PUBLIC MEETING

UTILITY AIR TOXICS REGULATORY DETERMINATION

Tuesday, June 13, 2000

Lake Michigan Room, 12th Floor

U.S. EPA Region IV

77 West Jackson Boulevard

Chicago, Illinois

Reported by:

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

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

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

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

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

I think with any major decision like this, it is critically important to hear as much as
possible from all of those who might be affected by
this decision. Obviously, the utilities have a great
stake in this, as well as federal, state, local, and
tribal governments are very concerned about this
issue. The environmental community as well has great
concerns as well as the general public that derives
the benefit from the resources that are made
available, and, particularly, I think we're concerned
about whether or not people can eat the fish that
they may be so skillful and lucky to catch, probably
better than I.

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

I encourage all of you to be outspoken,
provide as much information and input as you can
during the course of the day so that ultimately EPA
can be in the best position to make the best decision
about how we ought to be approaching the reduction of
this critical pollutant and other pollutants
associated with it and how we might best do that in
the future.

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

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

Rob?

MR. BRENNER: Thank you very much, Dave.

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

And I'm here today with some of my
colleagues to hear your views about a very important
decision that we're going to be making later this
year. That decision, which the Clean Air Act
requires the EPA administrator to make, is whether
it's necessary and appropriate to regulate hazardous
air pollutants, and especially mercury, that's
emitted from power plants.
We're required to make the decision by December 15th of this year, and if the administrator decides to regulate hazardous air pollutants from power plants, we'll have several additional legal deadlines.

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

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

The way it works for power plants is, first of all, we're required to study hazardous air pollutants, or HAPS as we call them, from power plants and then to make a finding.
And then in the winter, as part of that
process, in the winter of 1997 and ’98, we published
two reports to Congress. The first was the Utility
Hazardous Air Pollutants study, and that identified
mercury from coal-fired utility boilers as the
hazardous air pollutant of greatest concern to human
health of all HAP emissions from power plants and the
Mercury Study which identified coal-fired power
plants as the largest source of anthropogenic mercury
emissions in the U.S., accounting for fully one-third
of all emissions in the country.

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

Mercury from power plants, smoke stacks, and
other sources are transported through the air and
deposited to water and land. Depending on the form
in which it's emitted and the atmospheric conditions,
it can be deposited locally or it can travel great
distances. In the water, it's transformed into
methylmercury, a highly toxic form of mercury that
bioaccumulates in fish and other water species where
concentrations can be many times higher than in the
water.

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

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

We're working on a number of funds to reduce
mercury in our environment. The water program gives
technical assistance to tribes and states in
developing fish advisories. In the air program, we're regulating other major sources of mercury emission through the air, including stringent regulations for certain types of waste combustors that contribute significantly to mercury pollution. These actions, once fully implemented, will reduce mercury emissions caused by human activity by over 50 percent to 1990 levels. Several other regulations are under development to control emissions of mercury through the air from other types of sources.

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

So in preparation for the decisions about whether to regulate utility mercury emissions, we have several efforts underway. We have funded the National Academy of Sciences to do an assessment of recent mercury health research and to recommend to us in the EPA whether we need to adjust what we call our
RfD, which is a measure of toxicity from mercury.
The effort will resolve the controversy about whether EPA's assessment of the level of mercury causes health effects is correct. The controversy resulted from findings that appear to be in conflict in recent studies of mercury exposures in the Seychelles Islands, the Faroes, New Zealand, and elsewhere. We expect the National Academy to issue their report in about a month.

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

So those assessments that will give us that current picture are the fact that at the time of the Mercury Study and the Utility Study that came out a couple years ago, mercury control costs were estimated to be quite high. So what we're doing is we're collaborating with the Department of Energy now
to review recent mercury control technology pilot
test results. And then an EPA study a year ago estimated that mercury from coal-fired power plants could be controlled to about 70 to 75 percent emission reduction for an annual national cost of about one and a half billion to $1.9 billion, depending on what other pollutant plants are required to control.

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

Also, I should mention that we have been analyzing the 1999 data about mercury emissions from coal-fired electric generating plants. This is going to provide us the most accurate and complete information available about the amount and nature and the species of mercury that are emitted from this sector. That will also be made available to the
public later this summer.
This finding or determination as to whether
it's necessary and appropriate to regulate HAPS,
hazardous air pollutant emissions, from electric
power generating plants is not a regulation that
requires notice of the pilot, but the decision does
affect all of you, the public, and we very much want
to hear your views regarding the decision, although,
as I said, it's not legally required. But we wanted
to be here, and we wanted to come here and listen to
your comments on this and your thoughts about this
upcoming decision.

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

Those of us who are not up here at the table
will also be available in the room and outside in the
hallway. If you want to informally ask us questions
about the process, we'd be happy to talk to you
informally, if you'd like.
So let me introduce the people who are here.
First let me introduce somebody who will be here soon, Dana Minerva who is my colleague in the Office of Water. She's the deputy assistant administrator for the Water Office, and she will be arriving soon and she will also be up at the table for part of the day.

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

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

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

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

MR. WAYLAND: Thank you, Rob.
First I'd like to thank Carl and his staff
for making this space available for us today and
getting the room set up for us. I did notice on the
way in, there are pay telephones and restrooms just
outside this door, so you should be able to find
them. If not, I'm sure if you ask somebody, they
will help you get to those.

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

We're going to stick to the five-minute
presentation schedule. Bill will be sitting down
here at the front, and he has a three-minute sign, a
two-minute sign, a one-minute sign, and a 30-second
sign. We will ask you to stop when your five minutes
is up because we want to make sure that we hear from
everyone that is here. We will be here as long today
as it takes to hear your comments. We will not cut
off the discussion until everyone has had a chance to
comment.
The other thing, if you have brought a
typewritten or electronic version of your comments
that you're making today, if you would please see
that one of these two ladies over here in the front
of the room, if you will hand them to them either
before you come up or as you go down, it will help us
in making sure that we have everything recorded.

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

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

Does anybody have any questions about the
logistics before we get started?
There will also be a sign-up sheet floating
around the room. If you'll sign in and give us your
e-mail or your fax number, we will let you know as
soon as the transcript is available and up on the
web. We'll send it to you so you can go get it. But
that will just be a sheet floating around. Just make
sure you sign it before you leave.

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

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

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

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

As was stated earlier, the legislative

intents of the Clean Air Act Amendments of 1990 cut
out a special consideration for the utilities as
stated here. It had several items that needed to be addressed before a final decision on whether it was necessary to regulate power plants for mercury and other HAPS were to be made. This slide outlines some of those considerations.

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

These two slides list a number of these uncertainties, some of which you're already familiar with, looking at mercury contents in the coals; the kind of mercury actually emitted by coal-fired power plants; background levels of mercury as they may impact modeling that occurs for this exercise; what is the relationship between these emissions and
levels in the fish so as to permit estimation of
environmental benefits; and what are the actual
burdens in the U.S. population with respect to
mercury exposure; consumption patterns for humans;
what are the adverse levels of consumption that
result in adverse health affects for humans; and,
finally, the most important question, what might be
achievable in terms of benefits for human health
resulting from controls on utility boilers.

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

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

By contrast, others, including EPRI DOE,
have been working on a number of these uncertainties.
They're listed right here. Some of the most
important ones are the actual linkage between
emission sources and mercury levels in fish.
The final -- I guess the final position that
we would like to remind folks of here is that while
a lot has been accomplished since February of '98,
some of the most important questions are, in fact,
works in progress. In our opinion, the best
estimates for meaningful results are within a year to
three years off, and that if we're really interested
in form decision-making, the EPA must defer its
December decision until these key data needs are
fulfilled. And thank you for the time.

MR. BRENNER: Thank you.

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

In May of 1998, EPA held a public meeting in
Washington regarding its proposed mercury information
collection request, ICR. A number of individuals,
undoubtedly some of whom are here today, spoke in
favor of the ICR. Some, in fact, recommended EPA
expand the ICR requirements, for example, collecting
collecting coal samples for more than one year and sampling more
than the 80 or so odd plants.

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

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

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

However, I'm not aware of anything in the legislative history that indicates that Congress really understood just how complicated the "mercury
in the environment" issue truly is. While Congress
has the power, the duty, and the authority to
regulate, Congress generally neither controls nor
regulates the advancement of scientific
understanding. Such is evident with mercury.

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

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

The last point I wish to make about the ICR
data deals with its usefulness for future reporting.

As a result of EPA’s persistent biocumulative rule,
PBT, effectively, every coal-fired plant will be
required to estimate and report mercury emissions.
So, should EPA elect to take time to better
understand what the ICR data are telling us, power plants will be reporting mercury emissions annually, and the ICR data will help make those emission estimates as accurate as possible.

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

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

Continued reliance on an overly protective RfD may be useful for those who wish to cite the number of fish advisories in their speeches, but an overly protective RfD can cause unnecessary anxiety.
and may drive people away from an otherwise healthy
source of nutrition. I doubt there is anyone here
who doesn't believe that grilled fish might be better
for you than fat-laden fast food.

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

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

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

MR. HAGLEY: My name is Tim Hagley. I'm a
senior environmental compliance specialist for
Minnesota Power. I'm also chair of the Minnesota
Chamber of Commerce mercury task force. I am here
today representing the Minnesota Chamber of Commerce.
The Chamber is the largest statewide business
lobbying organization representing 3200 small, medium
and large size businesses. The mission of the
Chamber is to represent the interests of Minnesota
governments on policy issues that impact
their bottom line.

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

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

The 1998 Utility Study by EPA identified
several areas where additional research was
necessary. Some very fundamental questions need to
be answered or at least better understood before a
sound regulatory decision can be made. A lot of
effort is currently underway by the utility industry
and others to try to answer these questions.

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

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

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

Even so, a broad-based effort was begun
about three years ago by the MPCA to try to further
reduce mercury emissions. The goal of the Minnesota Mercury Reduction Initiative was to achieve a significant reduction in mercury contamination, using the most cost-effective means available, and involving all stakeholders in the process.

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

The Chamber took a very active role in the process, as did all of the larger utilities in the state. The outcome of that process is a consensus document outlining the Advisory Council's results and recommendations, dated March 1999. After over two years of extensive effort by all of the stakeholders, the resultant recommendations for reducing mercury in Minnesota are largely voluntary in nature. This is due at least in part to the same issues that EPA faces in making a
regulatory determination.
The cornerstone of the recommendations is to encourage mercury sources to enter into voluntary agreements with the MPCA to reduce or work towards reducing mercury releases. Larger sources have committed to participate in the voluntary agreement process, and their voluntary agreements are in place or are nearing completion. Even without all of the voluntary agreements finalized, sources have already begun efforts to further address mercury releases through such efforts as control technology research, fuel choices, product and waste management, and customer outreach programs.

To conclude, the Minnesota Chamber of Commerce believes that the EPA should postpone a regulatory determination on utility HAP emissions until such time as sufficient information exists to make a sound decision. In the interim, the Chamber supports a voluntary approach to address utility mercury emissions. At the same time, the Chamber supports efforts by EPA, the utility industry, and others to continue to find the answers necessary for a sound regulatory determination. If EPA deems that a regulatory program is necessary to address HAP
emissions after sufficient information has been
gathered and evaluated, the Chamber believes that any
regulation should allow for flexible approaches, and
give credit for reductions that have already been
achieved.

Thank you for the opportunity to provide
comments.

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

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

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

The work on the mercury that I'm going to be
reporting on today, I'll be covering work that's
managed by a number of people at EPRI, including
Paul Chu, who's here today, and George Offen, who are
the ones who had signed up to speak.
To provide some background on the work on mercury that's been going on long before the start of this slide, which is ten years ago, research by EPRI, EPA, Department of Energy, and others was going on, particularly mercury into fuels and in the cycling in the environment.

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

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

The main point to remember is that much of
this work is just getting underway. A large DOE
program to evaluate control measures at full-scale power plants is only now reaching the bidding stage for setting up partner arrangements and will be going on for another couple of years or so.

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

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

The key point to remember as I go through these research programs is that EPA itself stated in the time of the Utility Report to Congress in early
'98 that there was a linkage between these
uncertainties and the ability to make informed
decisions, and we agree very strongly with that.

Dave Michaud showed you some of the key
questions on utility mercury. I have given my
shortening of those, and I've grouped them to make
them perhaps a bit more comprehensible under what I
call issues. The first is emissions and source
inventory, transport and cycling, community exposure,
moving onto health effects, controls, and some issues
that deal with integration and synthesis of the
problem. And it's in that last where the issues of
source receptor relationships really come together.

So I'll talk about these briefly, each.

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

The mercury levels appear to be, when summed
across the industry, appear to be slightly lower or
perhaps the same level in terms of emissions than the
previous analyses that were done in '94, I believe,
by EPA and for 1990 data. These are the datum years
that were analyzed somewhat after the years that they
reflect. And it appears that we're not -- we may be
talking about a trend, but we have two or three
points in time. We don't know exactly what happened
in between, but it appears from these data in 1999
that were collected, that those numbers were perhaps
lower than the 1990 data. The analyses are still
underway, subject to significant revisions by EPRI,
EPA, and whoever else wants to whack away at the
data.

Part three, as it's called, was the stack
testing of power plants to look at mercury emissions
and how those were speciated, in other words, the
ionic state of the mercury as it left the stack.
This is critical because the transport of mercury in
particular is strongly dependent on the ionic state
that it is in the atmosphere at the time of its
transport through the atmosphere. If it's issued
from stacks as ionic mercury, mercury two, it is
highly water-soluble and is likely to be deposited
much closer to the source and, therefore, higher
concentrations than if it is elemental mercury,
mercury zero. Mercury zero has an atmospheric
lifetime of about one and a half to two years before it gets ionized and deposits to the ground, although there's some dry deposition that occurs as well. These analyses are still ongoing. We have some slight trends that are clear from these data that tie the mercury ionic state to operations of each power plant as well as the type of coal being burned there, and I'll talk about that briefly.

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

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

Mercury and coal analyses that were done, that is, part two analyses, seem to show, again, that there may have been a slight drop between 1990 and '99 in the total amount of mercury being emitted by power plants. In other words, business as usual with
the added requirement of the Clean Air Act
stringencies for sulfur may have produced a flat
trend or perhaps a downward trend. We don't know for
sure. Those analyses will be completed later this
year.

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

This is important because EPRI, as I may
have mentioned, but as we have done, EPRI has issued,
primarily on a bi-annual basis, synthesis reports on
mercury, integrative studies of mercury in the
environment that kind of catch up on the research as
it stands. And the work we're doing this year, to
come out in a report in the fall, is going to look at these data and put those into fate and transport models to try to get a feel for a national risk assessment for mercury from utility power plant emissions.

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

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

I move on to the issue of other emissions.
that we have to account for. There is another
component to emissions, the background emissions, which are composed of both natural emissions from crustal material and what we might call legacy emissions, which are disturbed areas from old mining sites and so on that have exposed mercury to the atmosphere and are emitting quite a large ratio of the mercury into the atmosphere. Primarily, it's elemental mercury.

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

We don't know yet if we can find this background signal in the deposition data that we're getting on mercury. We have field studies underway this year jointly with EPA and others to look at these background sites in Nevada and Tennessee and also to do an aircraft study to see if forest fires may be one mechanism for moving this background
mercury into the atmosphere. That work is being done
jointly with the Canadian government.

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

This year we have underway field experiments, and other agencies as well are doing field experiments in many areas, but three shown here, Lake Superior, Lake 658, which is the experimental lake in Ontario, and work in Florida which is winding up this year as well. All this work
should be completed roughly 2003.
Community exposure. The National Academy report will be out in mid-July, as we understand it. The two key studies, and of course there are others, Faroes Island study did tests of their kids’ cohort at one age, age seven, and found effects at levels similar to the EPA reference, those levels, perhaps levels below that. The Seychelles group has done testing at multiple ages on their kids. They're up to now the fifth set of tests that's going on and plan to test up to age 11, and they're finding no effect at exposure levels roughly equivalent to U.S. exposure levels. There are a number of questions remaining on these tests that I'll talk about in a couple of minutes. Were the tests comparable that were used to find these effects or no effects? In the case of the Faroes, all of the mercury exposure is from consuming pilot whale meat and blubber. This is the report of the investigators. They do eat fish. Fish is the background, basically the baseline food, but the mercury levels in the whale are much higher and basically are the route of exposure to the mothers.
In the case of these pilot whales, there is
PCBs, which are potent neurotoxins as well going along in the same flesh that's eaten, and in addition, those consumption levels can be described as binge eating. They're large meals held infrequently rather than regular meals. In the case of the Seychelles, the exposure was regular fish meals done basically every day.

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

This study is a good chance to look at what are called the high-end consumers that have been referred to already. Do we have people that eat a lot of fish that are getting a lot of mercury? There is the assumption that some high-end consumers have, in fact, been found, actual people, that eat a lot of fish. They've turned out to be, in many
cases, not in the exposure level of greatest
The NAS report will be a snapshot. I think it’s important to remember that the work in the Seychelles will be continuing, and the NAS report will not be the final word on health effects. There may, in fact, turn out to be a lower level of Reference Dose that is supportable from the data that are continuing to emerge from the Seychelles study. The study had different designs, and one of the pieces of work that EPRI is doing is to see if the two studies can be combined.

Finally, on the issue of controls, we have very limited commercial data, including looking at coal cleaning as a mechanism. Controls can potentially give you very different levels of effectiveness. This is one portrayal of that showing how much mercury was removed along the bottom, and cost, shown along the side, for a single power plant. This is a 500-megawatt plant with an electrostatic precipitator, and the cost ranged from basically $10 to $20 million per year. In the case of the electrostatic precipitator alone, as the mechanism of control, there is an alternative control device
devised at EPRI which uses the combined control
mechanisms that give you some lower costs for these
removals.

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

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

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

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

Since 1937, MUCC has been devoted to the
protection and enhancement of Michigan's natural
resources as promotion of outdoor education and
recreation. Part of that reason is obviously the
natural resources that we have in Michigan, one of
those being the 11,037 inland lakes. And right now
in Michigan, we have fish consumption advisories for mercury in every single one of those 11,037 inland lakes within the state.

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

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

For the most part, I think with the exception of about 6 percent of our revenue or our
expenditures within the state, we, the sport fishing
community, pays for the management of the sport fishing resource itself through these fees that they impose upon themselves. And what do we get for that? We get these. We get fish consumption advisories. These don't do anything for the sport fishing community in Michigan. In fact, they could potentially be a problem for the sport fishing community in Michigan. And that's where our concern comes in.

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

In total, tourism represents the second biggest contributor to revenue generated within the state behind the automobile industry, and the Michigan Department of Natural Resources estimates that the sport fishing community spends about $1.4 billion annually in the state of Michigan and into our economy. So sport fishing is big business in Michigan.
Because of all of these things and because
of a number of other factors, which I'm sure other
people will be talking about today, Michigan has
identified mercury as one of the primary pollutants
concerns for decades. An example of that was the
1996 Mercury Pollution Prevention Task Force that we
had within the state. One of the subgroups of that
was the utility sector, and it is something that we
refer to again and again and again within the state
in terms of the need to regulate mercury.

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

Thank you very much.

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

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

We're also concerned because Minnesota is known for its lakes, and our tourism industry is strongly dependent on the quality of those lakes for
attracting visitors who will spend money in our
state.

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

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

We also know that mercury is a potent
neurotoxin for both humans and wildlife. Even at low
levels, it interferes with the development of the nervous system, especially during prenatal and early childhood development. We know that mercury's effects on the development of the central nervous system are irreversible and include delayed mental development, learning disabilities, and delayed development or deficiencies in language, motor function, attention, and memory.

We also know that several human populations in Minnesota eat disproportionately high quantities of fish that contain potentially high levels of mercury. Sport anglers and their families consume fish on a more regular basis than those who don't fish. And subsistence anglers and their families, like southeast Asians and Native Americans are more susceptible. Minnesota has issued 844 fish consumption advisories specifically for mercury. There are over 3,000 river miles covered by a mercury advisory and almost 1.4 million lake acres. Fish consumption advisories don't do anything but warn us from eating contaminated fish and certainly don't address the problem of where the mercury is coming from. They're
simply a band-aid solution, and I would argue that we
know enough about the negative effects of mercury to
know that regulations that address the source of the
emissions are needed.

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

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

At the moment, those companies who emit more
than 50 pounds of mercury a year are in the process
of drafting the required voluntary plans
demonstrating their proposed reductions. The jury is still out as to the success of this voluntary initiative.

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

Certainly one state cannot do it alone.

In closing, because mercury is such a serious public health and economic issue, and because mercury emissions don't seem to respect political and state boundaries, the Izaak Walton League urges the EPA to make a positive regulatory determination in this matter. Thank you.
MR. WAYLAND: Thank you, Sarah.
Next we have John Venners from KFx Incorporated.

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

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

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

Next we have Eric Uram from the Sierra Club Midwest.

MR. URAM: Good morning. My name is Eric Uram. I am an Associate Representative for the Sierra Club at their Midwest Office's Great Lakes Program. The Sierra Club is the nation's largest grassroots environmental organization representing over 600,000 members nationally that are working at all levels to protect our nation's environment for our families and for our future.
I'd like to thank EPA for the opportunity to
present our views on this important upcoming
determination on regulating the hazardous air
pollutant emissions from utilities.

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

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

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

There's sufficient knowledge that is
surrounding the bioaccumulation and biomagnification
of methylmercury. We know that in our water systems,
that mercury levels can increase five or six orders
of magnitude or more from background levels that are
in those lakes and cells.
We have sufficient knowledge that exists surrounding the severity of the problem. Here in the Great Lakes region alone, over 70,000 lakes and stream segments have fish consumption advisories on them for mercury, and many of those fish consumption advisories are based upon an FDA Reference Dose, nothing more restrictive than that.

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

There is sufficient knowledge that exists surrounding the efficiencies of control technologies.

The 1999 studies that EPA did that looked at coal burning and the different technologies that are used, electrostatic precipitators, wet and dry scrubbers, and background filters, demonstrated that we do have the ability to know what emission breaks and what can result in lower emissions.

Sufficient uncertainty exists regarding
whether interaction with other chemicals cause
increased adverse health effects. As we pointed out earlier, we don't know if PCB is another chemical or exacerbating mercury toxicity in humans or even in wildlife. There is sufficient uncertainty existing as to whether or not a genetic predisposition can alter an individual's sensitivity to mercury toxic effects. As well, some of the research that has been done in the Seychelles Islands shows that we don't know if a genetically homogenous population is adequately representative of what's going on here in the United States and the people that eat the fish that are caught here.

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

Sufficient uncertainty exists regarding whether the level of mercury emissions and exposure that we are now considering are safe. The current
assessment is to now protect 100 percent of the
population. Children are more severely affected and have higher intakes than adults. Yet, most studies look at the toxicity through single routes of exposure and single chemical toxins.

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

Sufficient research has been done on alternative energy sources and increasing energy efficiency that, when implemented, reduce our need to burn coal and reliance on, including power plants. Therefore, we adequately understand the cause of controlling or not controlling mercury emissions.

It must be noted here that interested parties representing power companies are voicing their concerns. As you hear their testimony that the technologic and economic aspects of this issue prevent utilities from making changes or transitioning to less polluting alternatives, keep in
mind that these business decisions are made to
increase and maximize profits and not to place external costs into their ledger. Therefore, their decision-making processes ignore important health aspects of this issue and tend to show change, and we'll continue to argue against this.

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

Therefore, you must understand the bottom line of this decision, which is whether we protect the profits of an industry that has decades to review, reinvest, and resolve the mercury pollution problem, an industry which chose to place and produce continuing investment reliance and old antiquated methods of producing electricity, an industry which
chose to ignore the developing world growing in
population and demand which needs to reduce reliance
on coals and energy source, not only because of the
associated mercury emissions, but also because of the
many other forms of pollution associated with this
use and effect.

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

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

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

MR. WAYLAND: Thank you, Eric.
Next we have Chris Van Atten from the Clean
Energy Group.

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

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

The Clean Energy Group supports the development of federally adopted mercury emission standards for coal-fired power plants provided that adequate time is allowed for a more accurate characterization of mercury emissions from different power plants providing different types of coal and adequate time for the development of cost effective mercury control technologies. The group has put forward a national integrated strategy for regulating mercury and other priority pollutants, which I will outline today.
Prior to developing this proposal, the Clean
Energy Group supported EPA's efforts to more accurately characterize mercury emissions from coal-fired generating units. Several of our member companies have participated in EPA's mercury Information Collection Request, both as part of the formal survey and on a voluntary basis to supplement the data being collected. We expect that the ICR data will play an important role in forming a future regulatory strategy in the industry.

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

As I said, the Clean Energy Group companies support the development of a national integrated regulatory framework for the electric generating industry, including national emission limits for NOx, SO2, carbon dioxide, and mercury. A copy of the Integrated Strategy will be filed with our testimony today.
The Clean Energy Group is aware that a
number of states are evaluating mercury controls for coal-fired power plants and is opposed to the adoption of mercury control programs on a state-by-state basis. The Clean Energy Group firmly believes that the control of mercury emissions needs to occur at the federal level and be based on a thorough analysis of all of the relevant data. Our current understanding of this pollutant indicates that certain species cycle on a national and even a global scale, and therefore requires a national emission reduction strategy.

Specifically, the Clean Energy Group has proposed, as part of its Integrated Air Quality Strategy, a two-phase program for reducing mercury emissions to be implemented as a national cap-and-trade program. Reduction targets and schedule are as follows: A 50-percent reduction from current estimated emission levels beginning in 2008, and a 70- to 90-percent reduction from current levels in 2012. This schedule is proposed to allow for better coordinated pollution control investments and the achievement of maximum co-benefits, and is therefore coordinated with proposed further
reductions in NOx and SO2 as well as limits on
emissions of carbon dioxide.

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

This face approach, which includes
compliance flexibility in the form of allowance
training will facilitate the development and testing
of innovative mercury control technologies.

Notwithstanding the technical and scientific
uncertainties that persist with regard to mercury,
the Clean Energy Group companies support the
development of federally adopted mercury emission
standards as outlined in the proposal.

Thanks for your time today.
MR. WAYLAND: Next we have Andy Buchsbaum of
the Great Lakes National Wildlife Federation.

MR. BUCHSBAUM: Thank you.

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

I wanted to outline the compelling case that we believe there is right now today to control mercury emissions from power plants for EPA to make a positive determination. First, these are really undisputed facts. First, many lakes and streams across the country and much of the water in them and fish in them are contaminated with mercury to levels that are unacceptable for human health purposes, for
contamination of wildlife purposes, and also violate
federal standards. That's not in dispute.

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

We know that power plants are the major source of mercury emissions in this country, the leading source, about a third of the mercury emissions, which is approximately 50, 51 tons, somewhere in that neighborhood. We also know -- this is not disputed either -- well, it may be disputed, but it's in the Utility Study -- that 30 percent of the mercury emissions from power plants are estimated to fall in the continental United States. So doing the math, that's 15 tons are being deposited, 15 tons of mercury from power plants are being deposited in the U.S. That's about 29 percent of the total mercury deposited from all U.S. sources. It's about 17, 18 percent of the total mercury deposited in the United States from all sources, including global.
There is no other source of mercury deposition, not
just emissions, deposition that is anywhere close to
that level.

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

And I'm not going to go into those studies
in detail, but let me just highlight one or two
aspects of those case studies. The GOI mercury
standard, EPA had to make a determination of what the
bioaccumulation factor would be for mercury water quality standards in the Great Lakes, that is, how fast, how much, how high this mercury concentrate from water and fish. That number, in reality, is not a single number. There's a wide variety of bioaccumulation factors depending on the water body, depending on the condition of the sediments, depending on species of fish, and individual fish eaten.

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

We begin by noting that this case presented the agency with a classic and difficult choice.
Possessing imperfect scientific information, it had
to decide whether to proceed on that basis or to invest the resources to conduct the perfect study. It chose to do the former. This is the type of decision to which this court would generally apply a deferential standard. EPA didn't need to do the perfect study. It didn't do the perfect study, and the courts upheld that under the GOI.

The lead case parallels are even more striking. EPA knew in the mid '70s that, number one, lead in high concentrations are toxic; number two, lead can be absorbed from ambient air; and number three, the leading source of lead in ambient air was tail pipe emissions because of leaded gasoline. And yet, EPA didn't know a whole lot. EPA didn't know, in fact, how much lead in people's blood was coming from the atmosphere. It particularly didn't know how much lead in people's blood was coming from tail pipe emissions. Scientists had an incomplete understanding of the different sources of lead and how they contribute to the body -- diet, paint, drinking water -- and yet, EPA did not let itself be paralyzed. EPA again -- these are exactly the same
arguments that you could hear from some members of
the Utility industry -- we don't know enough; we
don't know enough; we don't know enough. EPA did not
let itself be paralyzed by those arguments then.
Again, the D.C. Circuit upheld that. We now have --
and it turns out, in fact, that that was one of the
wisest moves that EPA has made. It, in fact, reduced
lead levels in people's blood.
The case for EPA's regulation of power plant
emissions is compelling and it's clear. EPA needs to
make that decision and it needs to make it soon.
Thank you.
MR. WAYLAND: Felice Stadler.
MS. STADLER: We're Clean Air Network out of
Washington, D.C.
MR. WAYLAND: Sorry.
MS. STADLER: Thank you for providing us the
opportunity to speak here today. My name is Felice
Stadler. I'm the Policy Director of the Clean Air
Network. We're a national alliance of environmental
and public health organizations, and my remarks today
represent the opinions of 190 different environmental
organizations that have actually endorsed our
principles. And we are here to speak, urging EPA to
make a positive regulatory determination this fall.
We've provided more technical comments, and I'm not going to repeat those technical comments here, but we will be doing something a little bit differently today.

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

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

Response: According to U.S. EPA, approximately 87 tons of mercury are deposited in the U.S. annually. About 60 percent of the mercury, 52 tons, comes from U.S. sources, with the rest coming from the global pool. In the northeastern
24 U.S., that number is even higher, with 77 percent
coming from U.S.-based sources. Since coal-fired power plants are the largest known source of U.S. man-made mercury emissions, they are a major contributor to the 52 tons of mercury being deposited in the U.S.

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

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

Response: EPA's Utility Study Report to Congress evaluated power plant mercury emissions,
their potential impact on lakes, rivers, and streams,
how mercury enters the aquatic food chain, and to
what extent humans are exposed through fish
consumption. Using modeling data, EPA calculated
that up to 15 percent of the mercury emissions from
coal-fired power plants deposited within 30 miles of
a plant and up to 50 percent fall within 600 miles.
Despite using a conservative estimate, EPA's analysis
demonstrated that mercury exposure above the EPA safe
level can occur for certain segments of the
population. Because mercury emissions from power
plants are linked to increases in methylmercury
concentrations in fish tissue, we can safely conclude
that hazards to public health are reasonably
anticipated from such emissions.
Given that mercury levels in the environment
have risen over the past several decades, and
deposition models show more mercury deposited
downwind of the Ohio River Valley, we can safely
conclude that mercury emissions from coal burning
have contributed to increased deposition. Similar
conclusions were drawn with acid rain where
ecological damage was monitored downwind of
coal-burning sources. Although a particular power
company's acid rain-forming emissions could not be
linked to the acidification of a specific stream, the evidence was overwhelming that coal burning created acid rain.

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

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

Response: There is no disagreement within the scientific community that methylmercury is extremely toxic to the nervous system, especially to the developing system in utero, in infants, and young
children. Where the scientific community has not
reached consensus is in the amount of exposure that
can occur without damaging a child's development.

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

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

Reducing current mercury emissions will
reduce levels in the food chain over time. However,
given its ability to persist in the environment,
without severely restricting current emissions, it
will take decades before improvements are realized.
Some scientists predict that even if all sources
ceased emitting mercury today, it could take up to
50 years before fish are safe to eat.

Claim number 4: It is premature to impose
mercury controls on coal-fired power plants because
control technology is not commercially available.

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

Pollution control equipment vendors have acknowledged that the technology to reduce mercury emissions from coal-fired power plants exists. However, because there's currently no market for this technology, it's not being developed full scale. With the prospect of national controls looming, there has been a lot more attention paid to developing and testing new mercury control technology.

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

Response: The electric utility industry, with its $400 billion annual revenue, has a solid track record for overestimating the cost of pollution controls. During the acid rain debate, utilities argued that it would cost $6 billion a year to comply
with the new acid rain legislation; the actual cost
is closer to $800 million annually.

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

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

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

Conclusion: Only utility boilers enjoy a temporary exemption from the air toxics provisions of the Clean Air Act. The EPA has more than enough information in hand to move forward with evaluating control strategies for utility boilers as it has done for numerous other mercury sources and for all other major sources of air toxics.
Nothing in Section 112 of the Clean Air Act
suggests that EPA should apply a standard different
for electric utilities from that established by
Congress for other air toxics sources. Some have
suggested that before EPA can issue controls, it must
prove that the mercury in fish originated from
utility boilers. Not only would this be impossible
to document, but the utility industry is presenting a
hurdle for EPA that is not required by the Act for
this or any other air toxics source.

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

In evaluating what strategy to pursue to
meet this level of reduction, we urge EPA to look
beyond existing controls currently installed on
coal-fired boilers and evaluate the use of carbon
injection, scrubbers, and increased use of gas,
renewables, and efficiency. EPA's control strategy
must look simultaneously at reducing mercury along
with other pollutants of concern, including acid
gases which the industry emits in very large volumes,
and criteria pollutants. We also firmly believe that
no regulatory strategy should be pursued that reduces
overall risk at the expense of increasing, or
ignoring, individual risk.

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

Thank you.

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

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

MR. SILVA: Thank you.

My name is Patricio Silva, and I'd like to
thank the agency for the opportunity to submit
comments on the regulatory determination.

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

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

In a study of hazardous air pollutants
emitted by power plants, EPA identified mercury as
the pollutant with greatest potential concern,
growing concern, and awareness of the peril presented by release of mercury have been, in large part, the result of efforts by NRDC and other advocates to publicize the risks and educate regulators.

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

We also wish to take note that Section 112 should not be misconstrued to provide electric utility steam generating units with special or preferential treatment different from other industry
sectors for which EPA has issued MACT regulations.
While anticipating the legal pre-determinations by consideration of risk assessment is inappropriate and unwarranted under Section 112, EPA has developed MACT regulations reducing mercury emissions and other industry sectors without reference or consideration of any assessment. Efforts by opponents to opt to the regulatory determination to clad the issue by injecting risk assessment or other ordinance should be soundly rejected.

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

The issue should appropriately turn on examining the growing body of evidence reflected in the docket in this matter, over 164 pages to date, on a continuing risk posed by HAP emissions from electric utility steam generating units. The mercury MACT determination is a long-awaited and delayed
regulatory concern which is completed and supported.
Releases in mercury and other heavy metals from electric generating facilities posed a serious public concern for over a decade as reflected in the directives in the 1990 Clean Air Act amendments for EPA to study mercury emissions generally and emissions of hazardous air pollutants from the electric power sector. As EPA recently concluded, there are approximately 158 tons per year of anthropogenic mercury emissions through the electric generating units, releasing approximately 52 tons per year.

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

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

MR. WAYLAND: Next we have Karen
Kendrick-Hands from East Michigan Environmental.
We will move to John Blair, Valley Watch, Incorporated.

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

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

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

Minamata's disaster awakened the world to the horrors of mercury contamination and its effects.
on human development. Some Japanese called the
Minamata calamity a crisis comparable only to the
effects of radiation that were suffered in Nagasaki
and Hiroshima after America chose to use the nuclear
bomb to win World War II.

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

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

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

Failure to act now to turn this morbid
agency around will result in greater peril for its
victims, whether they live in Paoli, Indiana or Minamata, Japan. Acquiescing will only serve the cause of greed and commerce while subjecting greater numbers of children to the agony of mental retardation and developmental disability and even death.

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

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

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

MR. WAYLAND: Thank you, John.

Next we have John Thompson from the Illinois Environmental Council.

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

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

It's fitting that the U.S. EPA hold its mercury hearing here because greater Chicago ranks first among metropolitan areas in mercury emissions from power plants to plants in the city, and four that circle Chicago contributed some 3,310 pounds of mercury emissions in 1998.
The Waukegan, Joliet 29, and Will County
plants are especially driven, ranking 15th, 17th, and 19th on the list of the nation's largest power plant mercury sources. No other city, large or small, has such a cluster of polluting power plants. All these plants are owned by one company, California-based Midwest Generation.

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

I'd like to use the balance of my time to point out some unusual aspects about the Chicago power plants that I think may be important in your regulatory determination. These emissions from these Chicago area plants come from power plants that burn low-sulfur coal without scrubbers. They're in full compliance with agency rules, and yet they are twice as polluting in sulfur dioxide as a modern plant because they've been grandfathered from
stricter sulfur dioxide emissions.
The particular western coal that these plants burn is -- and this is true just of these plants, not of western coal in general -- is about four times higher in sulfur -- four times higher in mercury content than the particular Illinois coals that are burned further south in Illinois' power plants. These plants have burned switch to this lower sulfur western coal some 20, 30 years ago in order to meet the federal regulations, and we're seeing more and more of Illinois' coal-fired power plants switch to lower sulfur coal. Whether or not we end up with higher mercury sources of -- higher mercury emissions from these downstate Illinois power plants as a result of the switch, we won't know for another year or two when the data comes out.

But what it illustrates is the unintended consequences of a policy that regulates power plant emissions piecemeal. I would hope that you would begin in December regulating mercury, but that you also make clear plans to regulate nitrogen oxide, sulfur dioxide, and carbon dioxide from power plants soon so that we don't end up just shifting pollution from one form to another. In attempts to control
sulfur, we end up with higher mercury; to control
mercury, we end up with more carbon. We need a comprehensive program. We need to do this immediately.

Thank you for your attention.

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

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

On behalf of the Council, I strongly urge EPA to regulate under Section 112 of the Clean Air Act all hazardous air pollutants, including mercury, emitted from electrical steam generating units. In accordance with Section 112(n)(1)(A) of the Clean Air Act, EPA should make a finding that it is appropriate and necessary to control HAPs from utility units and should waste no additional time in implementing and initiating the rulemaking process to implement this finding. Additional time in delaying regulation and
reductions by the utility sector will only further
the harm to the public and environmental health in
Maine and all areas downwind of coal-fired power
plants.

Utilities are significant emitters of toxic
air pollution and should not be exempt from
Section 112. The recently-released toxics release
inventory confirmed what we have long been
suspecting: Utilities emit the same HAPs as other
sectors and in significant amounts, sometimes in even
greater amounts than currently regulated sectors.

There is no justifiable reason for EPA to regulate
HAPs emitted from other sectors and yet not regulate
HAPs from the utility industry. EPA should subject
utilities to performance standards reflecting MACT
technologies for hazardous air pollutants.

Because EPA concluded in its final Report to
Congress that mercury is the HAP of "greatest
potential concern" from utilities, the remainder of
these comments will address mercury. In the
Northeast and Maine, NESCAUM has modeled mercury
deposition and found that measurable quantities of
mercury are deposited throughout the Northeast,
including remote areas. It is well-documented that
50 percent of mercury is deposited in 600 miles of
being emitted. While municipal solid waste combusters are responsible for almost half of the mercury deposited regionally, nearly one-third comes from utility and non-utility boilers (from in-region and out-of-region).

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

Currently, Maine has statewide mercury advisories posted on every river and on every one of the 2,314 lakes in the state. They warn women, children, and sensitive populations to limit their consumption of fish caught in those waters. While it
is important to educate and warn the public about the
dangers of mercury and methylmercury, it is far more
important and efficient to address ways to reduce
these toxins. EPA should protect the public health
by reducing mercury emissions from utility units as
well as from other sources.

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

Specifically, let’s talk about Maine’s bald
eagles. Reproduction has remained 15 to 40 percent
below other injured populations of eagles in the
United States. It is having a significant impact to
our eagle population. In loons, concentrated levels
have been found to exceed thresholds where adverse
reproductive and health effects are predicted. In
Maine, 60 percent of loon chicks are at risk of not hatching and 17 to 24 percent are definitely affected. Mussels, significantly we have found higher levels of mercury in tissues than collected on the east coast and other parts of the east coast or on the west coast. Mercury is lethal to mink and otter, and harbor seals in the Gulf of Maine have exhibited elevated levels.

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

EPA has repeatedly demonstrated through numerous, well-documented studies that mercury and other HAP emissions threaten public health and the environment. In fact, EPA proactively regulates other sectors to reduce mercury and HAP emissions. In contrast to utilities, the other major sources of
mercury pollution are reducing, or will soon be,
their fair share of emissions. Recently issued EPA regulations for municipal and medical waste incinerators will require mercury emissions to be reduced by 90 percent and 94 percent respectively by 2002. Similarly, domestic industrial demand for mercury decreased by more than 75 percent from 1988 to 1996 as a result of pollution prevention efforts and restrictions on mercury in paints and pesticides.

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

EPA has all the scientific evidence that it needs to show that reducing mercury from utility sources is appropriate and necessary. Now, all it needs to do is act. Remove the Section 112 exemption immediately that has given utility sources the free
reign to emit dangerous amounts of HAPs and mercury
without control. The sooner EPA exercises its
authority overall utility emissions, the sooner that
the citizens and wildlife of Maine living downwind
will be able to live without threat of toxic
poisoning. Thank you.

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

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

The union historically has supported
technological approaches that allow coal to be burned
cleanly. The union was actively involved in the acid
rain debate in the 1980s, advancing constructive
proposals before EPA and Congress, designed to reduce
acid deposition while protecting coal mining jobs.

We are here today because of our interest in
preserving our job base.

The purpose of our statement here today is
twofold; first, to highlight a couple of key
scientific uncertainties and related analytical
issues for EPA's mercury control decisions; and
second, to outline preliminary views on the design of
an electric utility mercury emissions control plan
should the agency proceed in that direction.

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

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

Other federal agencies that have examined
the risks posed by current levels of mercury exposure
in the U.S. have found no basis for concern. We note
in this regard the findings of the Agency for Toxic
Substances Disease Registry of the U.S. Department of
Health and Human Services, and I quote, "These
state-of-the-science studies of exposed sensitive
subpopulations (pregnant women, developing fetuses,
and young children) indicate that mercury levels to
which the U.S. public is currently exposed pose no
health risk under current exposure conditions."

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

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

Item 2: Control Benefits are Uncertain and
Require Assessment. As discussed by previous
speakers, mercury is a global pollutant with long
biological residence times. Decisions to control
mercury emissions are similar to those for
controlling greenhouse gas emissions. Actions
undertaken by the U.S. alone may not result in
meaningful public health benefits. For example, we
understand from public research that roughly one-half
of mercury deposition in New York comes from Canadian
sources.
We are struck by the absence of analyses indicating the health benefits, or reductions in relevant health risks, posed by alternative levels of domestic utility mercury emissions controls. For example, it would be helpful for policy-makers to understand the expected reduction in cord blood or hair mercury content among average and sensitive members of the U.S. population at alternative levels of utility mercury control (for example, across a range of 33 to 90 percent) over relevant time horizons, (10, 50, and 100 years, and so forth), based on fate and transport and related modeling. We strongly urge EPA to undertake such quantitative analyses in support of its current regulatory determination and in any subsequent actions directed at the electric utility industry.

Item 3: EPA Has Flexibility in Regulatory Design. In the event that EPA determines that mercury emission controls are appropriate and necessary, the Agency has discretion under Section 112 of the Clean Air Act to fashion control strategies. A single-phase application of maximum achievable control technology (MACT) is not dictated
by the statute or by its legislative history.
Several commercially-available control technologies, such as scrubbers and baghouses, are effective in removing mercury in combination with SO2 or particulates. EPA will know more about the effectiveness of these options once it completes the collection and analysis of data under its on-going information requests to the utility industry.

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

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

We know with interest that EPA's initial
CAPI proposal in 1996 offered a two-phase approach to
mercury reduction, involving a 50-percent cut by 2005
and another 50-percent reduction by 2010, for an
overall reduction of 75 percent. Similar, perhaps,
to the Clean Energy Group proposal that we heard
earlier. The UMWA prefers a phased approach to a
single-phase MACT because it would provide additional
time for technological improvement, as well as
opportunities for integration with other EPA air
programs.

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

The UMWA is sensitive to the risk of job
losses associated with increasingly stringent,
piecemeal emission controls applied to existing
plants. We, therefore, urge EPA to analyze an array
of regulatory options for achieving mercury emission
reductions as co-products of an integrated utility
emission control strategy. In our view, EPA has yet
to determine the extent of mercury reduction that may
occur with full implementation of the PM 2.5 and
renal end haze programs.

Item 5: Consider Phased Approaches With
Trading. It will be more cost-effective, and less
disruptive to coal mining jobs, to achieve a given
level of utility mercury control through trading
programs that allow controls to be concentrated among
large baseload plants, with allowances freed up for
use at intermediate-load or cycling units.

Consideration also should be given to programs that
provide credits (or avoid penalties) for installed
technologies that already are reducing mercury.

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

We appreciate the opportunity EPA has
provided to appear at this hearing, and we look
forward to a continued exchange of productive views
on this important regulatory determination.

Thank you very much.

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

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

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

MS. LEAF: Yes.

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

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

I'm Patty Leaf, and I'm a senior environmental analyst for Northern States Power, an electric utility located in Minneapolis, Minnesota.

NSP has been very active in regards to mercury since the early '90s at both the state and federal levels.

NSP was the only utility to, on its own, test all of
its coal-fired boilers for mercury and to share that
I'd like to follow up on the comments you heard earlier from Tim Hagley of the Minnesota Chamber of Commerce. NSP concurs with the Chamber that EPA's regulatory determination must be made based on sound science with a complete understanding of the impacts to human health from utility mercury releases. NSP thinks it extremely important to wait until the questions identified in the EPA's Utility Air Toxics Report can be fully answered before a sound regulatory determination can be made. It would be disappointing, at best, to implement a mandatory, costly, regulatory program only to find out later that it didn't appropriately address the main concern at hand, that is, of mercury contamination.

Recognizing that mercury is of concern and that answers to many of the questions identified in EPA's report are not yet available, NSP encourages the EPA to take a multi-pronged approach at this
24 time.
First, we encourage the EPA to continue to try and fully answer the questions posed in its own report. We encourage the EPA to await the results of the National Academy of Sciences' determination on the impacts of mercury to human health. We also encourage the EPA to take the time necessary to fully evaluate, process, and understand the information recently collected in the ICR process, both the fuel analysis information and the stack test results. Unfortunately, this may lead to other questions, as it has for NSP.

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

Secondly, we encourage the EPA to develop a voluntary reduction program while awaiting the results needed to make a sound regulatory determination. The Minnesota Chamber representative
spoke to you of the process that took place in
Minnesota. I was a very active participant in that process that took over two years to complete and is currently in the process of being implemented.

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

As NSP's commitment to the Minnesota Mercury Reduction Initiative, we have filed a voluntary plan with the Minnesota Pollution Control Agency that considers mercury sources throughout our company.
NSP has, through the years, implemented many programs
that have reduced mercury releases to the environment because we thought it a wise and prudent thing to do.

However, NSP has filed a plan that goes beyond what we've already done. Our plan calls for continued mercury sampling of our coal, retesting all of our coal-fired boilers, conducting mercury control research in conjunction with EPRI, converting two coal-fired boilers to natural gas, and conducting studies on the feasibility of converting other boilers, inventoring mercury containing devices in use, and developing a phase-out plan for those devices deemed high-risk, evaluation of gas transfer stations for potential mercury contamination, implementation of stricter purchasing protocols eliminating the purchase of mercury containing products except in certain cases, and my favorite, the promotion of a mercury sniffing dog in conjunction with the Minnesota Pollution Control Agency.

I have not given you the full rundown of our plan, but wanted to present you with a sampling of the wide variety of reduction options available to companies when they are allowed the flexibility to
evaluate options for themselves. Several other
companies in Minnesota, including all of the major
 utilities, are participating in this process, and we
 are hopeful that Minnesota’s 70 percent mercury
 reduction goal will be met by 2006.

NSP does not believe that the scientific
 information on mercury is currently at a level that
 allows for EPA to make a sound determination
 regarding the need for regulation. We need to wait
 for some answers to figure out how best to address
 mercury. However, while we are waiting, we don’t
 need to sit idly by. There are actions that
 companies can voluntarily take, and should be
 encouraged to take, to reduce mercury releases.

These companies should be encouraged by the EPA to
 undertake voluntary mercury reductions and should be
 recognized by EPA when they do so. A key component
 in early voluntary reductions is the promise of
 recognition of those efforts if a mandatory program
 is established. As in Minnesota, sound goal levels
 could be established with the understanding that the
 matter will be revisited if the goals are not met.

We hope that EPA takes the time necessary to
 thoroughly review the additional information on
mercury that is expected in the near future.
However, whatever the EPA’s regulatory determination may be, NSP encourages the development of programs that allow for maximum flexibility and creativity similar to that allowed for SO2 and NOx reductions mandated by the 1990 Amendments to the Clean Air Act.

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

Thank you for the opportunity to comment today.

MR. WAYLAND: Is John Venners from KFX?

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

UNIDENTIFIED SPEAKER: Karen is not coming tonight.

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

MR. VENNERS: Thank you.

My name is John Venners I apologize for the delay. I'm a co-founder of KFx, Inc., headquartered in Denver, Colorado. KFx focuses on providing total
solutions for the power industry through delivery of
fuel production processes, intelligent software technologies, and professional services, enhancing the operational efficiency of energy production while preserving the environment.

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

Over $120 million has been invested over the past 16 years to develop, improve, and demonstrate the K-Fuel process. Actual test results have been most encouraging and clearly demonstrate the many environmental benefits of the pre-combustion process. For example, the reported results from the Clifty Creek plant in Ohio showed that the NOx was reduced by approximately 20 percent, SO2 was .67 MMBtu, and heat rate improvements of 2 percent
further reduce total emissions as a result of
utilizing premium fuel.

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

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

A recent trace elements analysis of K-Fuel by Rio Tinto indicated that the mercury content of the processed coal was below .03 ppm. Test results indicate that mercury in coal is present in elemental form rather than chemically bound with other
elements. Based on the vapor pressure of mercury at
elevated temperatures, mercury flashes from a liquid state to vapor when the pressure in the processor is let down.

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

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

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

Economics and cost always play a major role
when considering new approaches and technologies. In
addition to the many environmental and economic
benefits previously mentioned, the end-user utility
can largely eliminate these hazardous air pollutants
without the capital, operating, and disposal costs of
post combustion.

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

Thank you for the opportunity.

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

I expected to get a lot of comments about
this classic issue that we're facing. It is, in some
ways, a classic regulatory issue, and there is
uncertainty that has been addressed over the past
decade and more under this whole set of issues and
research that has been done and is continuing, and
then in this case also, a whole set of legal
requirements that we have to consider, requirements
of the Clean Air Act and ensuing litigation, and all
of that leads to the question of, when is the
appropriate time to act. There was a lot of
discussion of that this morning.

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

So I wanted to thank everybody at the
midpoint today for the amount of time that was
clearly devoted to putting together this really
extraordinarily detailed and carefully considered set
of comments. Thanks on behalf of all of my

colleagues at EPA. And I look forward to starting up

again this afternoon. We'll start up again at

1 o'clock in this room and complete the day.

Thank you very much.

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

MR. WAYLAND: Okay. We are now ready to

begin the afternoon session. Rob will be back with

us in just a few minutes.

We'll start the 1 o'clock session with

Casi Cramer of the Ohio Environmental Council.

MS. CRAMER: The Ohio Environmental Council

would like to urge the U.S. EPA to rule with a

positive determination concerning the regulation of

mercury. The hazardous air pollutant mercury poses a

very serious problem for Ohio. Ohio is currently

under a statewide fish consumption advisory due to

mercury contamination. The Ohio Department of Health

advises women of childbearing age and children under

six to limit their intake of fish to one meal per
week. Coal-fired power plants alone released
7,770 pounds of mercury into Ohio's environment in
the year 1998, earning the state a ranking of third
largest emitter of mercury emissions in the nation.

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

The U.S. EPA has the ability to relieve our
environment from the detrimental impacts of mercury
by implementing adequate regulations to control
mercury emissions on power plants. In doing so, the Agency will help us avoid a future environment that has become so polluted that simple summer time pleasures, the jobs created by sport fishing, and the consumption of fish as part of a healthy diet are off limits to entire statewide populations.

I would now like to read a letter from the sport fishing and conservation organizations that is addressed to the administrator. "The pending Environmental Protection Agency determination regarding whether or not to regulate mercury emissions from coal-fired power plants is of utmost concern to Ohio's sporting and conservation organizations, which represent 1,258,379 Ohioans. Coal-fired power plants in Ohio contribute approximately 54 percent, or 7,770 pounds, of our state's total mercury emissions. "In 1997, the Ohio Department of Health issued a statewide fish consumption advisory due to mercury contamination. This year's advisory states that children under age six and women of childbearing age should eat no more than one meal of fish per week from any body of water in the state, and that fish
from Lake Erie to the Ohio River and over 43 listed
water bodies in between should be eaten no more than
once a month.

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

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

Thank you very much.
MR. WAYLAND: Next we have Andy Knott of
MR. KNOTT: Thank you.

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

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

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

Prior to 1999, the relationship between airborne mercury deposition from power plant emissions had never been studied at depth. Using existing data, the Hoosier Environmental Council
examined this relationship and produced a report in
September of last year entitled, "Air Raid: Mercury Falling into Indiana Lakes." And I will submit a copy of the report along with some of the newspaper articles written about it with my testimony today.

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

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

Thirdly, because mercury can come from direct discharge from industry, we examine permit information. We determined that there are no NPDES, or National Pollution Discharge Elimination System, permits for mercury in any of the tributaries that flow into any of the seven lakes that were covered by our report.
Because coal-fired power plants are such a
large source of mercury emissions, we then examined

the proximity of coal-fired power plants to the seven

lakes. We found that there are nine coal-fired power

plants within 15 to 100 miles of the seven lakes.

While it's currently impossible to target where

emissions from specific smoke stacks go, based on

preexisting computer modeling studies, wind, and

precipitation patterns, we can at least infer that a

large part of the mercury in these lakes comes from

local power plants.

The impacts of mercury pollution are

significant. Take, for one example, Olin Lake, one

of the natural lakes that we covered in our report.

Olin Lake is the largest uninhabited lake in Indiana

and it is surrounded by a nature preserve. Yet, it

is covered by the highest possible level of fish

consumption advisory, a Level Five. A Level Five

advisory means that absolutely no one should eat fish

from water with this ranking. The fact that a lake

that would otherwise be pristine is contaminated to

such an extent that no one should eat fish from it is

a travesty.

We implore the EPA to regulate mercury and
other hazardous air pollutants from power plants.
EPA should develop national emissions standards for electric utilities that will require a 90-percent reduction from all coal-fired power plants over the next decade. It is time that this largest source of unregulated mercury emissions is brought under control.

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

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

Thank you for this opportunity.
MR. WAYLAND: Next Greg Block.
We will move on. We have Melissa Scanlan from Midwest Environmental.

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

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

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

We've heard a lot of great testimony today about the impacts of mercury on fish and on eagles and on people, pregnant women. We've also heard a lot of testimony from the industry reps talking about the need for more analysis, more studies, and the industry would like us to believe that we need to
study this problem more. They're leading us to an
analysis paralysis. They want the EPA to not take action, because every day that the EPA does not take action, they save money. And as outlined by the National Wildlife Federation, the EPA doesn't need to fall prey to this. The EPA has enough information today to take action. And we cannot wait.

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

Contamination of fish on tree lands is occurring due to Agency inaction, and I know that EPA will correct this problem. They have the responsibility to do so under the Trust Responsibility of the tribes, and we know that the EPA has been a leader amongst other federal agencies in Federal Indian policy, and we hope that you will live up to that in making this decision.
In order to exercise treaty rights,
regulators must maintain the quality and quantity of water resources and fish. Treaty rights are not the mere chance to dip your net into the water and, by chance, pull out an uncontaminated fish. They are the right -- the right -- for indigenous people to have an adequate and uncontaminated supply of fish, and this right imposes a duty on the Federal Agency to consider how their actions are going to uphold treaty rights and how their, conversely, inaction impair treaty rights.

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

This is a very sad state of affairs, when, in order to exercise your treaty rights, you have to run the risk of adverse health effects due to mercury
contamination that can be stopped and should be
stopped by this agency.

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

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

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

MR. REOPELLE: Good afternoon. My name is
Keith Reopelle. I'm the program director with
Wisconsin's Environmental Decade, a statewide group
that's been in Wisconsin for about 30 years at this
point in time, about 25,000 members. I thank you
very much. I truly appreciate this opportunity to
speak to you today.
It's a special day for me, in part, because I have a seven-year-old daughter, Teal, who's turning seven today, whose birthday is today. That's an excellent reminder of kind of why we're all here. These regulations are needed to protect our children, to protect their children, and future generations.

Wisconsin, with its many thousands of lakes at the top of the Canadian shield, is extremely susceptible to mercury contamination. And, as you know, Wisconsin's Department of Health issues a fish advisory which lists about 340 lakes and rivers due to unsafe levels of mercury contamination. Roughly a third of all the lakes our Department has tested have been added to the advisory with a .5 parts per million threshold for inclusion, but they only publish and print 40,000 of those fish advisories.

We sell about 1.2 million fishing licenses. So clearly, the vast majority of anglers are not seeing the fish advisory and are not able to follow it.

That list has been building for a long time. We've actually known about this problem for at least 30 years, in 1970, that then governor Warren Knolls actually banned, closed a 40-mile stretch of the
Wisconsin River due to extremely high levels of
mercury contamination found in some of the fish on
the river at that time. So we've known about this
problem for 30 years, and its action is long overdue
for the largest emitter of mercury emissions.

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

But we have a much more stark reminder of
all the damage that mercury can do to humans in
Wisconsin. His name is Henry Henk. He is a
gentleman who lives in Hayward, Wisconsin, northern
part of the state, who, several years ago, over a
six- to eight-month period ate a lot of fish.

Admittedly he ate fish for breakfast, lunch, and
supper. And those fish were mostly all from one
lake, which was on the fish consumption advisory.

He ended up losing about 100 pounds of weight, losing the use of his legs, losing his mind literally -- he didn't recognize his own wife; grinding his teeth to the bone. He was in a hospital in Hayward and then he moved to Duluth, where they ran blood tests and CAT scans and everything they could think of and were miffed until somebody asked his wife, did he have any unusual dietary habits. And she said, well, yeah, in fact, all he's been eating for the last half of year or so is fish for most of his meals. And they put two and two together and sent a hair sample down to the clinic, and as soon as they started treating him for mercury contamination, all his symptoms began to reverse. The doctor said he would never walk again. He is walking. I've met with him several times. He uses braces and such. But if mercury can -- and it wasn't a confirmed case by the Department of Health because the tests were done on hair and not blood and not in the right time frame, but you could certainly ask his doctors, and they have no question of what did it.
And if mercury can do that to an adult human -- this
gentleman is over 200 pounds -- it is not at all hard
to imagine that it could impact fetuses or small
children.

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

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

In fact, the state has pursued such a
regulation on its own. There was a bill introduced
into legislature last two sessions, Senate Bill 177,
to regulate mercury emissions from power plants. And
I just want you to know that there is much broader
support in Wisconsin than maybe is represented here
today. The bill was introduced by 15 Democrats and
six Republicans. The leading author of the bill in
the State Assembly was a Republican. The bill had
various run support from our Department of National
Resources. And I'm sure that Secretary Meyer will
contact you on his own in terms of his interest in
mercury regulations.

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

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

But obviously if we regulated mercury in
Wisconsin, that would not solve the problem.

Obviously this is a contaminant that doesn't know
boundaries, and obviously the one thing I think that
utility representatives and environmentalists can agree on is there needs to be a national, regional national solution, and that's why this agency is so critical and this action is so critical.

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

The other thing I wanted to mention, I'll leave copies of our report, which, by the way, has a more detailed description of Henry Henk and the impacts that he realized from eating
mercury-contaminated fish. I'll give you copies of
that report. We've also gotten a couple hundred
postcards from members of ours in Wisconsin addressed
to the Administrator, which I'll leave with you.

Thank you very much for the opportunity to

MR. WAYLAND: Next we have Isaac Elnecaze.

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

In my testimony today, I want to discuss
more in terms of the magnitude of the emissions that
come from the utilities, as I've been able to figure
them out. I would like to include, beyond mercury,
some of the other toxics that are involved, certainly
from the TRI reports, and briefly talk about the
health effects of some of these other toxics, what I
would consider to be the economic -- the perverse
economic incentives, exemption that utility boilers
enjoy from regulation which causes, I think, problems
and which, I think, need to be addressed. Finally, I
want to discuss the mercury trading issue because I've heard several people discuss it today, and I want to bring our viewpoint on this.

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

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

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

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

So, therefore, it seems to me that the most cost-effective way of dealing with something like mercury emissions is to deal with utility boilers, since you can certainly get the largest amount of emissions at the least cost without unduly burdening other sources, and it becomes a much fairer policy.
Also, because you have this exemption of
utility boilers, what seems to happen -- at least
what seems to be making common sense is that it
provides a disincentive, almost a perverse
disincentive to move towards cleaner forms of energy,
to move towards renewables, because it's not costing
anything for utilities to continue emitting mercury.
If regulations come into place, now you're taking
into account the cost of health effects that mercury
emissions and other toxics cause, in which case you
now provide incentives to move towards cleaner forms
of energy and kind of a coal on a much more level
playing field.

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

However, we want to mention specifically
that we do oppose mercury emissions trading. It's a
very quick -- there are trading schemes for other
pollutants, but putting them in place of mercury and
other toxics ignores the fact that mercury and other
toxics are different than NOx or SO2. NOx and SO2
are fun pollutants; they spread out. Mercury and
other toxics are very often very localized, have very
localized effects, and are, in a case like mercury,
they are persistent and bioaccumulating. So,
therefore, formation of a hotspot for a toxic is of
much graver concern. And so we do not, given the
tendency for hotspots to occur, and the fact is, many
of the older plants in Michigan are in low-income
areas, are in minority areas, like in the southeast
part of the state. We feel like it would be very
counterproductive and would offset a lot of the gains
you could make by putting in mercury reductions by
having a mercury trading system.

Thank you very much for your time.

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

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

Clear the Air is a project initiated by the
Pew Charitable Trust. It is a project of three
leading clean air groups, the Clean Air Task Force,
the National Environmental Trust, and U.S. PIRG. We also work with dozens of grassroots organizations across the country to really face the power plant issues in Washington.

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

Recently we released a report that I handed out to you called "Casting Doubt: Mercury, Power Plants, and the Fish We Eat." The report was prepared by the Clean Air Task Force for Clear the Air. Essentially what the report does is takes a look at the most recent fish advisories data from around the country. As you know, the State fish consumption advisories recommend either limiting or
avoiding consumption of fish from certain water
bodies or from specific types of water bodies. And I
want to run through kind of the summary of what that
look at that information showed us.

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

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

Another interesting thing, I think, from the
report to look at is that the TRI data shows us that
power plants are responsible for more than 50 percent
of mercury emissions in 13 states. And just taking a
look at some of those states and what kinds of fish
consumption advisories they're issuing. 17,254 acres
of Colorado's lakes are under advisory; 35,673 miles
of Indiana's rivers; 321,858 acres of Montana's
lakes; 69,377 acres of lakes in North Dakota; 29,000
acres of New Mexico's lakes; and over 100,000 acres
of Wisconsin lakes. Again, a lot of those states
aren't here today, so I thought it was important to
take a look at the combination of power plant mercury
emissions and what that's showing in terms of their
fish consumption advisories.

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

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

Recreational anglers, Asian-Americans,
members of some Native American tribes, Native
Alaskans, and persons of Caribbean ethnicity may have
methylmercury exposures two to five times higher than exposures experienced by the average population.

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

We think it's time that the utility sector do their part to reduce mercury emissions. We would like to see reductions reduced by an overall 90 percent by 2003. I just realized there's a typo in the testimony. I'll correct that in the record.

Ideally, we would like the EPA to require reduction of mercury from the power plants to at least that level and by the same year. We believe tight caps and tight time frames are really essential to rush the technologies to market that it's going to take to get to these reduction levels. So we hope you consider setting some very strict standards.

I think what our reports says, and I'm sure a lot of the testimony here, is that, the more we look for mercury in fish and the more we look for a
mercury problem, the more we find it, and it's time
that we work with the power sector to reduce mercury emissions. Thank you.

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

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

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

We would like to say at the outset that this is the most important decision that the U.S. EPA will make during the remainder of the Clinton
administration.
Power plants are the number one industrial source in the U.S. of emissions of carbon dioxide, sulfur dioxide, and nitrogen dioxide. According to results thus far from the coal sampling data collected under EPA's Information Collection Request, power plants are the number one source of mercury emissions in the U.S. And, recent data from the Toxics Release Inventory indicate that power plants are the number one emitters of acid gases, including hydrochloric acid and hydrofluoric acid.

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

We submit that EPA's own study of utility hazardous air pollutants confirms that power plant HAP emissions should be treated the same as HAP emissions from other sources. Utility sources are significant toxic emitters. The HAPs released by power plants are known to have adverse effects on
health and the environment, and there is no basis for
concluding that current exposures to toxics released by power plants are innocuous. There are already readily available means to dramatically reduce releases of toxic air pollutants from utility sources. All of these factors require EPA to address toxic releases from utility sources in a manner that's consistent with your obligations under Section 112.

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

The exposure analysis demonstrated that elevated mercury exposure -- that is, exposure in excess of EPA's Reference Dose for methylmercury -- is of concern for key segments of the U.S. population. Other analyses since the Utility Study show that an individual who consumes a single high-mercury fish meal has elevated methylmercury concentrations for about two weeks. And another
study found that a recreational angler who consumes
fish daily during a one-week vacation could be exposed to methylmercury levels that exceed all federal guidelines for several weeks. This information is particularly relevant to women who may be pregnant or planning pregnancy. It also illustrates that while reducing uncertainty in the Reference Dose is important, exposure is even more important. Consuming fish with methylmercury levels commonly measured in U.S. waters can result in exceedances of even the least conservative federal methylmercury benchmark.

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

Now, we also encourage EPA to consider other pollutants in the context of a regulatory determination. In the Utility Study, EPA indicated that, in addition to mercury, nickel, arsenic, lead, cadmium, and dioxin are all pollutants of "potential concern." While an analysis was performed in the Utility Study of the potential impacts of the
short-term releases of acid gases, only routine
We urge EPA to evaluate the potential impact of these acid gases under other emission scenarios, such as start-up, malfunctions, short-term emissions from peaking units, and inversion weather events. In addition, we believe EPA should evaluate exposures other than inhalation for lead and for cadmium, pollutants that persist in the environment and bioaccumulate in the food chain. Of critical importance is the recent reassessment of the cancer potency of dioxin. The proposed ten-fold increase in potency will increase EPA's cancer risk estimates for dioxin exposure to as high as 1 in 1,000 for some segments of the population.

In terms of control technologies, we believe that based on data presented in the peer-reviewed literature, mercury controls are technically feasible and mercury emissions can be significantly reduced. Mercury reductions are being documented for a variety of control device configurations and different types of coal, while ongoing research is focusing on optimizing mercury capture by existing control devices and developing new technologies. We believe
that cost-effective and efficient technologies to
reduce mercury emissions from power plants can be
achieved within EPA's likely regulatory time frame.
In the absence of a positive determination however,
the promising research and development in this area
will cease.

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

Now, some other issues that the Agency
should consider are those of children's health,
environmental justice, and reducing emissions of
persistent bioaccumulative toxics. These areas have
been repeatedly identified as priorities of this
Administrator. The EPA's "National Agenda to Protect
Children's Health from Environmental Threats" was developed in recognition that children are more highly exposed to environmental toxins and may be more susceptible to them during prenatal development and childhood. Both the Utility Study and the Mercury Study conclude that children face the highest risks from consuming fish contaminated by mercury emissions, with upwards of three million children between ages of three to six having mercury exposures greater than the Reference Dose. Clearly, such a finding warrants a positive regulatory determination. The Utility Study also indicates that, in addition to children, subsistence fishers shoulder a disproportionate amount of the risk from eating mercury-contaminated fish. The Mercury Study identified a number of ethnic groups that consume fish far more frequently and in greater amounts than the general population. These includes Native Americans, Alaskan natives, persons of Caribbean ethnicity, and persons of Asian/Pacific Islander ethnicity.

Environmental justice as well is important in the sense that people in poverty are also
disproportionately affected by power plant emissions.
People living within one mile of power plants are twice as likely to be poor and about 30 percent more likely to be non-white than the national average. Low-income communities and people of color are also exposed to numerous power plant pollutants other than mercury, as well as pollution from nearby industrial facilities.

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

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

Thank you for your time.

MR. WAYLAND: Next we have Cindy Luppi from
the Clean Water Action.
MR. WAYLAND: Dennis Leonard from Detroit Edison.

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

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

Additional research is needed for two reasons. One is, there's been a new understanding of chemistry of mercury cycling in the atmosphere. It
points out that oxidized mercury is reduced to
elemental form through chemical reactions that were not understood a couple years ago; and the other reason is the results of the mercury deposition network.

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

I'd like to contrast that prediction with actual data. This is data gathered from a mercury deposition network maintained by the United States Geological Survey. A couple interesting things to look at is the lack of a pronounced west to east gradient. There is a slight gradient, but nowhere
near the ten-fold variation that the Report to
Congress simulation had predicted.

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

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

Thank you.

MR. WAYLAND: We are running a little ahead of schedule. I'd like to check to make sure that there is no one who has arrived late that was on the
agenda who has not had an opportunity to speak.
Is anyone that's come in that was on this morning's agenda that we inadvertently skipped over because they weren't here?

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

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

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

The Class of '85 supports regulations based on informed decision-making and sound science. In the context of this regulatory determination, this means that EPA must possess a full understanding of the health risks posed by utility hazardous air pollutant releases prior to making any decision to
regulate on the basis of health hazards.
In its Report to Congress on air toxics emissions from electric utility steam generating units, EPA identified further research that was needed in order to quantify the magnitude of health risks posed by utility emissions of several hazardous air pollutants, particularly mercury. Among other things, the Agency noted that there needed to be a better assessment of the effect that a reduction in utility emissions would have on methylmercury levels in fish; that further research was needed into the actual consumption levels and methylmercury exposures of subpopulations of concern; and that additional study was required to determine the mercury exposure levels that were likely to result in adverse health effects in humans.

By way of example, the first of these issues alone -- the effect of reductions in utility emissions on methylmercury levels in fish -- requires additional data to fill in deficiencies in three categories: First, uncertainties associated with atmospheric modeling; second, uncertainties associated with aquatic cycling modeling; and third, lack of analysis on whether sufficient reduction in
mercury sources may have already taken place to bring
methylmercury in fish below levels of concern.

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

The answers to the questions raised in the Report to Congress go to the very heart of whether it is necessary and appropriate to regulate hazardous air pollutant emissions from electric utility units. At the very least, the Agency should fully answer these and the other questions posed in its Report to Congress before making any decision to implement a costly regulatory program. The Class of '85 understands that several studies intended to answer these and other critical questions related to mercury
are currently being performed by EPRI and others. It
behooves the Agency to await this upcoming
information and undertake a thorough review of the
results of these studies so as to make an informed
decision.

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

The Class of '85 implores the Agency to take
the necessary time to fully synthesize and analyze
the available data, including identification of
information gaps, and to conduct the additional
research needed rather than rushing to make a
decision. EPA must allow science to dictate the
appropriate policy, rather than allowing policy to
precede the state of the science.

Thank you again for accepting these comments
on behalf of the Class of ’85 Regulatory Response
Group.

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

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

Representing an organization dedicated to
lung health, I wish to express a concern about toxic
pollutant and that have an impact on respiratory. I
am aware of concerns regarding the impact of mercury
emission. This is not my area of expertise, and I
will focus my comments on other toxic pollutants
emitted by power plants.

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

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

Over 40 percent of all TRI emissions in Illinois are from power plants. In the Chicago ozone non-attainment area -- an area of about six counties plus a few townships incorporating most of the metropolitan area -- the largest source of TRI air emissions were older coal-fired power plants owned by Midwest Generation. Recent TRI figures show these facilities annually emit a total of over 2.6 million pounds of toxic material to the air. Of this material, approximately 91 percent of the emissions from these plants were acid gases, primarily HCL and
HF, hydrochloric and hydrofluoric.
Some of the potential lesser health effects of HCL include inflammation and ulceration of the respiratory tract, rhinitis, bronchitis, cough, and choking. Health effects of HF are similar.

Inhalation can cause severe respiratory tract irritation that, in large concentrations, may be fatal. Overexposure can cause irritation of the eyes, nose, and throat; pulmonary edema, or water on the lungs; nasal congestion; and bronchitis.

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

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

An agency control strategy must look simultaneously at reducing acid gases, which the industry emits in very large quantities, along with
other pollutants of concern, such as mercury, and
criteria pollutants.

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

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

Thank you for allowing me to make a statement.

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

MR. FIORENTINO: Good afternoon. My name is Michael Fiorentino. I am Staff Attorney for Clean Air Council. We were founded in 1967. We are a Pennsylvania-based, membership, nonprofit organization. We work through a combination of
public education, community advocacy, and oversight
of government enforcement of the environmental laws
to ensure that all can live in a healthy environment.

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

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

Now, as you probably heard today, fully
one-third of the mercury air emissions in the U.S.
result from the burning of coal in electric utility
steam generating units. In the Commonwealth of PA,
that is higher than 36 percent. A gap has existed in
EPA's strategy for reducing the threats from mercury
emissions in the environment, and that is the lack of
regulation of mercury air emissions from power plants
in particular.
Mercury air emissions have been regulated by
EPA, of course, for a number of other industries under the NESHAPs. But EPA is under court order to fully comply with Section 112(n)(1)(A) of the Clean Air Act and make a determination by December.

Section 112 requires EPA to regulate mercury and other air toxics from power plants if such would be "appropriate and necessary" considering the threats posed to human health. We are waiting for the results of your commission study.

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

In addition to holding the distinction of being the number one state for mercury emissions from power plants, PA also has the misfortune of being downwind from other high emitters of mercury air pollution. Ohio is number three for mercury. Illinois, Indiana, and West Virginia are 4th, 6th, and 7th respectively. All these states are within
range to deposit significant mercury on Pennsylvania.
Deposition modeling indicates that one half of mercury emissions deposit within 600 miles and 15 percent within the first 30 miles from the source. Power plant sources from within and without Pennsylvania, therefore, are contributing to mercury degradation in our waterways. Fish advisories for high mercury content are prevalent in many states and may also exist in Pennsylvania. Some states have issued advisories on all waters within the state, and many of these advisories warn of the associated risks of eating a small amount of fish perhaps in a week, perhaps in a month, perhaps not at all. Clearly, that is not acceptable.

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

The Council believes that EPA can come to no other conclusion, but that it is entirely
"appropriate and necessary" to regulate toxic air
emissions from power plants. It is unacceptable for
this $400-billion-a-year industry to remain exempt
from controls that many other industries have already
contended with.

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

Indeed, Congress intended that the Clean Air
Act of 1990 would force technological advances in
pollution control. Furthermore, it is clear that the
electric power industry is well-equipped financially
to make the necessary investments to these fossil
steam plant. Time after time, industry has
overstated the projected costs to add the necessary
pollution controls in other areas of air pollution,
and EPA has not been and should not be deterred by
these arguments. Even if there is a modest price
increase that would result from the application of
these technologies to reduce mercury, it should be
done. The public has consistently stated a
willingness to pay more for environmental benefits.

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

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

MR. WAYLAND: Karen Hadden from the SEED Coalition.

MS. HADDEN: Hi. My name is Karen Hadden, and I am here on behalf of this SEED Coalition, Sustainable Energy and Economic Development. We're an environmental organization in Texas statewide with
4,000 members, and we work closely with many other
citizen and environmental organizations.

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

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

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

As discussed earlier today, mercury contamination is a serious environmental and health problem. Together with Clear the Air and other environmental and citizen organizations, SEED coalition recently held a series of press conferences throughout the state in five major Texas cities. And as we traveled, reporters and citizens everywhere we went expressed a great deal of concern when they learned about the high levels of mercury.
contamination in Texas.
It takes only a fraction of a teaspoon, just one gram, of mercury to contaminate a 25-acre lake to the point that fish are unsafe to eat. And, yet, in Texas, we have many times this amount being emitted routinely by power plants, and as a result, thousands of our children are at risk. Here are some examples:

In San Antonio, the J.T. Deely plant is located very close to neighborhoods. It emits 381 pounds of mercury each year.

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

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

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

Mercury ends up in our lakes, rivers, estuaries, and the Gulf of Mexico. Health risks result from methylmercury in fish that is consumed.

As noted earlier today, health effects can range from
subtle to severe, and there is a high level of risk
for developing fetuses and children. Even when debilitation is not automatically noticeable, mercury can cause delayed mental development, learning disabilities, and difficulty with language, motor development, attention, and memory. So the health concerns absolutely need to be taken seriously, and the mercury issue needs to be addressed.

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

Mercury contamination, therefore, represents a threat to the fishing industry. There are fish consumption advisories for 10,000 lake acres at Steinhagen Reservoir, and this is for largemouth, striped, and white bass and freshwater drum. And these are some of the fish that people really like to
eat. Bass and drum advisories exist for other lakes,
reservoirs, and rivers. It is unsafe to eat
shellfish, fish, and crabs from upper Lavaca Bay, and
there is a statewide advisory not to eat king
mackerel from the Gulf of Mexico due to mercury
contamination.

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

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

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

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

Thank you.

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

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

ELPC is concerned about the increasing threat to human health, wildlife, and fishing-related businesses caused by mercury pollution in Midwestern lakes and streams. Thousands of Midwestern water
bodies are subject to advisories warning people to
reduce or avoid eating several types of fish due to mercury contamination, and the number of advisories is growing.

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

Continued delay flies in the face of the goal of the Great Lakes Quality Agreement to virtually eliminate persistent and bioaccumulative
toxic substances in the Great Lakes.
I call on the EPA today to take the necessary steps to require each coal-fired power plant to reduce mercury air emissions by at least 90 percent within the next decade. The goal of virtual elimination of mercury has long been accepted public policy. The only question is, how do we get there and when?

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

Much progress has been made in reducing mercury releases into the environment, but the job is far from finished. The U.S. EPA must act now on all of the data it has accumulated over the last ten
years demonstrating the threat of mercury pollution
I respectfully urge the Agency to make a determination this year to institute stringent national controls to significantly reduce mercury air emissions from electric utility power plants.

Thank you.

MR. WAYLAND: Marcia Willhite, STAPPA and AIAPCO.

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

Thank you for this opportunity to provide you with STAPPA and ALAPCO's recommendations related to the regulatory determination the U.S. EPA must
make by December 15th, on whether it's "appropriate
and necessary" to regulate emissions of hazardous air pollutants, or HAPs, from electric utility steam generating units.

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

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

According to EPA's own studies, emissions of HAPs, and particularly mercury, from electric utilities are a significant problem. Of the hazardous air pollutants associated with coal-fired electricity production, mercury was singled out by EPA as the pollutant of "greatest potential concern."

Electric utility steam generating units are one of the largest sources of mercury emissions in this country, responsible for more than one-third of the anthropogenic mercury emissions.

While other types of sources, namely
municipal and medical waste incinerators, also emit
mercury, they are already subject to stringent federal and state regulations designed to limit their emissions of mercury, among other pollutants. Thus, the large coal-fired boilers, the only major uncontrolled category of mercury emissions, will be an even larger fraction of the overall future emission inventory.

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

Controlling mercury emissions from electric utilities could also have the side benefit of
reducing other toxic emissions. EPA's electric
utility study identified some additional risks from emissions of toxic air pollutants. For example, two coal-fired and up to eleven oil-fired utilities were found that posed a local increased cancer risk of more than one in a million. When multi-pathway exposures were considered, additional high risks were identified resulting from exposure to arsenic, dioxin, and radionuclides. These additional risks add to the weight of evidence that convinces us that HAP emissions from electric utilities should be addressed.

A second reason we believe regulations on electric utilities are essential has to do with equity. The technology-based Maximum Achievable Control Technology program under the Clean Air Act is designed to ensure that all significant sources of HAPs implement controls to reduce emissions to the maximum extent feasible. Electric utilities represent a large portion of the toxics emission inventory. The 1998 TRI data indicate that electric utilities are responsible for 38 percent of the toxic releases to air reported nationwide from facilities covered by the TRI program.
It seems incongruous then that EPA requires
stringent limits on mercury from medical and municipal waste incinerators, while not requiring a minimum level of control from electric utilities, a much larger polluting industry. Furthermore, it also seems inequitable that the MACT program would not call for adequate HAP controls from electric utilities, many of them large sources, while requiring small sources, including dry cleaners and other small businesses, to limit their emissions. Such a regulatory policy, which exempts utilities from HAP controls, could seriously undermine our nation's efforts to develop equitable and responsible HAP control programs.

Finally, EPA's initiative to reduce Persistent, Bioaccumulative, and Toxic, or PBT, substances represents a third reason for EPA to regulate emissions from utilities. In the action plans for addressing PBTs, including mercury, EPA committed to using every tool available to reduce or eliminate releases of these substances to the environment. Regulating toxic emissions from utilities presents a perfect opportunities to fulfill this commitment.
Finally, STAPPA and ALAPCO believe it makes
most sense to regulate HAPs in the context of an integrated multi-pollutant strategy for the utility sector. Thank you for your consideration of our recommendations on this issue.

MR. WAYLAND: Michael Rossler, Edison Electric Institute.

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

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

The electric utility industry is committed to environmental protection, and this commitment goes beyond mere regulatory compliance. In recent years, EEI and its members have implemented flexible,
voluntary, and cost-effective reductions under our
Climate Challenge program, resulting in the removal of over 170 million metric tons of carbon dioxide equivalent. We have worked with federal and state agencies on improving land management practices, including the preservation of habitat conservation areas. We have initiated facility-specific pollution prevention programs resulting in substantial reductions in the usage of TRI-listed chemicals. And we have undertaken comprehensive research and development programs in connection with many of today's most pressing environmental issues. EEI hopes to bring this same approach to the mercury issue.

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


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

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

Another critical issue is mercury controls. Significant uncertainties exists about the limitations of both existing utility mercury emission controls that also reduce mercury, and emerging, mercury-specific control technologies. The results of stack sampling performed under EPA's mercury Information Collection Request have shown a wide range of mercury removal efficiencies across a variety of control devices. As such, it would be difficult for EPA to make regulatory decisions until
all the ICR data are available and ongoing control
technology development projects have been completed.

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

In addition to the ICR database, other new information relevant to the mercury debate will likely be available over the next six months. The National Academy of Sciences' pending review of EPA's Reference Dose for mercury exposure, currently expected at the end of this month, is but one of many important studies that could affect EPA's decisions.

The Food and Drug Administration and other federal agencies currently are working on a massive, nationwide examination of the dietary habits of the American public. Some results of this fourth installment of the National Health and Nutritional Examination Survey are excepted late this summer, and it is widely anticipated that new information on consumption patterns will provide a piece of the health effects puzzle identified by EPA as a critical need for more accurate risk assessments. Additional results are also expected this fall from the Seychelles Islands study, which includes newer human
exposure data than studies relied on to date by the
EPA. Each of these important studies will help to address existing scientific uncertainties and to assist EPA in making the findings required by the Utility Study, as well as to better inform the Agency's pending regulatory determination.

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

Regardless of when EPA proceeds with its determination, if the Agency decides to develop a utility mercury emissions reduction proposal, the determination should be written broadly and in a non-prescriptive manner that does not foreclose any potential regulatory options. This is critical because EPA has a high degree of discretion under the Clean Air Act, Section 112(n)(1)(A). There is nothing to prevent EPA from crafting a rulemaking that ensures scientifically-justified and verifiable mercury reductions, while at the same time providing the electric utility industry maximum flexibility to achieve those reductions in a non-prescriptive and
cost-effective manner.
Finally, EEI believes it would be mutually beneficial to work with EPA as the agency determines to what extent mercury reductions may be needed from power plants. The utility industry recently submitted data on the level of mercury in the stack emissions and coal it burns to produce electricity, and it would be interested in discussing with EPA the implications of this data. The utility industry also continues to collect data on the effectiveness of various pollution control systems in reducing mercury emissions and is funding additional health effects, fate-and-transport, and other related research. Again, the industry would be interested in discussing these projects with EPA.

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

Thank you.

MR. WAYLAND: Diane Brown, Illinois PIRG.

MS. BROWN: Thank you for the opportunity to
testify today. My name is Diane Brown, and I'm the
Executive Director of the Illinois Public Interest Research Group, Illinois PIRG. Illinois PIRG is an environmental and consumer advocacy organization with 20,000 members across Illinois.

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

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

Illinois PIRG is greatly concerned about mercury pollution in Illinois and across the nation. I think you've heard today and you probably will continue to hear a number of your own reports, the
information from that and why people are so concerned
I wanted to just kind of read back to statements from the Mercury Study report to Congress in 1997 that, I think, really exemplify some of our concerns on this issue. The first is that the neurotoxic effects of low-level exposure to methylmercury are similar to the effects of lead toxicity in children and include delayed developments and deficits in cognition, language, motor function, attention, and memory.

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

We feel that limiting mercury pollution from coal-fired power plants will significantly reduce the detrimental public health and environmental threats. Again, I think most people are familiar that electric
utilities are the largest known source of mercury
releases to the air, and also, according to the most recent Toxics Release Inventory, electric utilities are also the largest single source of toxic air releases nationwide.

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

We're here today to join with a lot of the other -- statements have been made from people in the public interest, environmental public health community, and say that we believe that electric utilities must be treated like any other source facing regulations under the air toxics provisions of the Clean Air Act. Controlling mercury emissions
from coal-fired power plants must be an agency
priority. We need national mercury emissions standards for electric utilities that will require at least a 90-percent reduction from coal-fired power plants. We urge you to adopt and to implement these policies to help protect public health and to protect the environment.

Thank you.

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

Sherilyn Young, Clean Water Action Alliance.

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

My neighborhood is called the West Side, and the power plant that I'm talking about is Northern States Power's High Bridge plant. The West Side is an average working class neighborhood of about 15,000 people where a family with kids can afford decent housing. It's a neighborhood of old-timers whose
families have been there since the last century, and
it's a neighborhood that attracts new immigrants. The West Side has people like me who are single and want to live in a safe, affordable neighborhood with a strong sense of community. It's a neighborhood with people like my friend Cliff, an 80-year-old lifelong fisherman and lake advocate, who believes people in the city should be able to walk down to the river or to the lake and catch a meal. It's made of parents raising their families who are very concerned about what problems pollution from the power plant may cause for their children. In fact, almost one-third of my neighbors are kids under 18, and 14 percent, like Cliff, are over 64 years old. That makes almost half of us who are very vulnerable to what comes out of the stacks at the High Bridge Power plant.

The West Side has a lot of assets. We're a city neighborhood. You could walk downtown to work. You could walk to the State Capital, if you work there. We host the largest Cinco de Mayo celebration in the state. We're at the core of a metropolitan area of over a million people, but we enjoy the Mississippi River corridor, two regional parks, the
largest heron rookery in the state is nearby, and the
Minnesota Valley National Wildlife Refuge is nearby.

Obviously, it's a great place to live.

But we're also entirely within one mile from a coal-fired power plant which emits 88 pounds of mercury, 3,768 tons of sulfur dioxide, and 5,128 tons of nitrous oxide per year and more. I didn't list everything. I only got five minutes. Just a half mile downstream is Metro Waste treatment facility, which incinerates 80 percent of the sewage in Twin Cities, and emits 240 pounds of mercury per year. Just a mile downstream from that is North Star Steel, the third highest polluter in our state. From these examples, you can see that people in my neighborhood, just one of the neighborhoods that are nearby, are exposed to a lot of serious, harmful pollutants.

We don't take this lightly. We have a neighborhood environment committee, which I'm a member. We educate ourselves and the wider community about environmental issues and advocate further solutions. In the last five years, we've accomplished a lot to reduce the amount of pollution in our neighborhood. We promote recycling and reuse
through our annual neighborhood cleanups. One of our
members installed solar panels just two years ago and now sells solar energy to Northern States Power. We prevented an automobile shredder from being sited in our neighborhood, which would have emitted high amounts of heavy metal, including mercury, into our air.

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

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

This study, which I'll leave for you, and the example of my neighborhood, shows that Minnesotans are ready to do what we can. But we need
your help. Individual willingness to pay,
conservation at the household level, and neighborhood planning alone can't protect or improve the health of me and others in my neighborhood. Our neighborhood environment committee can't cut asthma rates for the 5,000 children in the neighborhood, stop the manufacture of products with mercury, order power companies to install pollution reduction equipment, or switch to renewable energy. We can only urge you to do this. So that's why I'm here.

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

I'll just go to the end and say, the main thing is, this decision is not about weighing costs. It's really important. Okay, take a deep breath. It's not about what technology is out there, what studies are out there. It's not about weighing costs
and who benefits from what. We're all going to
benefit from mercury reduction, from hazardous air pollutants. This decision is about doing what we can, like our neighborhood is, to improve the health and when we can. It's about preserving ecosystems which sustain us, and it's a decision about our future. Sorry about that. Thank you.

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

MR. LOURIE: Good afternoon. Thanks very much. My name is Bruce Lourie, and I'm with an organization called Pollution Probe. It's based in Toronto, Ontario on the other side of the border. And Pollution Probe is a membership-based environmental policy and advocacy organization that was founded in Toronto in 1969. And I'm here today, I have an undergraduate degree in earth sciences and a master's degree in environmental policy, and we work with the approach of developing intelligent, scientifically-sound approaches to environmental policy-making. I personally work extensively in the fields of energy policy, electricity competition, and mercury pollution programs and policies. And I'll forward to you a fairly extensive literature review
that we've completed looking at the science of
mercury, particularly looking at the uncertainties related to mercury in the environment.

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

I'm here speaking from a Canadian perspective, and I thought it would useful to provide you with some rationale for that. First of all, I'm disappointed to have to report that my governments in Canada, both federal and provincial, are leaderless and, I hate to say, really spineless on the issue of mercury pollution specifically and environmental regulation in general. We too emit large quantities of mercury, and some emissions find their way to the northeastern United States. You may not be aware, but North America's largest coal-fired generating station sits on the north shore of Lake Erie, about 60 miles halfway to Buffalo. And right now, we have
no mechanisms in place that restrict our emissions.
Although I have to report, I just heard yesterday that through the Canada-wide Standards Process, the governments will be setting a standard January 1, 2002 on the electric power sector, but I can assure you that the decisions made by you in this process will have a very significant effect on what that standard will look like.

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

Decisions must be made based on what we know, with precaution in mind, and governments have a long history of waiting too long to find "certainty" at the insistence of industries who have a vested
interest in perpetual delay.
From my reading of the literature, there appears to be general agreement among scientists and policy-makers regarding the following:

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

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

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

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

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

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

We know it bioaccumulates and biomagnifies at a greater rate than almost any other substance we
know.
We can measure increasing dangerous levels of mercury in fish and wildlife in the northeast. In fact, in Canada we have results of the first confirmed loon that has died from high levels of mercury poisoning in Nova Scotia.

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

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

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

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

Thank you very much.

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

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

For thousands of years, Penobscot children rode in canoes with their parents before they could walk. They witnessed life on the river, which was the central artery of the Penobscot Nation, from before their earliest memories had begun to form. The river was involved in all aspects of life, from
hunting and gathering to travel, recreation, and
spiritual activities. They swam in the river,
bathed, drank, and took fish from the river.

Children learned to catch, clean, and preserve fish;
they learned the honor of providing for their family;
you learned to thank Mother Earth for her generous
bounty.

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

The Bald Eagle is the central symbol in the
religion and culture of the Penobscot people.

Nswakan is the spiritual connection with the Creator,
the Great Spirit himself. Sacred feathers from this
bird are used for healing and prayers. The eagle, as
are its feathers, is the focus of numerous dances and ceremonies. The role of the eagle in the spiritual and cultural life of the Penobscots is central and integral to the cohesion of cultural identity. The only parallel available from western religion that would convey the cultural importance of the Bald Eagle would be the most sacred symbols, such as the Cross and the Star of David.

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

It's well known that coal-fired steam generating power plants account for one-third of all the anthropogenic mercury emissions in the United States. It is also well known that mercury cycles through the environment, where it bioaccumulates, harms fish, eagles, other animals, and people, and can be released through methylation to travel through
the environment. What is not so well known is the
extent of this contamination. When I meet with people from all over the country, they express the common belief that Maine is a pristine and underdeveloped state, an outdoor paradise. Most are very surprised to hear that Maine has a statewide advisory limiting consumption of all freshwater fish due to the presence of mercury.

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

ATSDR is currently investigating the health risks to the Penobscot people from consuming contaminated fish. Meanwhile, sources hundreds and thousands of miles away continue to release contaminants that travel to the Penobscot Nation.
The Penobscot Nation has had an active Department of
Natural Resources for more than 20 years. We have proven that mercury deposition and bioaccumulation is occurring on the reservation. We've worked at great lengths to reduce local emissions of mercury and dioxin, but regional and national sources continue to have a significant impact.

Many people will argue that costs to control mercury are too high. EPA must also consider the true cost of failing to control emissions of mercury from steam-fired utility generators. If EPA fails to require controls to remove mercury, the Tribe, instead of the source, will continue to pay in terms of lost resources, culture, and health, and there is more to the equation than the cost of controls. EPA must also calculate the value of the loss of resources and culture to Tribes, the cost of not teaching their children to fish. EPA must include the costs to children that suffer neurological damage from eating fish because their parents didn't know that the fish was contaminated by the mercury released thousands of miles away. Finally, EPA must consider the trust responsibility to Tribes: There is no economic limitation to the obligation to
protect tribal sovereignty, properties, natural and
cultural resources, and tribal cultural practices.

EPA's obligation must be addressed when considering
the development of this MACT standard. How will you
evaluate the people of the Penobscot Nation and other
tribes, their culture, their resources, and their
health?

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

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

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

On behalf of the Penobscot Nation, thank you
for the opportunity to speak here today. We welcome
any and all opportunities to work towards the
preservation of the environment and our culture.
Thank you.
MR. WAYLAND: N. Dharmarajan, Central and South west Services.

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

I would like to take this opportunity to embellish the sentiments expressed by my peers here today and focus my comments on some policy issues. The EPA is obligated to fully resolve the issues articulated in its Utility Study Report to Congress in 1998 and follow the needed steps to gestation before making the determination to regulate utility emissions of mercury. My intent today is to:

One, recap some of the key work efforts in place to fulfill the data gaps and assessment needs cited in the EPA Report to Congress, i.e., the areas of scientific uncertainty needing to be addressed;

and two, put in context the relevance and importance of a holistic approach to the results synthesis and
use from such efforts by the EPA.
The suite of uncertainties as reported in the 1998 Report to Congress can be characterized as:

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

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

The EPA's mercury Information Collection Request to quantify and characterize utility mercury emissions at a cost to the utility industry 20 plus million dollars; the Department of Energy's three-year efforts in understanding utility emissions, limitations, and capabilities of mercury control technologies, which is estimated upward of $13 million; thirdly, the Congressional mandate to
the National Academy of Science to review the
toxicological effects of mercury at some unknown
cost; finally, the multi-million dollar Electric
Power Research Institute's work relative to all of
the above-listed uncertainty items.

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

With the interdependence of the results of
these various activities, EPA should not rush to
treat individual efforts in isolation and arrive at
arbitrary decisions. In order to make the regulatory
needs determination, the synthesis and analysis
should be based on a holistic approach. This
includes the EPA understanding relationship between
mercury emissions from power plants and mercury
levels in fish. Without this understanding, one does
not know whether regulation is appropriate and
necessary.

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

Thank you.

MR. WAYLAND: Tony DeFalco, Lake Superior Alliance.

UNIDENTIFIED SPEAKER: He's not here.

MR. WAYLAND: John Shanahan, National Mining Association.

MR. SHANAHAN: Good afternoon. I'm John Shanahan of the National Mining Association, and I appreciate the opportunity to be here today. NMA comprises the producers of most of the nation's coal, metals, industrial, and agricultural minerals. Its members supply the fuel to the nation's coal-fired power plants. NMA supports efforts to ensure a clean
and healthy environment through continued development
of clean coal technologies based on relative risks, sound science, consideration of economic and environment trade-offs, and flexibility. In arriving at this regulatory determination regarding mercury, NMA encourages EPA to give full consideration to each of these factors.

In its 1998 Report to Congress, EPA noted a number of questions that were referenced earlier today by earlier speakers that need to be addressed and answered before decision-making can be undertaken. To answer these questions, EPA will need to take into account all the information available as it develops. The National Academy of Sciences' review and EPA’s Reference Dose that will soon be finalized will form but one link in this chain of information. Other major studies expected out soon include, "The Dietary Habits of the Nation's Citizenry," which will provide additional information assessing the real risk of exposure to mercury. The Seychelles Islands study strongly suggests that Americans are of no risk for mercury exposure through fish consumptions at quantities much greater than Americans actually consume. The importance of the
emerging results of this study cannot be understated,
as it provides much more reliable human data than is relied on so far in setting the appropriate Reference Dose. Another important issue that is critical to consider a determination is the question of transport and cycling to answer the question of relationship between U.S. emissions and the resultant change in methylmercury in fish. Background levels from nature and earlier industrial activity are critical components in answering this. Much more mercury was used in the middle of this last century, yet the legacy of that still remains. When this is combined with estimates of only 30 percent of U.S. emissions remain in the U.S., it is clear that the relative impact of current emissions is considerably diminished.

EPA's mercury ICR depth is necessary to understand not only speciation, but the range of removal efficiencies using differing control systems. The fact that large amounts of mercury are removed from regulation of SO2 and particulate matter underscores the need for review of this information in determining whether regulation is necessary and
appropriate. If EPA does determine to regulate,
these reductions should be credited towards utility
reduction.

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

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

The costs of regulation are accumulative,
yet, the ability of the utilities and the customers
to absorb these costs are not bottomless. Every
dollar spent on regulatory controls of one type of
emission reduction will ultimately impact future
environmental initiatives.
Public pressure caused by unnecessarily high
energy prices will cause public officials to respond
in ways that may not reflect their long-term
environmental objectives, much as is happening this
very week in the context of gasoline prices and
reformulated gas. These opportunity costs are real,
and trade-offs are unavoidable over the long-term.

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

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

NMA appreciates this and future
opportunities to engage in meaningful and
constructive dialogue, as EPA considers with its
deliberations. Thank you.

MR. WAYLAND: Sandra Steingraber, Cornell University.

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

My name is Sandra Steingraber. I'm a biologist and the author of the book Living Downstream. I received my Ph.D. in biology from the University of Michigan, and am now in residence at Cornell as a visiting assistant professor in the Center for the Environment.
I am currently researching the environmental
threats to prenatal life, research I began when I became pregnant in 1998. The womb is the first environment for us all. For many years, science regarded it as a kind of wildlife sanctuary, protected from harm by the placenta, which was presumed to act as a barrier both to infectious pathogens and to chemicals alike. But the new science is showing us that the pregnant uterus is less a walled-off refuge than it is a fragile, interactive habitat, one that is easily breached by toxic chemicals.

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

In other words, when we allow coal-burning power plants to transfer elemental mercury, which is held deep under the ground in coal deposits and put that mercury into the air, mercury that is invariably
methylated by bacteria and whisked quickly up the
food chain, the people receiving the highest
exposures of all are unborn children.

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

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

Specifically, omega-3 fatty acids are mobilized
during the fetal brain growth spurt that happens in
the last few weeks of the third trimester of pregnancy. These fatty acids assist in proliferation both of the vascular tissue as well as neuronal circuitry.

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

My husband is a fly fisherman. He grew up in Connecticut. In the early 1960s, he and his brother and his father fished rivers and ponds and brooks near their home in Norwalk, Connecticut. Sometimes the three fishermen were so hungry, by mid-morning, they cleaned the fish they caught and ate them for breakfast right on the shore. Jeff's father taught his sons how to suspend their catch on green twigs hooked through the gills and hang them over the flames of an open fire. These meals and all the whispered anticipation in the dark hours leading up to them are Jeff's most deeply cherished childhood
memories.
The rivers and lakes of Connecticut are all covered by fish advisories now, so contaminated are every single one of them with mercury, and so are the lakes of Wisconsin where I once caught a northern pike while trying to fish for bluegill.

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

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

Our daughter is now one and a half. Her favorite book is The Runaway Bunny, which was published in 1942. The story is about a clever
mother rabbit who remains one step ahead of her
baby's attempts to leave home. In one scene the
little bunny threatens, "If you run after me, I will
become a fish in a trout stream and I will swim away
from you." "If you become a fish in a trout stream,"
replies his sensible mother, "I will become a
fisherman and I will fish for you." The illustration
for this page shows the mama bunny in waders, casting
a carrot-baited line after her truant offspring. It
is the thread that binds the mother to child.

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

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

By limiting mercury emissions from power
plants, we have the power to change this situation.

My research has convinced me that we do have
sufficient biological data to act now, in spite of
those in this room who, like the tobacco industry
before them, seek to deny, down-play, and obfuscate such a connection.

They complain how soon the December 15th deadline moves. But a pregnancy is only nine months.

And a child conceived tonight, a child that right now at this moment is only an egg and a sperm, will, by December 15th, be entering the period of maximum brain growth development of its life. It would be in the fifth fetal month of pregnancy on December 15th.

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

Thank you.

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

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

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

My name is Charlotte Read. I'm Assistant
Director of a local environment organization in
Indiana called Save the Dunes Council. And it's appropriate that this hearing is being held in EPA's Lake Michigan room in Chicago, near the only Great Lake entirely within the United States.

The time for EPA action on limiting mercury emissions from coal-fired power plants is now.

Inputs of mercury have the potential for accumulation in aquatic biota, including fish. Widespread damage to aquatic resources has occurred and is occurring in all of Indiana's waterways. Fish consumption advisories for mercury in Indiana's Lake Michigan waters and its tributaries in effect now make achieving the "fishable" goal of the Clean Water Act impossible for those who seek to fish these waters.

I got a copy of Indiana's fish consumption advisory page just for the Lake Michigan waters.

According to a just-released report by the Delta Institute of Chicago, which is entitled, "Atmospheric Deposition of Toxics to the Great Lakes: Integrating Science and Policy," the southern Great Lakes area is predicted to have one of the highest rates of mercury deposition in the United States.

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

The mission of my organization, Save the Dunes Council, for nearly 50 years has been preserving and protecting the Indiana Dunes for public use and enjoyment. Therefore, our focus in this statement has been on pollution impacts to Lake Michigan, including those that interfere with public enjoyment of the resources of Indiana's portion of Lake Michigan, such as the public's ability to safely eat fish. This emphasis should not be construed as disregard or disinterest in the harmful impacts of mercury emissions from power plants on other areas in Indiana or elsewhere in the Great Lakes.
Folks, do it now. Limit mercury emissions
to protect the public health and the environment.

Thank you.

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

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

I think it's important that I especially say
thank you to the people who came here today who don't
normally appear at public hearings and the regulatory
process. I mean, that's not an area where they're
particularly comfortable in. But you were willing to
come out here today and talk to us, and I want to say
that I especially appreciate that. It's important
for us to get as much public input as we can as we
make these very important decisions. And I feel like
today was very valuable for us.
And you will see this process now play out over the rest of the year as we make the regulatory determination, and, as you heard, if you're signed up on the list, you'll be able to look at the full transcript of the meeting that took place today, and then we will go through a process of making a decision as to a regulatory determination, and if it is positive, then we'll begin the process of deciding what controls are appropriate. And if that is true, there will be additional discussions with the public as we go through that process.

But I want to say this has been a great start for us and tremendously valuable as we sort through these issues. Thank you again.

(Which were all the proceedings had in the above-entitled cause on this date.)
STATE OF ILLINOIS )
   ) SS:
COUNTY OF COOK )

PAMELA L. COSENTINO, being first duly sworn
on oath says that she is a court reporter doing
business in the City of Chicago; that she reported in
shorthand the proceedings given at the taking of said
hearing and that the foregoing is a true and correct
transcript of her shorthand notes so taken as
aforesaid and contains all the proceedings given at
said hearing.

Pamela L. Cosentino, CSR, RPR

SUBSCRIBED AND SWORN TO
before me this 12th day

Notary Public