
14 take the steps necessary for the protection of the
15 environment, our economy, and our health. Please
16 make a positive determination regarding regulation of
17 mercury emissions from utilities, and then strive
18 toward a 90-percent mercury reduction within ten
19 years, hopefully sooner. And as other speakers have
20 mentioned, mercury trading is something that our
21 organization would consider unacceptable.

22 Thank you.

23 MR. WAYLAND: Peter Morman, Environmental

1 MR. MORMAN: Thank you for the opportunity
2 to testify today on this important issue. My name is
3 Peter Morman, Environmental Law & Policy Center.
4 We're a nonprofit, public interest organization
5 advocating for sound energy, transportation, and
6 environmental protection policies that improve the
7 quality of life and encourage sustainable economic
8 development in our communities.

9 We applaud the U.S. EPA's recent progress in
10 characterizing the problem of electric utility toxic
11 air emissions by adding these emissions to the Toxic
12 Release Inventory and by promulgating the Electric
13 Utility Mercury Emissions Information Collection
14 Request. These efforts, confirming that the utility
15 sector is the number one emitter of toxic air
16 emissions generally and mercury specifically, clearly
17 shows that there should be no further delay in
18 dramatically reducing toxic air pollution from
19 electric utilities, especially mercury.

20 ELPC is concerned about the increasing
21 threat to human health, wildlife, and fishing-related
22 businesses caused by mercury pollution in Midwestern
23 lakes and streams. Thousands of Midwestern water

24 bodies are subject to advisories warning people to

1 reduce or avoid eating several types of fish due to
2 mercury contamination, and the number of advisories
3 is growing.

4 The EPA's 1998 report on electric utility
5 hazardous air pollutants confirms that utilities are
6 a major source of mercury emissions and that there is
7 a "plausible link between man-made mercury emissions
8 and mercury found in freshwater fish." Even with
9 potential further reductions in mercury releases from
10 non-utility sources, the concentration of coal-fired
11 power plants in the Midwest, our abundance of fresh
12 water, and persistent and bioaccumulative qualities
13 of mercury, assure that mercury will remain a serious
14 health and environmental threat until and,
15 unfortunately, even after electric utilities
16 significantly reduce their mercury emissions. It is
17 simply unfair to continue to allow utilities to
18 externalize mercury-related risks to the public, the
19 environment, other businesses, and future generations
20 through their decisions to burn coal.

21 Continued delay flies in the face of the
22 goal of the Great Lakes Quality Agreement to
23 virtually eliminate persistent and bioaccumulative

1 I call on the EPA today to take the
2 necessary steps to require each coal-fired power
3 plant to reduce mercury air emissions by at least
4 90 percent within the next decade. The goal of
5 virtual elimination of mercury has long been accepted
6 public policy. The only question is, how do we get
7 there and when?

8 The air toxics provisions of the Clean Air
9 Act provide the tools to meet the 90-percent
10 reduction of utility mercury emissions. It's time to
11 utilize those tools and treat the electric utilities
12 in the same manner as all other major sources of
13 mercury pollution. To do less would be unfair and
14 unwise and would seriously call into question the
15 United States' commitment to meet its obligations
16 under the Great Lakes Water Quality Agreement to
17 "restore and maintain the chemical, physical, and
18 biological integrity of the waters of the Great Lakes
19 Basin Ecosystem."

20 Much progress has been made in reducing
21 mercury releases into the environment, but the job is
22 far from finished. The U.S. EPA must act now on all
23 of the data it has accumulated over the last ten

24 years demonstrating the threat of mercury pollution

1 to public health and the environment.

2 I respectfully urge the Agency to make a
3 determination this year to institute stringent
4 national controls to significantly reduce mercury air
5 emissions from electric utility power plants.

6 Thank you.

7 MR. WAYLAND: Marcia Willhite, STAPPA and
8 AIAPCO.

9 MR. WILLHITE: Good afternoon. I'm Marcia
10 Willhite, Assistant Chief of the Environmental Health
11 Division within the Lincoln-Lancaster County Health
12 Department in Lincoln, Nebraska. I'm participating
13 in this public meeting on behalf of the State and
14 Territorial Air Pollution Program Administrators, or
15 STAPPA, and the Association of the Local Air
16 Pollution Control Officials, ALAPCO. That's like the
17 worst civilian acronym in the world, right. I
18 currently serve as the President of ALAPCO and Chair
19 of the ALAPCO pollution prevention and sustainability
20 committee.

21 Thank you for this opportunity to provide
22 you with STAPPA and ALAPCO's recommendations related
23 to the regulatory determination the U.S. EPA must

24 make by December 15th, on whether it's "appropriate

1 and necessary" to regulate emissions of hazardous air
2 pollutants, or HAPs, from electric utility steam
3 generating units.

4 Yesterday, the association sent a letter to
5 the EPA Administrator, Carol Browner, indicating that
6 STAPPA and ALAPCO believe a regulation is warranted
7 and strongly recommending that EPA establish
8 standards to control emissions of HAPs from electric
9 utilities, including, but not limited to, mercury.

10 Other pollutants the Agency may wish to consider
11 addressing include dioxin, arsenic, nickel, and acid
12 gases.

13 According to EPA's own studies, emissions of
14 HAPs, and particularly mercury, from electric
15 utilities are a significant problem. Of the
16 hazardous air pollutants associated with coal-fired
17 electricity production, mercury was singled out by
18 EPA as the pollutant of "greatest potential concern."
19 Electric utility steam generating units are one of
20 the largest sources of mercury emissions in this
21 country, responsible for more than one-third of the
22 anthropogenic mercury emissions.

23 While other types of sources, namely

24 municipal and medical waste incinerators, also emit

1 mercury, they are already subject to stringent
2 federal and state regulations designed to limit their
3 emissions of mercury, among other pollutants. Thus,
4 the large coal-fired boilers, the only major
5 uncontrolled category of mercury emissions, will be
6 an even larger fraction of the overall future
7 emission inventory.

8 STAPPA and ALAPCO believe that EPA should
9 control HAP emissions from electric utilities for
10 several reasons. First, and perhaps most
11 importantly, these HAPs pose significant health
12 threats. Both EPA's Electric Utility Study and EPA's
13 Mercury Study indicate that there is a link between
14 anthropogenic mercury emissions and the mercury found
15 in freshwater fish. When one considers that
16 approximately 34 states have established advisories
17 that warn their citizens about the hazards of eating
18 mercury-contaminated fish found in those states, it
19 seems imperative that some national action be taken
20 to further reduce mercury emissions to the
21 atmosphere.

22 Controlling mercury emissions from electric
23 utilities could also have the side benefit of

24 reducing other toxic emissions. EPA's electric

1 utility study identified some additional risks from
2 emissions of toxic air pollutants. For example, two
3 coal-fired and up to eleven oil-fired utilities were
4 found that posed a local increased cancer risk of
5 more than one in a million. When multi-pathway
6 exposures were considered, additional high risks were
7 identified resulting from exposure to arsenic,
8 dioxin, and radionuclides. These additional risks
9 add to the weight of evidence that convinces us that
10 HAP emissions from electric utilities should be
11 addressed.

12 A second reason we believe regulations on
13 electric utilities are essential has to do with
14 equity. The technology-based Maximum Achievable
15 Control Technology program under the Clean Air Act is
16 designed to ensure that all significant sources of
17 HAPs implement controls to reduce emissions to the
18 maximum extent feasible. Electric utilities
19 represent a large portion of the toxics emission
20 inventory. The 1998 TRI data indicate that electric
21 utilities are responsible for 38 percent of the toxic
22 releases to air reported nationwide from facilities
23 covered by the TRI program.

1 stringent limits on mercury from medical and
2 municipal waste incinerators, while not requiring a
3 minimum level of control from electric utilities, a
4 much larger polluting industry. Furthermore, it also
5 seems inequitable that the MACT program would not
6 call for adequate HAP controls from electric
7 utilities, many of them large sources, while
8 requiring small sources, including dry cleaners and
9 other small businesses, to limit their emissions.
10 Such a regulatory policy, which exempts utilities
11 from HAP controls, could seriously undermine our
12 nation's efforts to develop equitable and responsible
13 HAP control programs.

14 Finally, EPA's initiative to reduce
15 Persistent, Bioaccumulative, and Toxic, or PBT,
16 substances represents a third reason for EPA to
17 regulate emissions from utilities. In the action
18 plans for addressing PBTs, including mercury, EPA
19 committed to using every tool available to reduce or
20 eliminate releases of these substances to the
21 environment. Regulating toxic emissions from
22 utilities presents a perfect opportunities to fulfill
23 this commitment.

1 most sense to regulate HAPs in the context of an
2 integrated multi-pollutant strategy for the utility
3 sector. Thank you for your consideration of our
4 recommendations on this issue.

5 MR. WAYLAND: Michael Rossler, Edison
6 Electric Institute.

7 MR. ROSSLER: Good afternoon. My name is
8 Michael Rossler, and I'm a Manager of the
9 Environmental Programs for the Edison Electric
10 Institute. EEI is the association of
11 shareholder-owned electric utilities, international
12 affiliates worldwide, whose domestic members provide
13 electricity to about three-quarters of the nation.

14 The Edison Electric Institute welcomes the
15 opportunity to comment on the Environmental
16 Protection Agency's determination on whether
17 hazardous air pollutants from electric utility steam
18 generating units should be regulated under
19 Section 112 of the Clean Air Act.

20 The electric utility industry is committed
21 to environmental protection, and this commitment goes
22 beyond mere regulatory compliance. In recent years,
23 EEI and its members have implemented flexible,

1 Climate Challenge program, resulting in the removal
2 of over 170 million metric tons of carbon dioxide
3 equivalent. We have worked with federal and state
4 agencies on improving land management practices,
5 including the preservation of habitat conservation
6 areas. We have initiated facility-specific pollution
7 prevention programs resulting in substantial
8 reductions in the usage of TRI-listed chemicals. And
9 we have undertaken comprehensive research and
10 development programs in connection with many of
11 today's most pressing environmental issues. EEI
12 hopes to bring this same approach to the mercury
13 issue.

14 In making its decision on whether to
15 regulation mercury emissions from coal-based power
16 plants, it is essential that EPA give consideration
17 to a number of technical issues in order to make an
18 informed regulatory determination and, even more
19 important, if the Agency proceeds subsequently with a
20 rulemaking. In its 1998 Report to Congress, EPA
21 stated that a number of questions needed to be
22 answered before decision-making could be undertaken,
23 including the level of human exposures in the United

1 human health effects from mercury exposure, including
2 pharmacokinetics and health endpoints; the
3 contribution of natural and anthropogenic sources of
4 mercury emissions to the global pool of mercury; and
5 also, the fate and transport of mercury in the
6 atmosphere and water bodies, including
7 bioaccumulation in aquatic biota.

8 EEI does recognize that the scientific data
9 underlying the mercury debate continues to evolve and
10 mature. Accordingly, EEI is committed to working
11 with EPA to address existing uncertainties and urges
12 resolution of these issues if EPA intends to move
13 forward with a mercury rulemaking.

14 Another critical issue is mercury controls.
15 Significant uncertainties exists about the
16 limitations of both existing utility mercury emission
17 controls that also reduce mercury, and emerging,
18 mercury-specific control technologies. The results
19 of stack sampling performed under EPA's mercury
20 Information Collection Request have shown a wide
21 range of mercury removal efficiencies across a
22 variety of control devices. As such, it would be
23 difficult for EPA to make regulatory decisions until

24 all the ICR data are available and ongoing control

1 technology development projects have been completed.

2 EEI urges EPA to complete its assessment of
3 the ICR and comparable data before moving forward
4 with any mercury rulemaking.

5 In addition to the ICR database, other new
6 information relevant to the mercury debate will
7 likely be available over the next six months. The
8 National Academy of Sciences' pending review of EPA's
9 Reference Dose for mercury exposure, currently
10 expected at the end of this month, is but one of many
11 important studies that could affect EPA's decisions.
12 The Food and Drug Administration and other federal
13 agencies currently are working on a massive,
14 nationwide examination of the dietary habits of the
15 American public. Some results of this fourth
16 installment of the National Health and Nutritional
17 Examination Survey are expected late this summer, and
18 it is widely anticipated that new information on
19 consumption patterns will provide a piece of the
20 health effects puzzle identified by EPA as a critical
21 need for more accurate risk assessments. Additional
22 results are also expected this fall from the
23 Seychelles Islands study, which includes newer human

1 EPA. Each of these important studies will help to
2 address existing scientific uncertainties and to
3 assist EPA in making the findings required by the
4 Utility Study, as well as to better inform the
5 Agency's pending regulatory determination.

6 As EPA prepares its regulatory determination
7 for mercury, EEI cautions the Agency to avoid making
8 a premature decision. Caution is warranted given
9 both the uncertainties referenced earlier and the
10 critical data emerging over the next six months.

11 Regardless of when EPA proceeds with its
12 determination, if the Agency decides to develop a
13 utility mercury emissions reduction proposal, the
14 determination should be written broadly and in a
15 non-prescriptive manner that does not foreclose any
16 potential regulatory options. This is critical
17 because EPA has a high degree of discretion under the
18 Clean Air Act, Section 112(n)(1)(A). There is
19 nothing to prevent EPA from crafting a rulemaking
20 that ensures scientifically-justified and verifiable
21 mercury reductions, while at the same time providing
22 the electric utility industry maximum flexibility to
23 achieve those reductions in a non-prescriptive and

1 Finally, EEI believes it would be mutually
2 beneficial to work with EPA as the agency determines
3 to what extent mercury reductions may be needed from
4 power plants. The utility industry recently
5 submitted data on the level of mercury in the stack
6 emissions and coal it burns to produce electricity,
7 and it would be interested in discussing with EPA the
8 implications of this data. The utility industry also
9 continues to collect data on the effectiveness of
10 various pollution control systems in reducing mercury
11 emissions and is funding additional health effects,
12 fate-and-transport, and other related research.
13 Again, the industry would be interested in discussing
14 these projects with EPA.

15 In conclusion, EEI supports environmental
16 programs and policies that are protective of public
17 health, that are scientifically sound, and that are
18 flexible and cost-effective. EEI is committed to
19 working with EPA and the states to address key issues
20 necessary for an informed regulatory determination.

21 Thank you.

22 MR. WAYLAND: Diane Brown, Illinois PIRG.

23 MS. BROWN: Thank you for the opportunity to

24 testify today. My name is Diane Brown, and I'm the

1 Executive Director of the Illinois Public Interest
2 Research Group, Illinois PIRG. Illinois PIRG is an
3 environmental and consumer advocacy organization with
4 20,000 members across Illinois.

5 I am here today on behalf of the Illinois
6 PIRG and also the Public Interest Research Groups who
7 have a presence in 40 states across the country and
8 an office in Washington, D.C. We've been working on
9 clean air protections for 30 years, and we're here
10 today to urge you to take immediate steps to require
11 at least a 90-percent reduction of mercury pollution
12 from coal-fired power plants.

13 I also have with me today approximately 40
14 letters that were written by citizens in the
15 Chicagoland area that are also concerned about this
16 issue. They weren't able to be here today, but they
17 wanted to make sure that their concerns about mercury
18 pollution from coal-fired power plants were also
19 submitted into the record.

20 Illinois PIRG is greatly concerned about
21 mercury pollution in Illinois and across the nation.
22 I think you've heard today and you probably will
23 continue to hear a number of your own reports, the

1 about this issue.

2 I wanted to just kind of read back to
3 statements from the Mercury Study report to Congress
4 in 1997 that, I think, really exemplify some of our
5 concerns on this issue. The first is that the
6 neurotoxic effects of low-level exposure to
7 methylmercury are similar to the effects of lead
8 toxicity in children and include delayed developments
9 and deficits in cognition, language, motor function,
10 attention, and memory.

11 The second is that people who frequently and
12 routinely consume fish, those who eat fish over a
13 short period of time, are more likely to be exposed
14 to higher levels of mercury. Clearly, you are
15 already familiar with the problem and you know that
16 there are a lot of public health and environmental
17 impacts regarding mercury, and we're here today to
18 say basically there's a need to do something about
19 it.

20 We feel that limiting mercury pollution from
21 coal-fired power plants will significantly reduce the
22 detrimental public health and environmental threats.
23 Again, I think most people are familiar that electric

24 utilities are the largest known source of mercury

1 releases to the air, and also, according to the most
2 recent Toxics Release Inventory, electric utilities
3 are also the largest single source of toxic air
4 releases nationwide.

5 The Illinois Public Interest Research Group
6 education fund and the Clear the Air campaign
7 recently released a report. In that report, we found
8 that there was a high correlation between the highest
9 emitting plants for mercury and those that are
10 primarily fueled by coal. 95 percent of emissions
11 were from plants primarily fueled by coal. We also
12 found that there was a high correlation between the
13 most polluting plants and those that had at least one
14 unit operating before 1977. 77 percent of the
15 mercury coming from those plants began operating on
16 or before 1977.

17 We're here today to join with a lot of the
18 other -- statements have been made from people in the
19 public interest, environmental public health
20 community, and say that we believe that electric
21 utilities must be treated like any other source
22 facing regulations under the air toxics provisions of
23 the Clean Air Act. Controlling mercury emissions

24 from coal-fired power plants must be an agency

1 priority. We need national mercury emissions
2 standards for electric utilities that will require at
3 least a 90-percent reduction from coal-fired power
4 plants. We urge you to adopt and to implement these
5 policies to help protect public health and to protect
6 the environment.

7 Thank you.

8 MR. WAYLAND: Emily Green, Sierra Club Great
9 Lakes?

10 Sherilyn Young, Clean Water Action Alliance.

11 MS. YOUNG: Hi. My name is Sherilyn Young.
12 I live in St. Paul, Minnesota. When I look down my
13 street, I can see a stack of a power plant just about
14 a half of mile away. And, by the way, I'm not
15 representing the organization Clean Water Action
16 Alliance. They're just sending me out because I'm an
17 interested citizen.

18 My neighborhood is called the West Side, and
19 the power plant that I'm talking about is Northern
20 States Power's High Bridge plant. The West Side is
21 an average working class neighborhood of about 15,000
22 people where a family with kids can afford decent
23 housing. It's a neighborhood of old-timers whose

24 families have been there since the last century, and

1 it's a neighborhood that attracts new immigrants.
2 The West Side has people like me who are single and
3 want to live in a safe, affordable neighborhood with
4 a strong sense of community. It's a neighborhood
5 with people like my friend Cliff, an 80-year-old
6 lifelong fisherman and lake advocate, who believes
7 people in the city should be able to walk down to the
8 river or to the lake and catch a meal. It's made of
9 parents raising their families who are very concerned
10 about what problems pollution from the power plant
11 may cause for their children. In fact, almost
12 one-third of my neighbors are kids under 18, and 14
13 percent, like Cliff, are over 64 years old. That
14 makes almost half of us who are very vulnerable to
15 what comes out of the stacks at the High Bridge Power
16 plant.

17 The West Side has a lot of assets. We're a
18 city neighborhood. You could walk downtown to work.
19 You could walk to the State Capital, if you work
20 there. We host the largest Cinco de Mayo celebration
21 in the state. We're at the core of a metropolitan
22 area of over a million people, but we enjoy the
23 Mississippi River corridor, two regional parks, the

24 largest heron rookery in the state is nearby, and the

1 Minnesota Valley National Wildlife Refuge is nearby.

2 Obviously, it's a great place to live.

3 But we're also entirely within one mile from

4 a coal-fired power plant which emits 88 pounds of

5 mercury, 3,768 tons of sulfur dioxide, and 5,128 tons

6 of nitrous oxide per year and more. I didn't list

7 everything. I only got five minutes. Just a half

8 mile downstream is Metro Waste treatment facility,

9 which incinerates 80 percent of the sewage in

10 Twin Cities, and emits 240 pounds of mercury per

11 year. Just a mile downstream from that is North Star

12 Steel, the third highest polluter in our state. From

13 these examples, you can see that people in my

14 neighborhood, just one of the neighborhoods that are

15 nearby, are exposed to a lot of serious, harmful

16 pollutants.

17 We don't take this lightly. We have a

18 neighborhood environment committee, which I'm a

19 member. We educate ourselves and the wider community

20 about environmental issues and advocate further

21 solutions. In the last five years, we've

22 accomplished a lot to reduce the amount of pollution

23 in our neighborhood. We promote recycling and reuse

24 through our annual neighborhood cleanups. One of our

1 members installed solar panels just two years ago and
2 now sells solar energy to Northern States Power. We
3 prevented an automobile shredder from being sited in
4 our neighborhood, which would have emitted high
5 amounts of heavy metal, including mercury, into our
6 air.

7 Our ten-year community plan lists "becoming
8 energy independent" and "improving river quality
9 enough to allow safe eating of fish" as two of its
10 action items. We recognize the importance of
11 quality, and we're willing to do the work to put our
12 money where our mouth is.

13 Last fall, the Minnesota Pollution Control
14 Agency completed a survey of 2500 Minnesota
15 households, which concluded that the average
16 Minnesotan will pay \$118.91 extra in goods and
17 services per year for a 50-percent reduction in
18 regional Midwest emissions. This was with the
19 understanding that Minnesota's rate of mercury
20 deposition would only achieve a 12-percent reduction.

21 This study, which I'll leave for you, and
22 the example of my neighborhood, shows that
23 Minnesotans are ready to do what we can. But we need

24 your help. Individual willingness to pay,

1 conservation at the household level, and neighborhood
2 planning alone can't protect or improve the health of
3 me and others in my neighborhood. Our neighborhood
4 environment committee can't cut asthma rates for the
5 5,000 children in the neighborhood, stop the
6 manufacture of products with mercury, order power
7 companies to install pollution reduction equipment,
8 or switch to renewable energy. We can only urge you
9 to do this. So that's why I'm here.

10 I ask that you make the decision to regulate
11 hazardous air pollutants from electric utility steam
12 generating units. Please look at the cumulative
13 impacts on our health from these pollutants. I'll
14 leave with you a recent copy of the Minnesota
15 Pollution Control Agency's study on the cumulative
16 impact of pollutants which might help you along on
17 that. I'll skip what else I wanted to do because
18 it's all written down.

19 I'll just go to the end and say, the main
20 thing is, this decision is not about weighing costs.
21 It's really important. Okay, take a deep breath.
22 It's not about what technology is out there, what
23 studies are out there. It's not about weighing costs

24 and who benefits from what. We're all going to

1 benefit from mercury reduction, from hazardous air
2 pollutant reductions. This decision is about doing
3 what we can, like our neighborhood is, to improve the
4 health and when we can. It's about preserving
5 ecosystems which sustain us, and it's a decision
6 about our future. Sorry about that. Thank you.

7 MR. WAYLAND: We have Bruce Lourie from
8 Pollution Probe.

9 MR. LOURIE: Good afternoon. Thanks very
10 much. My name is Bruce Lourie, and I'm with an
11 organization called Pollution Probe. It's based in
12 Toronto, Ontario on the other side of the border.
13 And Pollution Probe is a membership-based
14 environmental policy and advocacy organization that
15 was founded in Toronto in 1969. And I'm here today,
16 I have an undergraduate degree in earth sciences and
17 a master's degree in environmental policy, and we
18 work with the approach of developing intelligent,
19 scientifically-sound approaches to environmental
20 policy-making. I personally work extensively in the
21 fields of energy policy, electricity competition, and
22 mercury pollution programs and policies. And I'll
23 forward to you a fairly extensive literature review

24 that we've completed looking at the science of

1 mercury, particularly looking at the uncertainties
2 related to mercury in the environment.

3 I'm here today to urge the Environmental
4 Protection Agency to adopt regulations that limit the
5 emissions of mercury from coal-fired boilers and
6 urging you to set specific targets and timelines
7 leading to the virtual elimination of mercury
8 emissions from the electricity sector. We support
9 setting a goal of a 50-percent reduction by 2005 and
10 a 90-percent reduction by 2010.

11 I'm here speaking from a Canadian
12 perspective, and I thought it would useful to provide
13 you with some rationale for that. First of all, I'm
14 disappointed to have to report that my governments in
15 Canada, both federal and provincial, are leaderless
16 and, I hate to say, really spineless on the issue of
17 mercury pollution specifically and environmental
18 regulation in general. We too emit large quantities
19 of mercury, and some emissions find their way to the
20 northeastern United States. You may not be aware,
21 but North America's largest coal-fired generating
22 station sits on the north shore of Lake Erie, about
23 60 miles halfway to Buffalo. And right now, we have

24 no mechanisms in place that restrict our emissions.

1 Although I have to report, I just heard
2 yesterday that through the Canada-wide Standards
3 Process, the governments will be setting a standard
4 January 1, 2002 on the electric power sector, but I
5 can assure you that the decisions made by you in this
6 process will have a very significant effect on what
7 that standard will look like.

8 I'm also here to present to you rationale
9 from a public health and environment perspective.
10 And I don't really think I'm here to provide a whole
11 bunch of data. I think the work EPA has done has
12 been tremendous in doing that. I'm really here to
13 appeal to you as decision-makers, whose job it is to
14 protect the public health and protect the
15 environment. We all make decisions every day. This
16 is not so much about, in my view, the language of a
17 positive regulatory determination. It's about making
18 a wise decision to protect public health and the
19 environment.

20 Decisions must be made based on what we
21 know, with precaution in mind, and governments have a
22 long history of waiting too long to find "certainty"
23 at the insistence of industries who have a vested

1 From my reading of the literature, there
2 appears to be general agreement among scientists and
3 policy-makers regarding the following:

4 Mercury, we know, is emitted by coal plants,
5 and they're one of the largest sources of mercury
6 emissions in North America.

7 The Midwest and Ohio Valley has the largest
8 concentration of coal plants in North America.

9 Mercury, when emitted, can travel hundreds
10 or thousands of kilometers before being deposited.

11 Like other airborne pollutants, it is
12 transported with prevailing winds, and in this case,
13 travels north and northeast and is deposited in
14 Ontario, Quebec, the Maritime provinces, and
15 New England.

16 Mercury levels in these regions are higher
17 than in any other part of North America, particularly
18 in Canada's Maritime provinces.

19 We know mercury converts to the more toxic
20 and bioavailable methylmercury in water bodies and is
21 consumed by aquatic organisms.

22 We know it bioaccumulates and biomagnifies
23 at a greater rate than almost any other substance we

1 We can measure increasing dangerous levels
2 of mercury in fish and wildlife in the northeast. In
3 fact, in Canada we have results of the first
4 confirmed loon that has died from high levels of
5 mercury poisoning in Nova Scotia.

6 We have fish advisories for many of the
7 lakes in these regions and in the Midwest.

8 We know many people continue to consume the
9 fish and want to be able to fish without restrictions
10 placed on them by industrial practices.

11 We know that small amounts of mercury in the
12 organs of humans and other species can cause serious
13 neuro-behavioral disorders. In fact, there's
14 communities in Southern Canada where 60 percent of
15 the inuit are living at levels that are within the
16 World Health Organization increased risk zone.

17 So my question really is, what more do we
18 need to know before the EPA acts so that industrial
19 practices are curtailed, family, recreational, and
20 cultural practices of the people who want to enjoy
21 their environment or live off its bounty.

22 Thank you very much.

23 MR. WAYLAND: Darrel Harmon, Penobscot

1 MR. HARMON: My name is Darrel Harmon. I'm
2 the Air Quality Manager for the Penobscot Indian
3 Nation. The Penobscot Nation lands include the
4 reservation itself, which encompasses the Penobscot
5 River from Indian Island northward, and trust and fee
6 lands in the eastern part of the state, comprising a
7 total of 122,000 acres.

8 The Tribe's history is long and rich, and
9 they've occupied this land since time immemorial.
10 Historical treaties signed with Massachusetts and
11 Maine preserved tribal fishing and other rights, in
12 return for giving up substantial lands. Later,
13 federal recognition of the Tribe guaranteed the
14 federal trust responsibility, including the
15 obligation of all federal agencies to protect tribal
16 sovereignty, properties, natural and cultural
17 resources, and tribal cultural practices.

18 For thousands of years, Penobscot children
19 rode in canoes with their parents before they could
20 walk. They witnessed life on the river, which was
21 the central artery of the Penobscot Nation, from
22 before their earliest memories had begun to form.
23 The river was involved in all aspects of life, from

1 spiritual activities. They swam in the river,
2 bathed, drank, and took fish from the river.
3 Children learned to catch, clean, and preserve fish;
4 they learned the honor of providing for their family;
5 they learned to thank Mother Earth for her generous
6 bounty.

7 Today, children of the Penobscot Nation are
8 taught to fear the Penobscot River. Due to extreme
9 levels of contamination by mercury and dioxin,
10 children no longer play in the river. Tribal members
11 are no longer able to enjoy the sustenance fishing
12 rights guaranteed by treaties, and most understand
13 that the fish and waters of the Penobscot River are
14 no longer safe to eat or drink. Cultural practices
15 are in serious jeopardy, and parents can no longer
16 convey the culture of a riverine tribe to their
17 descendants. Fathers no longer take their children
18 fishing on the reservation, and mothers no longer
19 teach their children to preserve the day's catch.

20 The Bald Eagle is the central symbol in the
21 religion and culture of the Penobscot people.
22 Nswakan is the spiritual connection with the Creator,
23 the Great Spirit himself. Sacred feathers from this

24 bird are used for healing and prayers. The eagle, as

1 are its feathers, is the focus of numerous dances and
2 ceremonies. The role of the eagle in the spiritual
3 and cultural life of the Penobscots is central and
4 integral to the cohesion of cultural identity. The
5 only parallel available from western religion that
6 would convey the cultural importance of the Bald
7 Eagle would be the most sacred symbols, such as the
8 Cross and the Star of David.

9 Concentrations of mercury in the tissues of
10 wildlife species have been reported at levels
11 associated with adverse effects. Toxic effects on
12 piscivorous avian species, such as the bald eagle,
13 have been observed. Continued releases of mercury
14 into the environment are known to constitute a threat
15 to fish, to the Bald Eagle, and therefore, to tribal
16 culture.

17 It's well known that coal-fired steam
18 generating power plants account for one-third of all
19 the anthropogenic mercury emissions in the United
20 States. It is also well known that mercury cycles
21 through the environment, where it bioaccumulates,
22 harms fish, eagles, other animals, and people, and
23 can be released through methylation to travel through

24 the environment. What is not so well known is the

1 extent of this contamination. When I meet with
2 people from all over the country, they express the
3 common belief that Maine is a pristine and
4 underdeveloped state, an outdoor paradise. Most are
5 very surprised to hear that Maine has a statewide
6 advisory limiting consumption of all freshwater fish
7 due to the presence of mercury.

8 The Penobscot Nation has long struggled to
9 preserve the environment that, for thousands of
10 years, has supported the Tribe and its culture. In
11 recent years, local sources, such as incinerators and
12 a Holtra-Chem chlor-alkali plant, have released
13 mercury that led to sediment samples with the highest
14 mercury levels ever found within the United States.
15 Impoundments on the Penobscot River contribute to
16 methylation. Testing on the reservation and trust
17 lands has found mercury levels in fish tissue as high
18 as 2.4 parts per million.

19 ATSDR is currently investigating the health
20 risks to the Penobscot people from consuming
21 contaminated fish. Meanwhile, sources hundreds and
22 thousands of miles away continue to release
23 contaminants that travel to the Penobscot Nation.

24 The Penobscot Nation has had an active Department of

1 Natural Resources for more than 20 years. We have
2 proven that mercury deposition and bioaccumulation is
3 occurring on the reservation. We've worked at great
4 lengths to reduce local emissions of mercury and
5 dioxin, but regional and national sources continue to
6 have a significant impact.

7 Many people will argue that costs to control
8 mercury are too high. EPA must also consider the
9 true cost of failing to control emissions of mercury
10 from steam-fired utility generators. If EPA fails to
11 require controls to remove mercury, the Tribe,
12 instead of the source, will continue to pay in terms
13 of lost resources, culture, and health, and there is
14 more to the equation than the cost of controls. EPA
15 must also calculate the value of the loss of
16 resources and culture to Tribes, the cost of not
17 teaching their children to fish. EPA must include
18 the costs to children that suffer neurological damage
19 from eating fish because their parents didn't know
20 that the fish was contaminated by the mercury
21 released thousands of miles away. Finally, EPA must
22 consider the trust responsibility to Tribes: There
23 is no economic limitation to the obligation to

1 cultural resources, and tribal cultural practices.
2 EPA's obligation must be addressed when considering
3 the development of this MACT standard. How will you
4 evaluate the people of the Penobscot Nation and other
5 tribes, their culture, their resources, and their
6 health?

7 So today, we call upon EPA to fulfill its
8 trust responsibility to the Penobscot Nation and all
9 tribes, and to take action to end the contamination
10 of resources, to end the destruction of our culture.

11 Today we call upon EPA to bring the highest level of
12 control possible to emissions from coal-fired steam
13 generating utilities.

14 The Penobscot Nation is a riverine tribe
15 with extensive traditional fisheries which are now
16 unusable. EPA has an obligation to protect tribes
17 and restore access to traditional fisheries, which is
18 a critical priority both for our health and our
19 cultural preservation.

20 On behalf of the Penobscot Nation, thank you
21 for the opportunity to speak here today. We welcome
22 any and all opportunities to work towards the
23 preservation of the environment and our culture.

1 MR. WAYLAND: N. Dharmarajan, Central and
2 South west Services.

3 MR. DHARMARAJAN: Good afternoon. My name
4 is Dharmarajan, and I represent the Central and
5 South West Corporation, a Dallas-based electric
6 utility holding company. My company provides
7 electric service to an estimated population of 4.2
8 million people, over approximately 152,000 square
9 miles in the southwest U.S.

10 I would like to take this opportunity to
11 embellish the sentiments expressed by my peers here
12 today and focus my comments on some policy issues.

13 The EPA is obligated to fully resolve the issues
14 articulated in its Utility Study Report to Congress
15 in 1998 and follow the needed steps to gestation
16 before making the determination to regulate utility
17 emissions of mercury. My intent today is to:

18 One, recap some of the key work efforts in
19 place to fulfill the data gaps and assessment needs
20 cited in the EPA Report to Congress, i.e., the areas
21 of scientific uncertainty needing to be addressed;
22 and two, put in context the relevance and importance
23 of a holistic approach to the results synthesis and

24 use from such efforts by the EPA.

1 The suite of uncertainties as reported in
2 the 1998 Report to Congress can be characterized as:

3 One, the sources of mercury; two, the
4 utility emissions of mercury; three, mercury fate and
5 transport; four, cycling of mercury in water column;
6 five, consumption rates for fish; six, health effects
7 attributed with methylmercury in the fish consumed;
8 and seven, relationship between emission reductions
9 and reductions in fish mercury levels.

10 Since 1998, several of these interlinked
11 issues are reported to be in different stages of
12 resolution and review, with millions of public and
13 private dollars invested in ongoing efforts to
14 understand the uncertainties. Principal amongst
15 these efforts are:

16 The EPA's mercury Information Collection
17 Request to quantify and characterize utility mercury
18 emissions at a cost to the utility industry 20 plus
19 million dollars; the Department of Energy's
20 three-year efforts in understanding utility
21 emissions, limitations, and capabilities of mercury
22 control technologies, which is estimated upward of
23 \$13 million; thirdly, the Congressional mandate to

1 toxicological effects of mercury at some unknown
2 cost; finally, the multi-million dollar Electric
3 Power Research Institute's work relative to all of
4 the above-listed uncertainty items.

5 These efforts are real work-in-progress and
6 should provide the information for making an informed
7 and defensible decision regarding the need to
8 regulate utility mercury emissions. As with any
9 peer-reviewed scientific product, especially where
10 multiple independent work efforts are involved,
11 information availability will be on different
12 timelines. Interesting data are emerging from these
13 massive efforts, with meaningful results estimated to
14 flow in one to three years' time.

15 With the interdependence of the results of
16 these various activities, EPA should not rush to
17 treat individual efforts in isolation and arrive at
18 arbitrary decisions. In order to make the regulatory
19 needs determination, the synthesis and analysis
20 should be based on a holistic approach. This
21 includes the EPA understanding relationship between
22 mercury emissions from power plants and mercury
23 levels in fish. Without this understanding, one does

24 not know whether regulation is appropriate and

1 necessary.

2 EPA will be ill-advised to preempt results
3 from these endeavors either in its efforts to meet a
4 December 15th deadline. The December 15th deadline
5 is not a court order to render a regulatory decision.
6 It was a voluntary settlement with NRDC to resolve a
7 lawsuit brought by that organization. This voluntary
8 agreement should not sabotage EPA's obligations under
9 the Clean Air Act and Section 112(n)(1)(A)(1) to make
10 a reasoned and non-arbitrary decision.

11 Thank you.

12 MR. WAYLAND: Tony DeFalco, Lake Superior
13 Alliance.

14 UNIDENTIFIED SPEAKER: He's not here.

15 MR. WAYLAND: John Shanahan, National Mining
16 Association.

17 MR. SHANAHAN: Good afternoon. I'm
18 John Shanahan of the National Mining Association, and
19 I appreciate the opportunity to be here today. NMA
20 comprises the producers of most of the nation's coal,
21 metals, industrial, and agricultural minerals. Its
22 members supply the fuel to the nation's coal-fired
23 power plants. NMA supports efforts to ensure a clean

1 of clean coal technologies based on relative risks,
2 sound science, consideration of economic and
3 environment trade-offs, and flexibility. In arriving
4 at this regulatory determination regarding mercury,
5 NMA encourages EPA to give full consideration to each
6 of these factors.

7 In its 1998 Report to Congress, EPA noted a
8 number of questions that were referenced earlier
9 today by earlier speakers that need to be addressed
10 and answered before decision-making can be
11 undertaken. To answer these questions, EPA will need
12 to take into account all the information available as
13 it develops. The National Academy of Sciences'
14 review and EPA's Reference Dose that will soon be
15 finalized will form but one link in this chain of
16 information. Other major studies expected out soon
17 include, "The Dietary Habits of the Nation's
18 Citizenry," which will provide additional information
19 assessing the real risk of exposure to mercury. The
20 Seychelles Islands study strongly suggests that
21 Americans are of no risk for mercury exposure through
22 fish consumptions at quantities much greater than
23 Americans actually consume. The importance of the

24 emerging results of this study cannot be understated,

1 as it provides much more reliable human data than is
2 relied on so far in setting the appropriate Reference
3 Dose.

4 Another important issue that is critical to
5 consider a determination is the question of transport
6 and cycling to answer the question of relationship
7 between U.S. emissions and the resultant change in
8 methylmercury in fish. Background levels from nature
9 and earlier industrial activity are critical
10 components in answering this. Much more mercury was
11 used in the middle of this last century, yet the
12 legacy of that still remains. When this is combined
13 with estimates of only 30 percent of U.S. emissions
14 remain in the U.S., it is clear that the relative
15 impact of current emissions is considerably
16 diminished.

17 EPA's mercury ICR depth is necessary to
18 understand not only speciation, but the range of
19 removal efficiencies using differing control systems.
20 The fact that large amounts of mercury are removed
21 from regulation of SO₂ and particulate matter
22 underscores the need for review of this information
23 in determining whether regulation is necessary and

24 appropriate. If EPA does determine to regulate,

1 these reductions should be credited towards utility
2 reduction.

3 NMA and its member companies encourage EPA
4 to be cautious in light of the serious economic
5 implications of this decision. Obviously, companies
6 and their investors, many of whom are pensioners,
7 will be affected. So too will be the many workers
8 who will be dislocated, suddenly jobless, in towns
9 whose major employers, coal producers, are no longer
10 hiring.

11 But the more than \$5 billion EPA estimates
12 that control of mercury will cost the electric
13 utility industry will impact more than pensioners and
14 laborers; indeed, it will impact more than customers
15 who live from paycheck to paycheck. It will also
16 impact the nation's pursuit of other environmental
17 objectives.

18 The costs of regulation are accumulative,
19 yet, the ability of the utilities and the customers
20 to absorb these costs are not bottomless. Every
21 dollar spent on regulatory controls of one type of
22 emission reduction will ultimately impact future
23 environmental initiatives.

1 energy prices will cause public officials to respond
2 in ways that may not reflect their long-term
3 environmental objectives, much as is happening this
4 very week in the context of gasoline prices and
5 reformulated gas. These opportunity costs are real,
6 and trade-offs are unavoidable over the long-term.

7 The existence of these opportunity costs
8 underscores the wisdom of EPA's statements in the
9 context of the 1998 determination regarding HAP
10 deposition to the great waters that MACT standards
11 are not required to achieve health-based or
12 environmental quality-based results. That same
13 reasoning and the same regulatory flexibility under
14 Section 112(n)(1) is applicable here.

15 If EPA determines regulation is necessary,
16 NMA urges that it consider all the regulatory options
17 available and avoid MACT. Since the efficiencies and
18 potential problems associated with emerging
19 technologies are largely unknown, employing a
20 flexible approach will help accomplish this, with
21 trading a key component of this flexibility.

22 NMA appreciates this and future
23 opportunities to engage in meaningful and

1 deliberations. Thank you.

2 MR. WAYLAND: Sandra Steingraber, Cornell
3 University.

4 MS. STEINGRABER: Before I begin my formal
5 remarks, I do have a confession to make. When I
6 first called the EPA to put my name on the list of
7 speakers today, I was asked what organization I
8 represented, and I initially replied, I'm a nursing
9 mother. And this is the truth. I have chosen to
10 spend \$400 on a plane ticket to fly here today
11 because I see the chance to influence your
12 decision-making as an investment in my daughter's
13 future. She's only 20 months old. But my honest
14 answer created such awkwardness and confusion as to
15 how to identify me, that I added, well, I'm also a
16 professor at Cornell, which is why my affiliation
17 appears that way on the roster.

18 My name is Sandra Steingraber. I'm a
19 biologist and the author of the book Living
20 Downstream. I received my Ph.D. in biology from the
21 University of Michigan, and am now in residence at
22 Cornell as a visiting assistant professor in the
23 Center for the Environment.

1 threats to prenatal life, research I began when I
2 became pregnant in 1998. The womb is the first
3 environment for us all. For many years, science
4 regarded it as a kind of wildlife sanctuary,
5 protected from harm by the placenta, which was
6 presumed to act as a barrier both to infectious
7 pathogens and to chemicals alike. But the new
8 science is showing us that the pregnant uterus is
9 less a walled-off refuge than it is a fragile,
10 interactive habitat, one that is easily breached by
11 toxic chemicals.

12 In the case of methylmercury, the placenta
13 acts not as a barrier, but as a magnifying glass,
14 actively pumping mercury molecules from the mother's
15 body and transferring them into the body of her child
16 as though they were precious molecules of calcium or
17 iodine or oxygen. This is why at birth umbilical
18 cord blood has many times higher the concentrations
19 of mercury than is found in maternal blood.

20 In other words, when we allow coal-burning
21 power plants to transfer elemental mercury, which is
22 held deep under the ground in coal deposits and put
23 that mercury into the air, mercury that is invariably

24 methylated by bacteria and whisked quickly up the

1 food chain, the people receiving the highest
2 exposures of all are unborn children.

3 The irony is that this group is precisely
4 the one that is most vulnerable to the brain-ravaging
5 effects of mercury. Doses that would pose only
6 minimal dangers to the adult brain can lay waste to a
7 fetal one. In the case of mercury, it is not so much
8 the dose that makes the poison, it's the timing that
9 makes the poison. We also know with certainty that
10 mercury actually binds to chromosomes in the fetal
11 brain cells and prevents them from dividing. This is
12 its mechanism for harm.

13 It is inappropriate to ask pregnant women to
14 accommodate to this situation by restricting fish
15 consumption, and yet this is exactly the situation
16 that pregnant women find themselves in. Fish is good
17 food, especially for pregnant women. It's an
18 excellent source of omega-3 fatty acids, for example,
19 which actually contribute to fetal neurological
20 development, which is another irony: We're actually
21 contaminating with brain poisons a source of food
22 that helps the brain get wired up in the first place.
23 Specifically, omega-3 fatty acids are mobilized

24 during the fetal brain growth spurt that happens in

1 the last few weeks of the third trimester of
2 pregnancy. These fatty acids assist in proliferation
3 both of the vascular tissue as well as neuronal
4 circuitry.

5 I grew up fishing in Wisconsin. My dad
6 taught me how. I spent hours of my childhood rifling
7 through his tackle box, which included a lure shaped
8 like a naked mermaid and another that was shaped like
9 a baby duckling, all yellow innocence above, and a
10 nest of deadly hooks below. That tackle box is now
11 gathering dust in my father's garage.

12 My husband is a fly fisherman. He grew up
13 in Connecticut. In the early 1960s, he and his
14 brother and his father fished rivers and ponds and
15 brooks near their home in Norwalk, Connecticut.
16 Sometimes the three fishermen were so hungry, by
17 mid-morning, they cleaned the fish they caught and
18 ate them for breakfast right on the shore. Jeff's
19 father taught his sons how to suspend their catch on
20 green twigs hooked through the gills and hang them
21 over the flames of an open fire. These meals and all
22 the whispered anticipation in the dark hours leading
23 up to them are Jeff's most deeply cherished childhood

1 The rivers and lakes of Connecticut are all
2 covered by fish advisories now, so contaminated are
3 every single one of them with mercury, and so are the
4 lakes of Wisconsin where I once caught a northern
5 pike while trying to fish for bluegill.

6 I wonder how we will explain this situation
7 to our 20-month-old daughter, who will spend four
8 decades of her life, either as a child or as a woman
9 of reproductive age, for whom the advisories are the
10 most severe. Will she ever step into her father's
11 waders? Fashion feathers into flies? Learn how to
12 make her grandfather's fly rod dance in the air?
13 Catch fish for breakfast in the state of Connecticut,
14 in Wisconsin, in Illinois, New York?

15 I have a few other questions. In a
16 mercury-poisoned world, what happens to the knowledge
17 that Jeff has, handed down from his father and his
18 father before him, about how to clean and gut a bass?
19 About what kind of water pickerels like to swim in?
20 About how to hang trout over an open fire?

21 Our daughter is now one and a half. Her
22 favorite book is *The Runaway Bunny*, which was
23 published in 1942. The story is about a clever

24 mother rabbit who remains one step ahead of her

1 baby's attempts to leave home. In one scene the
2 little bunny threatens, "If you run after me, I will
3 become a fish in a trout stream and I will swim away
4 from you." "If you become a fish in a trout stream,"
5 replies his sensible mother, "I will become a
6 fisherman and I will fish for you." The illustration
7 for this page shows the mama bunny in waders, casting
8 a carrot-baited line after her truant offspring. It
9 is the thread that binds the mother to child.

10 If my daughter asks me, "What, mama, is a
11 trout stream," what will I say to her? Will I
12 explain that freshwater trout are now among the most
13 contaminated fish in America, far too poisonous for
14 her to ever eat?

15 When fish become too poisoned for women and
16 children to eat, more is lost than a good source of
17 fatty acids. Whole ways of knowing are lost.
18 Ecological connections are broken. The bonds joining
19 human generations are rended.

20 By limiting mercury emissions from power
21 plants, we have the power to change this situation.
22 My research has convinced me that we do have
23 sufficient biological data to act now, in spite of

24 those in this room who, like the tobacco industry

1 before them, seek to deny, down-play, and obfuscate
2 such a connection.

3 They complain how soon the December 15th
4 deadline moves. But a pregnancy is only nine months.
5 And a child conceived tonight, a child that right now
6 at this moment is only an egg and a sperm, will, by
7 December 15th, be entering the period of maximum
8 brain growth development of its life. It would be in
9 the fifth fetal month of pregnancy on December 15th.

10 My experience as a mother convinces me that
11 we also, besides having a biological imperative, have
12 an ethical and a spiritual one, and we need to use
13 this also to take action. Please do the right thing.
14 Thank you.

15 MR. WAYLAND: Charlotte Read, Save the Dunes
16 Council.

17 Following Charlotte's testimony, if there's
18 anyone else in the room who would like to make a
19 statement, if you just work your way down here to the
20 front, we'll take you one by one.

21 MS. READ: It was a very tough act to
22 follow.

23 My name is Charlotte Read. I'm Assistant

1 Indiana called Save the Dunes Council. And it's
2 appropriate that this hearing is being held in EPA's
3 Lake Michigan room in Chicago, near the only Great
4 Lake entirely within the United States.

5 The time for EPA action on limiting mercury
6 emissions from coal-fired power plants is now.
7 Inputs of mercury have the potential for accumulation
8 in aquatic biota, including fish. Widespread damage
9 to aquatic resources has occurred and is occurring in
10 all of Indiana's waterways. Fish consumption
11 advisories for mercury in Indiana's Lake Michigan
12 waters and its tributaries in effect now make
13 achieving the "fishable" goal of the Clean Water Act
14 impossible for those who seek to fish these waters.
15 I got a copy of Indiana's fish consumption advisory
16 page just for the Lake Michigan waters.

17 According to a just-released report by the
18 Delta Institute of Chicago, which is entitled,
19 "Atmospheric Deposition of Toxics to the Great Lakes:
20 Integrating Science and Policy," the southern Great
21 Lakes area is predicted to have one of the highest
22 rates of mercury deposition in the United States.
23 And I have attached that section on mercury as well.

1 was just released in April by EPA, provides in
2 Table 5-25 differing but significant estimates of
3 atmospheric deposition of mercury in Lake Michigan.
4 That's attached as well. Approximately 80 percent of
5 the total mercury inputs to Lake Michigan come from
6 the atmosphere, with 30 percent coming from Chicago.
7 Also attached is a copy of "Mercury in Lake
8 Michigan," a report by Robert P. Mason and Kristin A.
9 Sullivan, which appears in Environmental Science &
10 Technology in 1997.

11 The mission of my organization, Save the
12 Dunes Council, for nearly 50 years has been
13 preserving and protecting the Indiana Dunes for
14 public use and enjoyment. Therefore, our focus in
15 this statement has been on pollution impacts to
16 Lake Michigan, including those that interfere with
17 public enjoyment of the resources of Indiana's
18 portion of Lake Michigan, such as the public's
19 ability to safely eat fish. This emphasis should not
20 be construed as disregard or disinterest in the
21 harmful impacts of mercury emissions from power
22 plants on other areas in Indiana or elsewhere in the
23 Great Lakes.

1 to protect the public health and the environment.

2 Thank you.

3 MR. WAYLAND: Is there anyone else, whether
4 you're on the list or not, that would like to make
5 comment for the record at this time.

6 MR. BRENNER: Let me just say a word briefly
7 on behalf of my EPA colleagues and myself. Most of
8 you were here at lunch time when I expressed my
9 thanks for the comments we have received and also the
10 care that was taken in preparing them and the
11 willingness of people to comment on all aspects of
12 the decision, science, technology, economics, public
13 health, children's health, all the issues that are
14 important.

15 I think it's important that I especially say
16 thank you to the people who came here today who don't
17 normally appear at public hearings and the regulatory
18 process. I mean, that's not an area where they're
19 particularly comfortable in. But you were willing to
20 come out here today and talk to us, and I want to say
21 that I especially appreciate that. It's important
22 for us to get as much public input as we can as we
23 make these very important decisions. And I feel like

24 today was very valuable for us.

1 And you will see this process now play out
2 over the rest of the year as we make the regulatory
3 determination, and, as you heard, if you're signed up
4 on the list, you'll be able to look at the full
5 transcript of the meeting that took place today, and
6 then we will go through a process of making a
7 decision as to a regulatory determination, and if it
8 is positive, then we'll begin the process of deciding
9 what controls are appropriate. And if that is true,
10 there will be additional discussions with the public
11 as we go through that process.

12 But I want to say this has been a great
13 start for us and tremendously valuable as we sort
14 through these issues. Thank you again.

15 (Which were all the proceedings
16 had in the above-entitled cause
17 on this date.)

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23

1 STATE OF ILLINOIS)
) SS:
2 COUNTY OF C O O K)

3

4 PAMELA L. COSENTINO, being first duly sworn

5 on oath says that she is a court reporter doing

6 business in the City of Chicago; that she reported in

7 shorthand the proceedings given at the taking of said

8 hearing and that the foregoing is a true and correct

9 transcript of her shorthand notes so taken as

10 aforesaid and contains all the proceedings given at

11 said hearing.

12

13

14

—
Pamela L. Cosentino, CSR, RPR

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SUBSCRIBED AND SWORN TO

18 before me this 12th day

of July, A.D., 2000.

19

20

—
Notary Public

21

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23

