

COMMONWEALTH OF PENNSYLVANIA
SENATE OF PENNSYLVANIA
SENATE ENVIRONMENTAL RESOURCES AND ENERGY COMMITTEE

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PUBLIC HEARING ON
MERCURY EMISSION REDUCTION

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Before: SENATOR MARY JO WHITE, Co-Chairman
SENATOR RAPHAEL J. MUSTO, Co-Chairman
SENATOR EDWIN B. ERICKSON
SENATOR DONALD C. WHITE
SENATOR ANTHONY H. WILLIAMS
SENATOR J. BARRY STOUT
SENATOR JOHN WOZNIAK

Staff : Patrick Henderson, Executive Director
Richard Fox, Executive Director

Date : June 6, 2006, 9:21 a.m.

Place : Room 8E-A, East Wing
Capitol Building
Harrisburg, Pennsylvania

By : Bethann M. Mulay, Notary Public
Registered Professional Reporter

2 this meeting of the Senate Environmental
3 Resources and Energy Committee to order. We
4 have a rather tight schedule this morning. We
5 are convening for the purpose of amplifying and
6 clarifying the record that has already been
7 created on this subject which is of course
8 mercury emission reductions.

9 And our first-- I understand that Senator
10 Musto and I are not going to make opening
11 statements, and the first witness scheduled to
12 testify at exactly 9:20 is the Honorable
13 Kathleen A. McGinty, Secretary of DEP. Good
14 morning.

15 SECT. MCGINTY: Good morning. And I, too,
16 will dispense with an opening statement, Madame
17 Chair, given that this is follow-up from the
18 previous meeting.

19 SENATOR MARY JO WHITE: Thank you. Well,
20 the primary purpose we have recalled you today
21 -- and I'm sorry Senator Williams is not
22 present. I think we're trying to locate him
23 because he was one of the people who had asked
24 to have you back -- is to address some
25 discrepancies in your testimony before this

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1 committee on April 25th.

2 At that hearing you portrayed discovering a
3 bombshell. Twice you stated that you had just
4 learned the day before, April 24th, about the PA

5 Coal Association and the United Mine Workers
6 that they were engaged in ongoing litigation
7 against the federal mercury rule and waved a
8 paper before us.

9 But information that has come to this
10 committee tells us otherwise. We have seen
11 three e-mails from you to Mr. George Ellis,
12 president of the PA Coal Association, dated as
13 far back as September of 2004 where you clearly
14 acknowledge their lawsuit, express your
15 understanding of why they've taken their
16 position, and clearly understand the limited
17 scope of their respective objections to the
18 federal rule.

19 Later that day you issued a press release
20 entitled PCA UMWA Misleading the Courts and the
21 Public. In this release you say, quote, one is
22 left sadly to conclude that there is a lack of
23 candor and truthfulness in the positions and
24 representations of the Pennsylvania Coal
25 Association and the United Mine Workers

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1 Association. UMWA president, Cecil Roberts, had
2 sent a letter to Governor Rendell on April 21st
3 clearly outlining their position, a letter which
4 you apparently ignored. Mr. Roberts called your
5 April 24th testimony, again quoting, outrageous,
6 misleading, and offensive.

7 Now, it appears that you knew long before
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8 April 24th about PCA and UMWA's litigation as
9 well as the very narrow scope of the lawsuit.
10 Please explain why we should not regard that
11 testimony as untruthful.

12 SECT. MCGINTY: Well, first of all, not
13 only was I aware of PCA UMWA's opposition to
14 various aspects of the federal rule, but in
15 almost every public communication that we have
16 issued to this committee, to the House
17 committee, and more broadly to the public, I
18 reiterated and reinforced many, many times that
19 we were not alone in our opposition to the
20 federal rule as it relates to the adverse impact
21 on Pennsylvania coal.

22 The news, if you will, that I shared with
23 this committee in my earlier testimony relates
24 to the specific filings that UMWA and PCA have
25 made and continue to have before the federal

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1 district court in Washington, D.C.

2 And those filings far from being limited in
3 expressing a narrow concern, a readily fixable
4 concern, if you will, with the federal rule, our
5 filing said to the contrary, paint in very
6 dramatic terms the complete demise of the
7 Pennsylvania coal industry or more accurately
8 the bituminous coal industry.

9 And the filings speak for themselves. They
10 speak of a vast wealth transfer from the

11 bituminous coal industry to the western part of
12 the state.

13 In referencing earlier provisions of the
14 Clean Air Act and the acid rain provisions, it
15 speaks of tens of thousands of jobs that would
16 be lost. Far again from being a narrow set of
17 concerns with regard to the federal rule, the
18 filings speak in terms of the rule being
19 illegal, unlawful, arbitrary, capricious,
20 unfounded. Those--

21 SENATOR MARY JO WHITE: Isn't that typical
22 legal language? I mean, I don't think I've ever
23 seen a lawsuit that didn't say that the
24 opponent's position was arbitrary, capricious.
25 That's legalese for I don't agree with you.

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1 SECT. MCGINTY: Well, Madame Chair, I guess
2 I would come from the perspective that if I were
3 considering a piece of legislation that would
4 impose that very same federal rule in
5 Pennsylvania and especially given the work of
6 every member of this committee in supporting the
7 further development of coal interest in
8 Pennsylvania and supporting coal jobs, to see
9 that the position of the experts in their
10 documents filed and currently pending in federal
11 court is that very same rule will lead to the
12 demise, the end of bituminous coal mining
13 essentially, that to me would be information

14 that I would want to take very seriously into
15 account. And I don't find it at all in keeping
16 with an advocacy position that would foist that
17 very same rule in Pennsylvania that is currently
18 being argued today in federal court would result
19 in the demise of the bituminous coal industry.

20 So, no, I don't find that typical legal
21 parlance or typical legal jargon. I find that
22 an alarming statement that if we proceed with
23 the federal rule that we will see a vast wealth
24 transfer out of Pennsylvania and other
25 bituminous states to the west.

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1 SENATOR MARY JO WHITE: Well, EPA testified
2 before this committee, and I seem to recall them
3 saying that some of the factors including the
4 bituminous coal rule were under review. What
5 did they call, reconsideration, there was a
6 petition for reconsideration, and these things
7 were part of that mix. So, you know, this is
8 just a piece of the rule.

9 SECT. MCGINTY: Well, I'm sure as you're
10 aware EPA has now finalized that review and has
11 not changed any of these aspects of the rule in
12 any meaningful respect.

13 SENATOR MARY JO WHITE: Other questions
14 before we proceed? Senator Musto?

15 SENATOR MUSTO: Thank you, Senator White.
16 Good morning.

17 SECT. McGINTY: Good morning.

18 SENATOR MUSTO: In previous hearings I had
19 expressed some concerns about hot spots, and
20 late last week your Department released
21 information regarding mercury monitoring around
22 two power plants in Pennsylvania. Could you
23 elaborate on the results of that study?

24 SECT. McGINTY: Well, it is, you're
25 correct, two sites in Pennsylvania, one of which

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1 is situated proximate to coal-fired power
2 plants. And the other one was selected
3 specifically because it is not so situated. And
4 the two different sites, one in Cambria County
5 where there are some 13 different power plants
6 that with the prevailing winds would be
7 proximate to that site. And the other's in
8 Tioga County where there is not a presence of
9 those types of operations.

10 The result of eight years of analysis--
11 And the analysis is conducted literally by
12 collecting rain water samples at each of those
13 sites because this is what's called wet
14 deposition data, wet mercury data. The analysis
15 of that rain water was done on a weekly basis
16 every week for eight years at both sites.

17 And the upshot of that is at the Cambria
18 location there is a 47 percent higher incidence
19 of methylmercury than what you find at the Tioga

20 site. So where there is not coal-fired power
21 plants in proximity 47 percent less mercury than
22 in the site where there are such plants.

23 SENATOR MUSTO: Will your Department be
24 doing additional monitoring on mercury
25 deposition around Pennsylvania power plants?

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1 SECT. MCGINTY: Well, that analysis has
2 concluded. I'd have to respond back as to
3 whether or not in any of our other monitoring
4 capability because as you do know we have a
5 fairly extensive set of monitors across the
6 Commonwealth. I can't respond as to whether or
7 not any of those monitors currently collect for
8 mercury, and I'd have to respond back.

9 I would like to point out one aspect of
10 that study if I might which is that in follow-up
11 commentary I had seen from EPGA on our release
12 there was a question raised in terms of, well,
13 in that same area in Cambria County at least
14 with respect to some of the plants that are at
15 issue some of those plants are scrubbed. Or as
16 Senator White knows, in Indiana County there is
17 one of the cleanest power plants that we have
18 probably in the United States in the Seward
19 facility.

20 And so the question was raised, well, those
21 facilities are scrubbed, so maybe there's no
22 indication here that power plants are related to

23 the higher incidence of mercury that's been
24 collected. But I want to point out a couple of
25 things.

10

1 First of all, it is true that the Seward
2 plant is an exemplary plant. However, it was
3 not repowered as a waste coal plant until 2004.

4 And the second thing is that some of the
5 controls that are operational at some of the
6 plants -- like Keystone, for example, was an
7 EPGA's follow-up release -- actually the type of
8 controls that are installed at Keystone make the
9 mercury problem worse, not better.

10 The reason is this, the type of controls
11 that currently are installed are designed to
12 capture NOx, selective catalytic reduction
13 technology.

14 In the absence of wet scrubbers or
15 particulate bag houses, the reason that SCRs or
16 electrostatic precipitators make the situation
17 worse is because they oxidize the mercury. And
18 when the mercury is oxidized, it's more water
19 soluble, and you have a higher deposition of
20 mercury.

21 That's why you need the wet scrubbers on
22 the facility as well. Wet scrubbers are
23 designed primarily to capture sulfur-related
24 pollution. So if you have the nitrogen-related
25 pollution control which oxidizes the mercury but

1 you do not have the sulfur-related control which
2 pulls the water soluble mercury out, you have
3 actually substantially increased the problem
4 with mercury deposition.

5 So it's not accurate to say that since
6 Keystone is scrubbed in one way or another we
7 should expect less mercury deposition from that
8 facility.

9 Last point, and I'm sorry to belabor it, I
10 don't want to overstate the significance of the
11 data that we released from this perspective, the
12 data only shows what I just said, 47 percent
13 more at one site than the other. It also is the
14 case that one site has power plants, the other
15 site doesn't. What it does not say is that this
16 molecule of mercury came from this power plant.

17 SENATOR MARY JO WHITE: That's exactly
18 right.

19 SECT. MCGINTY: It's not speciated data
20 that way. So there is a correlation between
21 what's happening in the neighborhood and what we
22 found in terms of mercury. But we have not
23 attempted in any way with the study that we have
24 done to prove causality, and you would need a
25 speciation study to do that. So I don't want

1 the data to be overinterpreted.

2 SENATOR MARY JO WHITE: Well, you haven't
3 proved it, but you certainly have implied it.
4 And I have data in front me that shows the
5 Keystone plant, for example, their mercury
6 emission reduction compared to their 1999
7 emission levels is 36 percent. The Seward plant
8 mercury emission reduction compared to their
9 1999 emission levels is 98 percent.

10 So, you know, you're telling me that
11 there -- that these have increased because
12 they've put NOx controls on, and yet the U.S.
13 EPA and the toxic release inventory data is
14 exactly contrary.

15 SECT. MCGINTY: Well, the Seward plant is a
16 different plant in 2004 than it was in 1999. In
17 1999 it was a pulverized coal facility. The
18 data you just cited is from a plant that's now a
19 CFB waste coal boiler.

20 SENATOR MARY JO WHITE: But it's had a
21 98 percent--

22 SECT. MCGINTY: Which is why--

23 SENATOR MARY JO WHITE: --reduction in
24 their mercury emission.

25 SECT. MCGINTY: Because waste--

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1 SENATOR MARY JO WHITE: So what are we
2 talking about here?

3 SECT. McGINTY: Because waste coal is
4 dramatically cleaner than pulverized coal which
5 is another problem with the federal rule and why
6 we're challenging it.

7 SENATOR MARY JO WHITE: Well, the waste
8 coal issue is one that they also are going to
9 address I understand.

10 SECT. McGINTY: No. The rule is now final.

11 SENATOR MARY JO WHITE: But did they not
12 address the waste coal issue?

13 SECT. McGINTY: They did not. They did
14 not.

15 SENATOR MARY JO WHITE: Well, we will
16 revisit that.

17 SECT. McGINTY: Well, it is final at the
18 federal level, and all further reconsideration
19 is now concluded at the federal level. The
20 only--

21 SENATOR MARY JO WHITE: Well, there's still
22 challenges.

23 SECT. McGINTY: And we're pursuing them in
24 court with our friends PCA and UMWA. We're also
25 challenging in court.

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1 SENATOR MARY JO WHITE: But this hot spot
2 issue I think is just a total red herring. You
3 know, first of all, you're finding higher
4 deposition levels, but you can't really tie them
5 to the plant. You don't know where they came

6 from.

7 And, secondly, there is absolutely no data
8 to support the fact that that higher deposition
9 level results in any public health threat
10 because there isn't any pathway to people. And
11 without that, the whole thing is meaningless.

12 SECT. MCGINTY: Well, to the contrary, in
13 terms of the other study that is most
14 significant in terms of deposition it was a
15 study that did directly speciate--

16 SENATOR MARY JO WHITE: What study are we
17 talking about? Let's be specific here.

18 SECT. MCGINTY: That is the Ohio
19 Steubenville study which shows 70 some percent
20 local deposition of mercury from the
21 Steubenville plant. So that additional analysis
22 was, in fact, done there.

23 SENATOR MARY JO WHITE: But they define hot
24 spot as plus or minus what, 40 miles -- 400
25 miles, I'm sorry, 400 miles?

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1 SECT. MCGINTY: I don't know the answer to
2 that. I know that--

3 SENATOR MARY JO WHITE: That's a pretty big
4 hot spot, would you not concede that, 400 miles?

5 SECT. MCGINTY: Well, but I don't know that
6 that's how it was defined.

7 SENATOR MARY JO WHITE: Do you know how--
8 You don't know how it was defined?

9 SECT. McGINTY: I would need to respond
10 back. But I do know that there was specific
11 fingerprinting of that data. The Ohio study is
12 speciated in the way I'm describing. Our data
13 was not. But, of course, it's additive to every
14 other peer-reviewed study that has been out
15 there including EPA's study that showed 50 to
16 80 percent of mercury issues are derived
17 locally, Massachusetts' most recent study
18 showing a 32 percent decrease in environmental
19 mercury.

20 SENATOR MARY JO WHITE: But we don't know
21 what locally means. Locally could mean
22 400 miles.

23 SECT. McGINTY: Well, in the Massachusetts
24 study, for example, the very specific facilities
25 that were controlled and the very specific water

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1 bodies that were then tested are expressly laid
2 out in that study as in the Florida Everglades
3 study.

4 SENATOR MARY JO WHITE: Are there other
5 questions on this issue before-- Senator White.

6 SENATOR DONALD WHITE: Thank you, Madame
7 Chairman. Good morning, Madame Secretary.

8 SECT. McGINTY: Good morning.

9 SENATOR DONALD WHITE: Getting back, if I
10 may, to the well-documented power plants in my
11 district that you're very familiar with--

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SECT. McGINTY: Yes.

SENATOR DONALD WHITE: --including the Seward plant which -- the waste coal unit. I also have Homer City, Keystone, and Conemaugh. Now, three of those have instituted direct degrees of emission control. The Keystone situation is a little different based on the current status of that plant as far as ownership.

SECT. McGINTY: Yeah. Keystone has the NOx controls on, not the sulphur controls.

SENATOR DONALD WHITE: Correct. The EPA data from 1999 through 2004 showed that the mercury emissions from those plants had gone

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down '99 to 2004 by 47 percent. That includes putting Keystone in the mix, all the plants. Now, if those emissions have gone down yet the readings from the Cresson monitoring facility have increased, what do you think would cause the increase?

SECT. McGINTY: Well, first of all, I'd have to look specifically at the EPA data you have, as the most recent data we have is EPA's latest toxics release inventory data which shows an increase in Pennsylvania. And, in fact, that's the data that accounts for our moving from being third in the United States in terms of total power plant related mercury pollution

15 now to being second in the nation and Texas
16 being the first or the largest source. So I'd
17 have to check what that is.

18 One of the things to point out is for the
19 most part these analyses of mercury are again
20 wet deposition studies. And what that means is
21 that they are to one degree or another connected
22 to what the level of rainfall was. If there's a
23 lot of rainfall, then that oxidized mercury has
24 more water to be soluble in, and more gets
25 rained out and vice versa.

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1 But at any rate, I'd have to see which data
2 set it is from EPA that you're pointing to, and
3 I'd be happy to review it.

4 SENATOR DONALD WHITE: I'll be glad to
5 share this with you. It just seems to me over
6 that length period of time average rainfall -- I
7 lived in that part of the state all my life --
8 hasn't fluctuated really that much.

9 SECT. MCGINTY: May not have, may not have.
10 And as I said, I just need to know what data set
11 that is. But the latest communication from EPA
12 is their 2004 TRI data which they have
13 finalized, made public -- I think it's 2005 TRI
14 data -- at any rate that we now have that moves
15 us to second in the country in terms of total
16 mercury pollution burden.

17 SENATOR DONALD WHITE: I just hesitate to

18 think that-- Of course I'm convinced about the
19 hot spots also with the lack of real specific
20 scientific data. And I'm worried about what
21 these regulations--

22 As you know, I'm hoping that there's some
23 kind of resolution here. Coal has made a strong
24 comeback in an area, in a region that it's
25 basically part of its legacy. And in the last

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1 five years coal has made a strong comeback.

2 Now, we've done a lot of great things to
3 help the local economy. The number of miners
4 has increased. But I'm afraid anything we do is
5 going to put us at a strongly-- We're an
6 exporter of energy, this state. We have a
7 luxury of being an exporter of energy. And I'm
8 afraid that we're putting ourselves in the
9 potential position to be at a competitive
10 disadvantage.

11 And when I have not only the UMWA but the
12 IBEW, the number of jobs that are connected
13 within the industry which has to be
14 consideration here as you well know--

15 SECT. MCGINTY: Sure.

16 SENATOR DONALD WHITE: --is-- This could
17 be catastrophic especially when there is no data
18 that supports a lot of the positions that's been
19 taken.

20 SECT. MCGINTY: Well, several things if I

21 might in response. First of all, in terms of
22 your concern about the competitiveness of our
23 coal industry and our electric generating
24 industry, that's exactly what motivates us to
25 break from the federal rule which so expressly

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1 prejudices against Pennsylvania's economic
2 interest and which could not be more
3 dramatically presented than has been presented
4 by the Pennsylvania Coal Association and UMWA in
5 their current filings. So we completely agree
6 with you there.

7 In terms of the data, the data sets are
8 robust that show local deposition from
9 bituminous coal generating coal-fired power
10 plants. The Steubenville study, the Florida
11 Everglades study, the Massachusetts study--
12 Although let me correct myself. Florida
13 Everglades was incinerators, and Massachusetts
14 was incinerators. But data is there that shows
15 that some 70 percent of mercury from bituminous
16 coal-fired generating plants deposits locally.

17 The data also is very specific. And I want
18 to make sure the committee is aware of this.
19 When we put out mercury advisories for fish,
20 those are not general statewide advisories which
21 do get articulated for some other pollutants.
22 They literally are generated on the basis of
23 pulling the fish out of the river, taking the

24 fish to the lab, and measuring precisely the
25 mercury concentration in the fish tissue.

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1 So the data that we have based our rule on
2 are quite robust, not in conflict, and very
3 specific, not generalized, in terms of across
4 the state or across the country.

5 SENATOR DONALD WHITE: How far does mercury
6 travel?

7 SECT. McGINTY: Depends on the form of
8 mercury. In the case of oxidized mercury which
9 is at issue in terms of the bituminous coal,
10 that mercury deposits locally as per the studies
11 that we've been talking about. If it's
12 elemental mercury, then it can travel much
13 further, regionally and perhaps globally.

14 The difference has to do with water
15 solubility. Elemental mercury is not water
16 soluble like oxidized mercury is. And since
17 oxidized mercury is water soluble, that is
18 primarily the reason why it rains out locally.

19 SENATOR DONALD WHITE: I guess the final --
20 You just brought up another point regarding this
21 testing on the fish. Now, were any of those
22 fish from the area around the four power plants
23 you know I represent?

24 SECT. McGINTY: I would be very happy to
25 provide you with that data. We have actually

1 the specific types of fish, where specifically
2 in terms of river segment those fish were
3 harvested from, and we published that data in
4 very precise form.

5 We further published the data again unlike
6 other advisories that are put out. With respect
7 to mercury, the data is precise to the point
8 where different types of fish in different river
9 segments are given different advisories.
10 Different advisories apply to them.

11 For example, with regard to some fish in
12 some streams, it would be one meal per week;
13 with regard to others, two meals per week; with
14 regard to some, less or more than that,
15 depending on the mercury concentration that
16 actually was found in those fish in that stream
17 segment. So it's very precise.

18 SENATOR MARY JO WHITE: Just a follow-up,
19 when you issue a fish advisory, isn't it true
20 that you are using other contaminants in
21 addition to mercury, so couldn't it be PCBs or
22 chlordanes or some other contaminant that would
23 result in a fish advisory?

24 SECT. McGINTY: We do have fish advisories
25 for those other substances as well. But as it

1 relates to mercury, the procedure is as I
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2 described, and the recommendations are as
3 precise as I described. They literally are
4 based on the actual mercury concentration in
5 fish tissue.

6 SENATOR MARY JO WHITE: Do you take into
7 consideration the fact that a very high
8 percentage of trout, for example, are stocked
9 fish and are not, you know, wild?

10 SECT. McGINTY: Usually the advisories, the
11 public communications do acknowledge that, but I
12 think they are premised on the basis that while
13 some anglers might be able to distinguish a fish
14 that was hatchery raised from one that was not
15 that many anglers may not be able to make that
16 distinction in just looking at a fish.

17 SENATOR MARY JO WHITE: Well, I know I
18 couldn't. But if 80 percent of the trout in
19 this state are stocked, wouldn't that indicate
20 that a trout advisory would not be needed?

21 SECT. McGINTY: But the advisories extend
22 to many, many different types of fish, bass, for
23 example, catfish, walleye. It's very many
24 different species of fish that we analyze, test,
25 and then present the advisories on.

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1 SENATOR MARY JO WHITE: Other questions on
2 that issue. Senator Williams.

3 SENATOR WILLIAMS: I apologize for my
4 extreme lateness, but I got caught on the

5 turnpike. And this is an area that I've taken a
6 lot of interest in. And I missed your
7 testimony, but I'm pretty clear about comments.

8 SENATOR MARY JO WHITE: Senator, for your
9 information, we did not make opening statements,
10 so you're fine.

11 SENATOR WILLIAMS: There was a lot of
12 interest in you coming to testify before us
13 based upon comments that were provided to us in
14 the context of your Department as well as the
15 environment which you operate. I want to say a
16 few things.

17 One, I do not have the coal industry in my
18 district. I do have according to testimony
19 people who may be affected by it. And to be
20 frank with you, when the hearings started, I
21 wasn't necessarily vested on one side or the
22 other.

23 But I want to say this for the opening just
24 being candid, in the last two weeks I have been
25 contacted by a variety of groups in Philadelphia

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1 County who clearly are on one side of the issue.

2 We have a job to do, and it would be very
3 helpful that in that process some of us are not
4 taken for granted at the end. If there are
5 recommendations and are concerns to be made,
6 expressed, I suggest that we do that at the
7 beginning.

8 And as I have said continuously, I'm a
9 person who's been involved in this issue,
10 alternative energy, environmental issues, and
11 constantly, consistently my constituents and me
12 personally are taken for granted, and I don't
13 like it.

14 We are offered information at the end of
15 these conversations, rushed into conversations
16 sort of haphazardly, oh, by the way, did you
17 call Senator Williams, oh, I didn't know he was
18 concerned or interested. I think that's
19 insulting to be very kind. And so my
20 expectation is if somebody wants to gain
21 credibility with me and respect and truly
22 respect me and my input, they would do that as a
23 full partner at the beginning.

24 The alternative energy issues which I think
25 are nice public conversations, and if the

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1 governor is serious about that, then he will
2 gain the respect of people like me directly in
3 that conversation. And before we make
4 recommendations like this, people will not come
5 to the Hill and the Capitol and speak to members
6 on this committee in the manner that they have
7 spoken to them in a sort of get out the way, let
8 the governor do what he has to do.

9 And that doesn't mean that I don't respect
10 you, your job, or the governor's, but we have a

11 role, too, and that role should be respected.
12 And as I have said-- And one of the reasons why
13 I sort of got geared up on this and have done
14 the research we will talk about today at length,
15 as you well know, I do a lot of work on this
16 kind of stuff. I don't just willy-nilly arrive
17 at a decision.

18 This costs money. Environmental issues
19 have to be balanced against the reality of can
20 people live. That's the reality. And we as a
21 nation have to understand it took us a long time
22 to get to the point where we are and
23 Pennsylvania to get to the point of where it is
24 in terms of the environmental issues as well as
25 economic issues, and we have to make sound

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1 decisions that don't adversely affect people in
2 terms of their living condition. I think I've
3 talked to you directly about this.

4 While I'd like to say all the things that
5 we're talking about in terms of alternative
6 energy are nice, they're going to cost my
7 constituents a lot more money, and that is not--
8 That's not rumor. That's not speculation.
9 That's fact.

10 And when I came back to this committee--
11 And, again, we're talking about how we affect an
12 economy and, by the way, not a small economy,
13 not just a local economy, but a region. And

14 there are consequences.

15 I would have expected by now we would have
16 learned a lesson that, one, we need to have a
17 conversation about this. That means the
18 administration with the legislative branch in
19 such a way -- I don't care if we're stuck -- in
20 such a way that we proceed, informs, or suggests
21 that we as a state, we as a state make sense.
22 And frankly we don't.

23 I've heard from people as far as California
24 on this conversation. They don't believe that
25 we are organized effectively by the

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1 administration's perspective to carry out what
2 he wants to carry out or supporting the
3 legislative process. And, therefore, people are
4 standing on the sidelines.

5 And so I state my comments respectively to
6 you in terms of if you want to engage a partner,
7 then there's a way to do that, and part of that
8 is not having people come up and claim that we
9 can, you know, hacks just lobbying every day for
10 some small-minded people who don't understand
11 the consequences to their environment. They do.
12 They live there. They're concerned about their
13 grandchildren. They're concerned about future
14 generations. They're not willing to sacrifice
15 them simply because they have to have a job.
16 But they are smart enough to understand that

17 there are steps we can take based on science and
18 technology that guarantee that. That's on the
19 first part. That's how I'd like to proceed
20 going forward from today.

21 The second part on the substance of this--
22 And I live in a city where lead has caused a
23 great deal of consequence, and I see Secretary
24 Johnson will come and talk about it today. And
25 I'm not sure I'll necessarily be here at that

29

1 time. But I want to make it clear mercury is
2 not lead. There's not a study that suggests
3 that the impact of it is measured in the same
4 manner. And frankly even the method as
5 sophisticated as it is in Pennsylvania to
6 measure the negative consequence of mercury, as
7 you said, we have a certain fish on this day and
8 this level, lead is lead. And there's a reason
9 why you have to remove lead and asbestos from
10 any place in Philadelphia County before you can
11 do A, B, and C because the science specifically
12 relates to a consequence.

13 And part of what people are saying to you
14 is like today is that, you're right, there may
15 be a negative impact from the mercury as there
16 are any other true elements in our society.
17 Those things are in the atmosphere, period.

18 Just as 20 years from now I guarantee that
19 all the cellphones which are adhered to our ears

20 on a daily basis when we leave this meeting
21 because the governor is going to call and say
22 how did it go, and a lobbyist is going to call
23 somebody and say how did it go, I guarantee 20
24 years from now somebody's going so say, hey, did
25 you know that the radiation occurring in a

30

1 cellphone has a consequence of this level on
2 this type of cellphone on this level, on Monday
3 it's worse than on Wednesdays. If we think
4 that's not going to happen, of course it's going
5 to happen.

6 The question is what do we do. Do we say,
7 Motorola, go out of business, or do we say,
8 Motorola, change the manner in which you produce
9 and manufacture phones and evolve to that point.

10 Well, I think that, you know, you have
11 willing partners on this side to say, look,
12 we're willing to do that. But they're not going
13 to be told with a gun to their head, one, get
14 out the way, the governor has a panacea and a
15 silver bullet because nobody does including the
16 governor.

17 Nobody does because the nature of what
18 mercury means in elements is so difficult to
19 understand. And let me tell you, I went back to
20 watching the 60 whatever, the 20 -- whatever,
21 60 Minutes or 20/20, whatever those things are
22 that people do. I saw that. I read the Time

23 Magazine. I've read everything, you know, Wall
24 Street Journal. I've read business journals.
25 I've read scientific journals. I've read

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1 everything about this stuff, and it's very
2 difficult to determine what the consequence is
3 because the science is not up to where we are.

4 So we-- I mean, for us to say today, look,
5 Madame Secretary, let's take a great leap of
6 faith would have to be balanced against the
7 harsh realities and the very real realities that
8 we have to be pragmatic about it. I think
9 that's all the members of this committee are
10 saying, you have to be very pragmatic because it
11 has consequences economically to people's lives.

12 We can't-- We cannot just wipe those out
13 in hope of that mercury will not have the dire
14 consequences that we think it may have in the
15 future. And so for me, I'm willing to take the
16 hits with, you know, all the groups that are
17 back in Philadelphia County that come to see me.
18 And now for some reason I've become a mercury
19 expert in Philadelphia and I'm-- Somebody told
20 me I was not environmentally tolerant or
21 something anymore. Yeah, that's what my
22 reaction was to the whole process. But, you
23 know, I was polite. I kicked them out of my
24 office in a real nice way.

25 I want us to understand this is something

1 we as a committee take seriously. And I want
2 the chairperson of this committee, one, to be
3 able to return to a place of consideration and
4 respect. We will not have a policy jammed down
5 our throat. We will not. But we will
6 understand that we want to preserve a
7 Pennsylvania that has a benefit to all of us.

8 And I think that if people truly work in an
9 open-handed way in an open process, truly engage
10 all of us who are interested in this, then
11 you'll get to a positive end. And Pennsylvania
12 possibly can become the model of how you keep an
13 industry, allow technology to do certain things
14 and change it as well as get a better quality of
15 consequences as it relates to something that may
16 be retarding our next generation.

17 And I think that's all we're asking, and
18 that's all I would ask of you in particular
19 working with some of those groups who aren't
20 talking to us. And so with that, I'm going to
21 conclude my comments. And if you want to react,
22 fine. If you don't--

23 SECT. MCGINTY: Well said, well said.
24 Thank you.

25 SENATOR MARY JO WHITE: Well, I think what

1 Senator Williams has very eloquently said is
2 that as with all environmental issues we are
3 looking at a cost benefit analysis. And I think
4 that what has happened with this particular
5 issue is that a great deal of misinformation has
6 been circulated that makes the dialogue very,
7 very difficult.

8 And I would urge the Department to make
9 sure that their releases are accurate and that
10 they really reflect the public health issues,
11 not the fear issues because I think that is
12 very, very important.

13 And along those lines, I just have one last
14 question. I know we're running over here.
15 Senator Stout is with us. Did you have a
16 question?

17 SENATOR STOUT: Not at this time, Madame
18 Chair.

19 SENATOR MARY JO WHITE: Thank you, Senator.
20 And this concerns the constitutional concerns--

21 SECT. MCGINTY: Yes.

22 SENATOR MARY JO WHITE: --because the
23 Department put out a release indicating --
24 May 30th press release saying, state mercury
25 rule constitutionally sound. But the release

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1 did not address the issues raised by Mr. Gene
2 Trisko of the United Mine Workers Association

3 who testified before this committee at the
4 May 17 -- May 2nd.

5 There's-- As you know, there is an
6 Illinois case, and your press release focused on
7 the Illinois Coal Act and the ways in which it
8 was deemed to be unconstitutional and said,
9 well, our mercury rule --

10 SECT. MCGINTY: Doesn't do this.

11 SENATOR MUSTO: --isn't like that. And
12 that is true as far as it goes. But what you
13 did not address is that the federal courts went
14 on to issue guidance to the states. And in that
15 they said even ingenious discrimination is
16 forbidden by the commerce clause.

17 SECT. MCGINTY: Sure.

18 SENATOR MARY JO WHITE: So by encouraging,
19 in quotes, the use of Illinois coal, the act
20 discriminates against western coal making it a
21 less viable option.

22 Now, the Department has back pedaled
23 considerably because you made statements on
24 DEP's website that says your proposed mercury
25 rule, quote, protects and grows the market share

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1 for Pennsylvania bituminous coal. Well, I'm
2 sorry, but that to me is a complete admission
3 that one of the purposes of this -- and I
4 believe this has been stated by you personally
5 on more than one occasion -- is to protect and

6 grow the market for Pennsylvania coal. And if
7 that is, in fact, true, I think we are squarely
8 in violation of the federal law.

9 Now, at the recent EQB meeting the
10 Department backed away from that and said, oh,
11 no, no, we're just evening the playing field.
12 But I think we have a serious concern here about
13 the constitutionality of any Pennsylvania rule
14 that has as part of its motivation the
15 protection, as much as we would love to do it,
16 of Pennsylvania coal because it is clearly
17 unconstitutional.

18 SECT. MCGINTY: The question-- There's two
19 things, and our press release addressed both,
20 and our statements have been consistent on this
21 throughout. The two aspects of the issue that
22 have been presented are, one, the fundamental
23 litmus test as to whether or not there is a
24 violation of the commerce clause of the United
25 States Constitution, and that boils down to

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1 whether there is prejudicial treatment of an
2 in-state enterprise as compared to an
3 out-of-state enterprise.

4 And the second is specifically then to
5 analyze that question in the context of the
6 considerations that were brought to bear in the
7 Illinois case.

8 On the first question our approach most

9 expressly does not prejudicially treat
10 out-of-state coal as compared to in-state coal
11 because the performance standards are exactly
12 the same.

13 The amount of mercury emission pollution
14 reduction that needs to be achieved is the same
15 whether you are using bituminous coal or whether
16 you are using subbituminous coal, 80 percent in
17 2010 and 90 percent in 2015.

18 Now, that is in stark contrast to the
19 federal law -- federal rule which very expressly
20 prejudices against different coal types as we
21 now know and as UMWA and PCA are arguing in
22 federal court.

23 What we have further done in our rule--
24 And I'll say it again, our rule is designed to
25 insure or to help insure that we do not lose

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1 market share in the face of that federal rule,
2 and it does present a preference for bituminous
3 coal, not in a prejudicial fashion, however, but
4 simply as a consequence of the adherent
5 operational efficiencies of scrubber technology
6 as it relates to bituminous coal as compared to
7 subbituminous coal.

8 And this has been at the heart-- Far from
9 changing our tune, this has been at the heart of
10 our argument with the federal rule. I mean, one
11 could imagine that if a federal environmental

12 agency was going to try to put a thumb on the
13 scale in favor of one party and against the
14 other that that enterprise might be guessed to
15 do that in favor of the better environmental
16 outcome. Here they have expressly done the
17 opposite which is to prejudice against
18 Pennsylvania coal in the interest of the coal --

19 SENATOR MARY JO WHITE: But that wasn't my
20 question. My question concerns how can you
21 honestly argue that your rule guards against
22 fuel switching without violating the federal
23 rule. So let's not talk about what they're
24 doing. Let's talk about what you're doing.

25 SECT. McGINTY: Because the rule is

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1 designed expressly on the inherent technical
2 performance of bituminous coal which far
3 outperforms subbituminous coal from a mercury
4 removal point of view. That's expressly the
5 reason why--

6 SENATOR MARY JO WHITE: That could be
7 West Virginia coal, right? That doesn't have to
8 be Pennsylvania coal.

9 SECT. McGINTY: Bituminous coal -- And
10 we've been very clear, further evidence that
11 there's no commerce clause violation, we all
12 know that bituminous coal isn't just in
13 Pennsylvania. If we wanted to protect our
14 industry, we would have set like Illinois did

15 different standards and requirements for
16 Illinois coal as compared to other states. Our
17 rule does not do that.

18 SENATOR MARY JO WHITE: So you're not
19 protecting Pennsylvania coal. Is that the
20 answer?

21 SECT. MCGINTY: We are protecting bitum--
22 We are working to recognize the inherent
23 efficiencies of mercury removal from bituminous
24 coal.

25 SENATOR MARY JO WHITE: Which could be

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1 West Virginia coal.

2 SECT. MCGINTY: It could be any--
3 Bituminous coal --

4 SENATOR MARY JO WHITE: West Virginia coal,
5 as I understand it, tends to be lower mercury
6 content than Pennsylvania.

7 SECT. MCGINTY: Actually Pennsylvania coal
8 in Greene County where our greatest coal mining
9 activity is, is as good or better than the
10 mercury content anywhere else in the bituminous
11 region.

12 SENATOR MARY JO WHITE: Well, you picked
13 the right county, I think, but that is not
14 necessarily true of all Pennsylvania.

15 SECT. MCGINTY: Well, it might not be, nor
16 is it true of every little corner of
17 West Virginia. And where we don't compare

18 favorably with West Virginia are those coal
19 seams in West Virginia that are most mined
20 already. And so where we still have an
21 appreciable resource is where actually our
22 mercury content levels compare very favorably.

23 SENATOR MARY JO WHITE: So we're protecting
24 Pennsylvania and West Virginia coal.

25 SECT. MCGINTY: Our rule recognizes that

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1 bituminous coal -- we have said this from the
2 outset -- is inherently cleaner from a mercury
3 point of view than western coal precisely
4 because it is removed with a dramatically
5 greater efficiency from scrubbers -- or with
6 scrubbers when it's bituminous coal as compared
7 to when it is subbituminous coal.

8 But the rule sets the same environmental
9 performance standards no matter what the coal
10 type is unlike the federal rule which changes
11 the test depending on who you are, and that is
12 the litmus test of a failure to comply with the
13 commerce clause. That's prejudicial treatment.

14 SENATOR MARY JO WHITE: Well, we have
15 differing opinions there, but that's not
16 uncommon.

17 SECT. MCGINTY: Well, we will also be happy
18 and we will in the final rule make this
19 provision severable so that should there be a
20 constitutional challenge that proves successful

21 to the bituminous provisions of the rule that
22 that can be severed and the rest of the rule
23 will remain intact.

24 And we can do that easily because again the
25 premise of the rule is still that the

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1 performance standards need to be met and the cap
2 on mercury emissions need to be met by every
3 plant regardless of what type of coal you're
4 burning.

5 SENATOR MARY JO WHITE: Senator Erickson,
6 do you have a question?

7 SENATOR ERICKSON: A quick question. Thank
8 you, Madame Chairman. Good morning.

9 SECT. MCGINTY: Good morning.

10 SENATOR ERICKSON: My question relates to
11 whether or not you have any data that indicates
12 a direct cause and effect from these power
13 plants and the mercury -- methylmercury
14 generated by them to health impacts on children.

15 SECT. MCGINTY: I think the answer to that
16 is that we would not have data that would show,
17 for example, here is the Acme power plant and it
18 generates X amount of methylmercury and here's
19 Susie Smith and she has a neurological disorder
20 and tracing it back. Now, if that's the kind of
21 direct cause-and-effect data you're looking for,
22 I think the answer is, no, we don't have that.

23 SENATOR ERICKSON: Is it possible to

24 generate that?

25 SECT. McGINTY: I would assume that it

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1 would involve many, many years of clinical
2 studies. I'm sure it is possible. I'm not
3 aware that that type of detailed causal type of
4 analysis has been done, although the
5 toxicologist who will testify later would be
6 well better suited to--

7 SENATOR ERICKSON: Is there any data that
8 indicates cause and effect?

9 SECT. McGINTY: There is data that
10 indicates cause and effect.

11 SENATOR ERICKSON: From where?

12 SECT. McGINTY: One in terms of what are
13 the sources of methylmercury, yes, we know
14 especially in Pennsylvania 78 percent of that
15 mercury comes from coal-fired power plants. And
16 we also know that once accumulative in the body
17 beyond the reference dose that the National
18 Academy of Science is twice as--

19 SENATOR ERICKSON: But it doesn't indicate
20 that it's coming from those sources, does it?

21 SECT. McGINTY: Not in that type-- Just
22 like, for example--

23 SENATOR ERICKSON: I mean, there's the
24 Faroe Islands study, but that is a PCB issue as
25 well.

1 SECT. McGINTY: It could be. Again, I
2 agree with your-- To reiterate my answer to
3 your first question, I'm not aware of something
4 that so precisely connects bullet to gun I think
5 which is what you're looking for that type of
6 precise causal relationship. I'm not aware of
7 that.

8 SENATOR ERICKSON: I am.

9 SECT. McGINTY: Yeah, I'm not aware of that
10 type of-- Just like, for example, I'm not aware
11 of a study that would say here's the cigarette
12 that was smoked that caused the lung cancer that
13 directly to correlate this is the offending
14 substance that directly caused that.

15 SENATOR ERICKSON: They may need to have a
16 discussion on this issue, and this is not the
17 place to do it. But I do want to pursue this to
18 some greater extent, again, going back to
19 earlier comments by Senator White, both Senator
20 Whites, and also by Senator Williams in terms of
21 the economic impacts here and then of course
22 that related to the health impacts and also
23 related to the fish that people eat in terms of
24 the upsides of fish.

25 SECT. McGINTY: Absolutely, yes, the

1 omega-3 fatty acids, yes, absolutely. Thank

2 you.

3 SENATOR MARY JO WHITE: Senator Wozniak, do
4 you want to make a comment before we conclude
5 the testimony?

6 SENATOR WOZNIAK: Yes, thanks, Madame
7 Chairman. Sorry I was tardy. I was next door
8 doing a hospital closure, so there's all kinds
9 of things going on.

10 Obviously you've been interrogated here for
11 quite a while, so I'm not going to reinvent the
12 wheel. Obviously you know my concerns with
13 SunCo, the issues of PennFuture and the lawsuit
14 filed against them.

15 In fact, what Senator Erickson brought up,
16 do we know anybody in the United States that's
17 died of mercury poisoning or has physical
18 complications from mercury poisoning directly
19 related to coal?

20 SECT. MCGINTY: Well, let me say, first of
21 all, you said in some respects too easy of a
22 challenge for the health parts of this
23 discussion from this point of view. Mercury
24 poisoning, yes. I mean, people have been killed
25 by mercury poisoning. But that's not what's at

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1 issue here. And power plants aren't responsible
2 for mercury poisoning, and it should never be
3 suggested that they are.

4 What we're talking about is a chronic
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5 debilitation of cognitive and neurological
6 capabilities from long-term exposure to a
7 neurotoxin, not the kind of acute, you open the
8 box it's kryptonite, you get rushed to the
9 hospital. So, no, I don't think a power plant
10 has caused mercury poisoning to anyone.

11 But mercury power plants are the largest
12 source of methylmercury in Pennsylvania which
13 substance does have debilitating neurological
14 effects.

15 SENATOR WOZNIAK: I think I might have had
16 that problem a year ago for everything this
17 general assembly has gone through, but that's
18 another issue.

19 SECT. McGINTY: Either that or the
20 cell phones.

21 SENATOR STOUT: Can you break down what are
22 the demands-- What is the level of what the
23 federal government is asking of us to
24 accomplish--

25 SECT. McGINTY: Yes.

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1 SENATOR STOUT: --and where are we at now?
2 And can you put it in some kind of -- so Joe
3 American can understand in this room we have X
4 amounts of liters of oxygen and this is how much
5 mercury we're talking about so people can have a
6 concept because we're ruled by our emotions
7 anymore.

8 People throw these things out there, and
9 they're reading the newspaper and saying to
10 people, oh, my dear God almighty, what are they
11 trying to do, trying to kill us. And it's not
12 the case. It hasn't been the case.

13 I grew up when the red dust came down in
14 the steel mills of Johnstown, people living to
15 be 80, 90 years of age and many of them without
16 diseases. But just to give a concept of what
17 we're talking about out there because people get
18 caught up and we throw numbers out all the time,
19 but they can't correlate that number to can I
20 picture it. That's the last question I'll ask.

21 SECT. MCGINTY: Yes, thanks. Well, we know
22 a couple of things. First of all, in terms of
23 the overall amount of mercury-related pollution,
24 mercury pollution generated in Pennsylvania it's
25 on the order of 5 tons annually of mercury

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1 pollution, and I think that compares to an
2 annual total amount of 47 or 48 tons of mercury
3 pollution.

4 Second, we know that 70 percent plus of
5 that mercury pollution in Pennsylvania comes
6 from coal-fired power plants. Now-- And I
7 think the number actually is 78 percent.

8 Third, we know that overall that amount of
9 mercury pollution in Pennsylvania ranks us
10 second only to the state of Texas in the amount

11 of power plant generated mercury pollution in
12 the environment.

13 The difference between the proposal that
14 the Environmental Quality Board is considering
15 as compared to the now final federal mercury
16 rule is the following.

17 The EQB proposal would guarantee a
18 80 percent reduction in mercury from power
19 plants in 2010 -- coal-fired power plants in
20 2010 and a 90 percent reduction in 2015.

21 Now, the federal rule because it allows
22 what's called trading which we have in other
23 provisions of the Clean Air Act for acid rain,
24 for example, it doesn't guarantee that those
25 reductions would be made in Pennsylvania at all

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1 because it enables a power plant to either clean
2 up its act at the source or to buy pollution
3 reductions from another state.

4 And we also know finally that Pennsylvania
5 has benefited from or participated in that kind
6 of trading program more than any other state.
7 So instead of reducing pollution at home, we
8 have acted to purchase from others pollution
9 reductions more than others have.

10 The other thing that I think is important,
11 it has been asserted that the EPA rule would
12 lead to an 86 percent reduction in mercury
13 pollution and ours would relate -- would result

14 in a 90 percent reduction. But EPA doesn't
15 assert that.

16 And the introduction to their own rule
17 because of these backing and trading positions,
18 they made clear that maybe they'll achieve
19 50 percent by 2020. And others including the
20 general accounting office has said actually it's
21 looking maybe like they could achieve 70 percent
22 but probably not till 2030. So those are the
23 federal estimates of what they believe their own
24 federal rule will achieve.

25 And to the extent, though-- And I'll make

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1 the same offer again, EPGA has said before that
2 it's 80 percent reduction that the federal rule
3 would achieve. Well, I am ready to make a deal
4 today. If EPGA wants to own the 86 percent and
5 achieve it in Pennsylvania, then I'm ready to
6 agree to that deal. But I don't think that
7 that's what the federal rule would actually
8 achieve and neither does EPA.

9 SENATOR MARY JO WHITE: Can I just respond
10 to that. Some of this is so outrageous I just
11 can't let it go by. You know, when we talk
12 about Pennsylvania air, yesterday Pennsylvania's
13 air was Chicago's air. Tomorrow it will be
14 Massachusetts air. I mean, the idea that we can
15 clean up our air is so bizarre I can't even
16 understand where it comes from. Unless we are

17 putting a dome over the state, this air is
18 moving. It will be in China in a week.

19 And the concept of cleaning up -- we have
20 to clean up our air is so bizarre to me because
21 it's moving. I mean, this stuff is coming in
22 from Ohio power plants today. It will be in
23 New York tomorrow. And so wherever the
24 reductions come from is a good thing.

25 I mean, if we are reducing mercury in the

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1 air globally or in the U.S. -- And even if the
2 U.S. doesn't, we account for like 1 percent of
3 the mercury emissions in the world. So this is
4 not necessarily a bad thing to do. But the
5 whole concept that we need to clean up
6 Pennsylvania's air to me is just bizarre.

7 And for you to state -- and this is my
8 particular objection -- that with the trading
9 program there is no guarantee that we will see
10 any cleanup or reduction in Pennsylvania is
11 absolutely wrong because we know that our large
12 plants are going to install these pollution
13 control devices.

14 The whole issue here is whether the very
15 small plants that do not have the output to
16 justify -- we can't spread these costs over
17 their very small output -- are going to be able
18 to retrofit or close. I think that's the issue.
19 And if they close, God help the poor consumer of

20 electricity because when the caps go off and we
21 don't have that peak power-- That peak power is
22 very expensive. It's usually natural gas fired.
23 When we don't have those little plants to pick
24 up the high-end load, people are going to see
25 their electric bills explode.

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1 And I am telling you that my big concern
2 here is if I thought there was a real
3 significant health trade-off, we wouldn't be
4 having this discussion. But there isn't.

5 SECT. MCGINTY: Right. And I don't
6 question at all that that very expressly is
7 actually the set of questions that you have been
8 asking persistently throughout this debate. I
9 think the difference is, however, your opening
10 point I think is exactly right and legitimate as
11 it relates to how the air currents move.

12 But mercury isn't every pollutant. I not
13 only have been a supporter of trading as it
14 relates to other pollutants, I ran a business
15 premised on the buying and selling of those very
16 emissions credits. That works when the
17 pollutant in question, one, is not a neurotoxin
18 and, two, when the pollutant in question
19 primarily distributes regionally or globally.

20 But here methylmercury is a consequence of
21 oxidized mercury 70 percent plus of which
22 deposits locally. So the only way--

23 SENATOR MARY JO WHITE: In fish? Because
24 that's the primary way it gets into human
25 beings, is it not?

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1 SECT. MCGINTY: It is through the food
2 chain that it gets into human beings, fish as
3 the primary species of concern, but it is not
4 exclusively fish that is the vector of mercury
5 into the human species.

6 And, in fact, there are substantial
7 concentrations-- 4,400 percent of EPA's
8 reference dose, if you are a person who ate beef
9 liver, you'd be exposed to that volume of
10 methylmercury. Even grains, milk, poultry have
11 appreciable percentages of methylmercury.

12 So while fish has been the primary focus of
13 concern, EPA's documentation in justifying their
14 own rule shows that there are numerous food
15 pathways that deliver methylmercury to the human
16 body.

17 SENATOR MARY JO WHITE: Well, we have other
18 witnesses that will talk about the health
19 effects, and I understand that toxicologists or
20 whatever. I apologize for getting off on that
21 tangent because it was my intent to only
22 question you today about the particular issues
23 of the constitutionality and the mine worker
24 issue. So if there are other questions for the
25 secretary, we will entertain them. Otherwise, I

1 apologize to everyone for letting the hearing
2 run much too long.

3 SECT. MCGINTY: Thank you very much.

4 SENATOR MARY JO WHITE: Thank you, Madame
5 Secretary.

6 MR. HENDERSON: Our next witness is Eugene
7 Triško of the United Mine Workers of America,
8 the International Brotherhood of Electrical
9 Workers and George Ellis, president of the
10 Pennsylvania Coal Association.

11 SENATOR MARY JO WHITE: Good morning,
12 gentlemen.

13 MR. ELLIS: Morning.

14 MR. TRISKO: Good morning.

15 SENATOR MARY JO WHITE: I will try to keep
16 this on track. I recognize this is an issue
17 that I have a great deal of interest in. First
18 of all, we have some discrepancy here, and a lot
19 of words and discussions have been traded back
20 and forth about the UMW and the PA Coal
21 Association's concerns with the federal rule.
22 And the secretary indicated that these could not
23 be reconciled with your position before this
24 committee. And I guess both sides have said
25 that the others are not quite telling the

1 committee the truth.

2 So I would first of all like you to tell us
3 about the scope of that litigation and how it
4 jibes with the testimony before this committee.
5 And, secondly, particularly for Mr. Trisko I'm
6 interested in a little bit of an elaboration on
7 the constitutional issue that you raised at the
8 earlier hearing which we just sort of glanced
9 by, but I think now it is becoming a matter of
10 greater concern to the committee. So if you
11 could answer those questions, the committee
12 would appreciate it in any order.

13 MR. TRISKO: Madame Chair, thank you. I'm
14 Eugene M. Trisko. I am here on behalf of the
15 United Mine Workers of America and the IBEW, and
16 it's my pleasure once again to appear before you
17 to address the issue of the Department's
18 proposed mercury regulation.

19 First, Madame Chair, I'll address myself to
20 the issues related to the litigation filed by
21 the Pennsylvania Coal Association on one hand,
22 by the United Mine Workers on the other, and
23 also by the Department of Environmental
24 Protection and address the question of who knew
25 what when because that's one of the issues that,

55

1 Madame Chair, you focused on early in your
2 questions with the secretary.

3 First let me make a basic distinction in a
4 litigation that's been filed by PCA and UMWA
5 separately but together so to speak and that
6 filed by DEP against the EPA rule.

7 Both PCA and the mine workers have singled
8 out only one aspect of the EPA mercury rule in
9 this litigation, and that was the allocation of
10 emission allowances among different coal types,
11 bituminous, subbituminous, and lignite.

12 There's a formula in that EPA rule that
13 awards allocations of allowances based on a
14 numerical allocation where lignite coal produced
15 in North Dakota and Texas receives a factor of
16 three, three allowances for every one bituminous
17 allowance. Subbituminous coal produced in
18 Wyoming and other states receives 1.25
19 allowances for every one given to bituminous
20 coal.

21 And one way of thinking about that
22 allocation is that for every pound of mercury
23 allowances that was given to lignite coals in
24 North Dakota and Texas, EPA took away two pounds
25 from bituminous coals. And since EPA was

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1 striving to meet a certain annual cap, that
2 resulted in a penalty to states that use a large
3 amount of bituminous coal. Pennsylvania leads
4 that list. You have perhaps the largest penalty
5 under the EPA rule because you're predominantly

6 burning bituminous coal.

7 Our litigation sought to recover a portion
8 of those allowances given to North Dakota and
9 Texas and Wyoming and bring them back to
10 Pennsylvania so as to reduce the percentage
11 reduction required under the EPA rule.

12 Pennsylvania has an 86 percent reduction
13 requirement. But nationally the reduction is
14 70 percent. And the reason that Pennsylvania
15 has an 86 percent reduction is because of its
16 reliance on bituminous coal. So we focus solely
17 on that allowance allocation issue.

18 And I note having recently had occasion to
19 review some of my files on this matter on the
20 mine workers litigation that under cover of a
21 letter dated September 2nd, 2005 the UMWA served
22 to the court of appeals and to all participating
23 parties our non-binding statement of issues.
24 And that's kind of when you tell the court
25 here's what we want to talk about in our part of

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1 this litigation.

2 And our non-binding statement of issues
3 said that our -- said that our focus-- This is
4 on Page 2, Item 3, UMWA's challenge is narrow
5 and based on discreet challenges to the limited
6 portion of the Clean Air Mercury Rule
7 establishing the allowance allocation adjustment
8 factors.

9 Madame Chair, members of the committee, I
10 also note that the service of the process list
11 attached to this document-- And we have this
12 nice tradition in the federal courts of keeping
13 all the other lawyers in the case advised of
14 who's filing what when. Well, this
15 September 2nd, 2005 document was served by first
16 class mail on Robert A. Reilly, assistant
17 counsel, Department of Environmental Resources,
18 400 Market Street, Ninth Floor, Harrisburg,
19 Pennsylvania as were all of the other relevant
20 filings by the mine workers and PCA in this
21 litigation.

22 Before I characterize or discuss the
23 difference between our litigation and DEP's
24 litigation, let me also clarify for the record
25 some of the matters that have been discussed in

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1 DEP press releases regarding the UMWA and PCA
2 position in this litigation.

3 And the document that I'm going to refer to
4 here was filed with the court and all parties on
5 August 15, 2005. This is a joint response on
6 the part of the state coal associations and the
7 United Mine Workers to EPA's motion to
8 consolidate petitions and to hold the
9 proceedings in abeyance.

10 This document states the core of the
11 economic prejudice against Pennsylvania and

12 other bituminous states that we were fighting
13 against. And it states in part, this arbitrary
14 allocation of budgets, allowance budgets, will
15 result in a vast wealth transfer from bituminous
16 coal users to subbituminous and lignite users.
17 This wealth transfer amounts to roughly 112 to
18 224 million dollars per year based on both EPA's
19 estimated cost for allowances and the shift in
20 allowances created by the adjustment factor
21 scheme.

22 The document goes on to argue that the
23 court should hear our claim now separate from
24 the claims filed by the Commonwealth and other
25 states against the core of the EPA rule. Hear

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1 our complaint now because utilities are
2 beginning to make compliance planning decisions
3 based upon these preliminary -- these allowance
4 allocations. And we say unless the court hears
5 the bituminous coal coalition's petitions now,
6 those decisions, compliance decisions, will be
7 made based on erroneous and unlawful mercury
8 allowance allocations. So we are simply trying
9 to bring back to Pennsylvania and other
10 bituminous producing states what the EPA rule in
11 our judgment unfairly took away.

12 SENATOR MARY JO WHITE: What's the status
13 of that now?

14 MR. TRISKO: The status is that this

15 litigation now may move forward because EPA has
16 completed its reconsideration of the mercury
17 rule, so all of these complaints will move
18 forward.

19 Now, in contrast to our quite limited
20 attack on this giveaway of allowances to western
21 states, DEP and other parties, other states and
22 environmental groups, filed suit against the EPA
23 Clean Air Mercury Rule seeking to establish that
24 trading was unlawful under the Clean Air Act, in
25 essence to have the Clean Air Mercury Rule

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1 itself taken off the books, go back -- go back
2 to square one and start with a maximum
3 achievable control technology rule that
4 prohibits trading under Section 112 of the Clean
5 Air Act.

6 And in listening to the secretary's
7 comments this morning in noting that the
8 Department may provide in its final rule that
9 the provisions creating preferences and
10 presumptions in favor of bituminous coal could
11 be treated as severable if they are indeed
12 deemed to be as we believe they are
13 unconstitutional confirms the precise, the
14 precise basis for the United Mine Workers'
15 opposition to the DEP's rule, because we said
16 when first presented in a briefing with an
17 outline of this proposal, we said there's a lot

18 here that appears very attractive. There's a
19 lot of talk about bituminous coal, preferences
20 for plants that use scrubbers. That's where we
21 come from. We've never met a scrubber that we
22 didn't like.

23 But we said we'll have to think about our
24 position on this because you've given us a lot
25 to digest. So we thought about it overnight.

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1 And the overwhelming issue that came to us is
2 that this rule is candy coated. It's candy
3 coated in a way to attract our support and that
4 the very provisions that are attracted to us are
5 the ones that are most likely to fail this
6 critical constitutional challenge. And if the
7 rule does fail, if it is challenged, those
8 provisions stricken from the rule, the entire
9 rule likely would not be vacated as the
10 secretary suggested today.

11 No, those provisions of the rule that were
12 intended to be beneficial to the interest of the
13 mine workers, intended to be beneficial to the
14 interest of the Pennsylvania coal industry,
15 those would be removed and what would we then be
16 left with.

17 We would be left with a command and control
18 plant by plant mercury control requirement with
19 no trading of allowances, no banking of
20 allowances. Indeed we would be left with

21 exactly the kind of rule that DEP is seeking to
22 establish through its litigation in the district
23 court system.

24 So that's-- So that said, let me address
25 also the critical question, Madame Chair, that

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1 you raised earlier in your questions with the
2 secretary, the issue of the small plants. It
3 really does all come down to the question of the
4 impact of the DEP's rule on small coal-burning
5 facilities.

6 We know that the big baseload coal plants
7 in Pennsylvania are going to be retrofitted with
8 scrubbers and SCRs in order to meet the CAIR
9 rule, the SO₂ and NO_x requirements of the CAIR
10 rule. And as a result of that, a lot of mercury
11 is going to be reduced.

12 Now, if the DEP rule were implemented as
13 proposed, the small plants basically are looking
14 in the first phase at an 80 percent reduction
15 and in the second phase a 90 percent reduction.

16 Here's where the coal question comes in, if
17 you have to meet a 90 percent reduction of
18 mercury at a coal-fired power plant, there are
19 basically two ways to do it. One way is using
20 bituminous coal to employ a scrubber and an SCR.

21 Now, let's say that that costs 200 to
22 300 million dollars of capital investment to put
23 that scrubber and the SCR on that unit and you

24 can burn bituminous coal and you can meet 90
25 percent or very close to it.

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1 The other way is to use activated carbon
2 injection technology which is an emerging
3 technology. The tests indicate that activated
4 carbon technology should be able to receive,
5 should be able to get 90 percent reductions, but
6 not with bituminous coal, not with Pennsylvania
7 coal. The 90 percent reduction requirement
8 achievable with activated carbon injection can
9 be achieved by the use of Wyoming subbituminous
10 coals. That technology when applied to
11 bituminous coals gets 50 percent reduction,
12 60 percent reduction.

13 Now, here is the key, the scrubber and SCR
14 investment for the bituminous plant costs
15 200 million dollars, 300 million dollars. The
16 carbon injection investment for the small plant
17 costs 5 million dollars. What are you going to
18 do, you're in a restructured state, you're
19 operating within PJM, you're dispatched based on
20 your costs. You're going to select the least
21 cost capital investment option for that plant.

22 And it so happens that if carbon injection
23 technology is used in large measure at small
24 plants, those plants likely will switch.
25 They'll switch to subbituminous coal because

2 with you. When you give people-- They'll go to
3 the lowest cost options for compliance and
4 everybody wins. Is that the bottom line?

5 MR. TRISKO: Right.

6 SENATOR MARY JO WHITE: Any other
7 questions? Can we go a little bit-- Oh, I'm
8 sorry. Go ahead.

9 SENATOR WOZNIAK: You're talking about the
10 carbon infused technology.

11 MR. TRISKO: Carbon injection.

12 SENATOR WOZNIAK: Carbon injection. When
13 they shoot it into our bituminous coal, we're
14 getting a 60 percent--

15 MR. TRISKO: Fifty percent or 60 percent.
16 The exhibit attached to my testimony from
17 May 2nd contain the most recent test results for
18 different coal types, Senator. And it showed
19 that the bituminous plants were getting 50,
20 60 percent and the western subbituminous plants
21 were getting 90 percent. Even lignite is
22 getting 90 percent.

23 SENATOR WOZNIAK: I guess that has to do
24 with the chemical makeup of the coal and all
25 that kind of stuff.

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1 MR. TRISKO: Yes.

2 SENATOR WOZNIAK: If we would do that with
3 our Pennsylvania coal, what would be our
4 overall -- we'd have a 50 percent reduction

5 coming out of our power plants.

6 MR. TRISKO: For those plants using that
7 technology.

8 SENATOR WOZNIAK: Let's say they all did.
9 What is EPA demanding of us? What sort of
10 reduction are they demanding from us?

11 MR. TRISKO: In effect, the EPA rule
12 requires an 86 percent reduction.

13 SENATOR WOZNIAK: So if we used that cheap
14 technology for bituminous, we're still way far
15 away from--

16 MR. TRISKO: Well, you're way far away from
17 it, but the good news, the good news is that
18 because of the other CAIR rule that EPA
19 promulgated last March for reducing sulfur
20 dioxide and nitrogen oxide emissions that all of
21 the major Pennsylvania coal plants are going to
22 be retrofitted with scrubbers and SCRs. And
23 those plants that are retrofitted, bituminous
24 coal will remain a viable option.

25 SENATOR MARY JO WHITE: So when the

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1 secretary says under a trading program there is
2 -- it is possible that Pennsylvania would see no
3 mercury reductions, is that true?

4 MR. TRISKO: It's absolutely incorrect.
5 It's absolutely incorrect. Indeed I was on a
6 panel in Philadelphia last Friday with Judith
7 Katz of EPA Region 3, and she presented a slide

8 projecting that under the EPA CAIR rule that
9 95 percent of Pennsylvania coal capacity would
10 be retrofitted with scrubbers and SCRs by the
11 year 2015, I believe. So that's a huge mercury
12 reduction. It comes virtually at no cost as a
13 co-benefit as a result of compliance with CAIR.

14 Oh, Madame Chair, may I touch, if I might,
15 on one other technical issue that repeatedly has
16 been raised by the Department in support of the
17 compliance presumption in the proposed rule.

18 The compliance presumption says in basic
19 terms that if a plant is burning 100 percent
20 bituminous coal and is equipped with a scrubber
21 and some other control technologies, then it
22 will be presumed to meet the standards required
23 of the rule. There won't be additional in
24 effect testing or certification. It will just--
25 It will be presumed to meet those requirements.

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1 There are constitutional issues there. But
2 there is also a deep underlying technical flaw
3 that this committee needs to be aware of.
4 There's more than one kind of bituminous coal
5 produced in the United States. They divide
6 generally into two categories, eastern
7 bituminous and western bituminous.

8 The Department's presumption is based upon
9 a technical finding, if you will, that because
10 of the high amount of chlorine contained in

11 bituminous coal that when that coal is burned in
12 a unit equipped with a scrubber and an SCR that
13 it's possible to achieve 90 percent emission
14 control.

15 Well, the good news is that that's true for
16 eastern bituminous coals in Pennsylvania,
17 West Virginia, and Kentucky, but it's not true
18 with respect to bituminous coals produced
19 elsewhere in the United States. The state of
20 Colorado, the state of Utah, for example,
21 produce very high quality, high BTU bituminous
22 coals that have very low chlorine content and
23 that do not perform well -- as well in units
24 equipped with scrubbers as eastern bituminous
25 coal.

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1 Therefore, the technical basis for DEP's
2 presumption that, quote, bituminous coals
3 perform well in units equipped with scrubbers
4 and SCR due to their high chlorine content is
5 not applicable to all forms of bituminous coal
6 produced in the United States. Therefore, I
7 believe one could argue that the presumption
8 itself is technically questionable.

9 SENATOR MARY JO WHITE: Thank you.
10 Mr. Ellis, did you have something? Are there
11 questions for Mr. Trisko?

12 (No response)

13 SENATOR MARY JO WHITE: Mr. Ellis.

14 MR. ELLIS: For the sake of time, I think
15 Gene pretty much described our position.

16 SENATOR MARY JO WHITE: Well, I have to
17 admit I had not gone full circle as you did,
18 Mr. Tri sko, with realizing that making this
19 severable and taking out the unconstitutional
20 preference, if you will, takes you back to
21 exactly--

22 MR. TRI SKO: MACT.

23 SENATOR MARY JO WHITE: --exactly what they
24 want, MACT with no trading, very enlightening.
25 Any questions for these gentlemen? Yes, Senator

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1 Wozni ak.

2 SENATOR WOZNI AK: Just to keep in my mind's
3 eye here, so what you're telling me that as we
4 move forward with the scrubbers and the SR--

5 MR. TRI SKO: SCRs.

6 SENATOR WOZNI AK: What does that stand for?

7 MR. TRI SKO: Selective catalytic
8 reductions, Senator. It's like the catalytic
9 converter on your car except it's the size of a
10 house, and it costs a couple hundred million
11 dollars.

12 SENATOR WOZNI AK: As we move forward and we
13 put all our major power plants on line with
14 these -- retrofitted with the scrubbers and the
15 SRs--

16 MR. TRI SKO: SCRs.

17 SENATOR WOZNI AK: --SCRs, we attain
18 ourselves what the EPA is looking for in the
19 year 2015.

20 MR. TRISKO: 2015.

21 SENATOR WOZNI AK: 2015. It's not that far
22 off in the big picture of time. And that gets
23 them what they want, correct?

24 MR. TRISKO: Correct.

25 SENATOR WOZNI AK: Now, the chairwoman

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1 brought up about the small power plants, and we
2 know about the off peak and the ones that are
3 used by natural gas. What's at issue with them,
4 that they don't have-- She talks about the
5 affordability. You say you can't put the
6 scrubbers on these small ones. All I have is--
7 I have a lot of co-gens, too, so I don't know
8 how it affects my co-gens. I have a tremendous
9 amount of co-gens. But if we reach that overall
10 air compliance or is it by individual power
11 plants that they want that reduction, or is it
12 overall air ambience that EPA is looking for?

13 MR. TRISKO: Well, in the DEP rule they
14 want that compliance on an individual plant
15 basis, and that's where our concern about fuel
16 switching to western coal comes in because the
17 plants will be driven to the least cost form of
18 control technology carbon injection, and that
19 type of technology really only meets 90 percent

20 when you're burning western coal.

21 Or if the economics are not favorable for
22 that, the plants are retired prematurely. You
23 have 30 units in this state that are smaller
24 than 200 megawatts and more than 50 years of
25 age, and each one of them is at risk if

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1 confronted with an inflexible plant-by-plant
2 90 percent control requirement.

3 So it's either-- From our standpoint,
4 either the mine workers lose jobs because
5 Pennsylvania coal is reduced, its viability in
6 the Pennsylvania coal market is reduced. Or the
7 IBEW loses jobs because the plants are closed
8 down.

9 For us there's absolutely no positive
10 upside on a 90 percent control requirement
11 applied to these small units. I hope that's
12 responsive to your question.

13 SENATOR WOZNIAK: I guess the big question
14 is, if they want a reduction in atmosphere
15 mercury, methylmercury, is it -- do they have
16 testing stations throughout Pennsylvania, or
17 does it have to be site -- does it have to be
18 power plant by power plant by power plant by
19 power plant, or is it the big bubble so to
20 speak?

21 MR. TRISKO: Senator, ultimately it is the
22 big bubble. As Chairperson White has indicated,

23 the state does not operate under a dome.
24 Mercury is a globally transported pollutant.
25 And it very well may be that if emission trading

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1 in Pennsylvania results in the purchase of some
2 allowances from states such as Indiana or
3 Kentucky that you are the direct beneficiaries,
4 Pennsylvania is the direct beneficiary of
5 reduced deposition because that's about the
6 right trajectory to in effect achieve the
7 deposition benefit associated with the allowance
8 purchase.

9 So just as the data discussed today
10 regarding the two monitors, the data indicating
11 that notwithstanding the fact that four power
12 plants in the immediate vicinity of one of these
13 monitors have reduced their mercury emissions by
14 more than 40 percent in the course of the last
15 five years or so that there have been no
16 observable change in the mercury recorded in the
17 monitor, it's not necessarily true that reducing
18 mercury emissions locally is going to produce a
19 local benefit.

20 SENATOR WOZNI AK: Thank you.

21 SENATOR STOUT: Madame Chair, I have one
22 question please.

23 SENATOR MARY JO WHITE: Senator Stout.

24 SENATOR STOUT: Eugene, do you know what
25 the initials DM&E mean, could you tell the

1 committee, DM&E? That means Dakota, Minnesota
2 and Eastern Railroad. It's a railroad project,
3 a multimillion dollar project to move coal from
4 Powder River Basin region to the midwest and to
5 the east. It's just starting to be developed
6 and probably will be about a two billion dollar
7 project to build like six or seven hundred mile
8 rail lines to the eastward so forth. And that
9 is going to have a significant cost in
10 developing that coal.

11 If this were in effect to allow western
12 coal to replace bituminous coal, it would have a
13 big impact on the cost of removing coal from the
14 Rocky Mountain area to the east coast. So
15 that's a major involvement that's going to
16 impact utility rates in the out years if they
17 are allowed to replace Pennsylvania coal with
18 out-of-state coals. So I think you ought to
19 take a look at the DM&E proposal.

20 MR. TRISKO: Senator, I had not previously
21 been advised of this development, but it has not
22 come as a surprise.

23 SENATOR MARY JO WHITE: Well, good luck
24 with your lawsuit.

25 MR. TRISKO: Thank you.

1 SENATOR MARY JO WHITE: Any other
2 questions?

3 (No response)

4 SENATOR MARY JO WHITE: Thank you,
5 gentlemen.

6 MR. HENDERSON: Our next witness is
7 Dr. Gail Charnley, HealthRisk Strategies.

8 SENATOR MARY JO WHITE: Good afternoon,
9 Dr. Charnley. I apologize for being behind
10 schedule. This is a very important issue, and
11 we are not going to -- we'll try not to
12 shortchange anybody on time. And we appreciate
13 your being here today.

14 DR. CHARNLEY: Not a problem at all. I've
15 been enjoying the discussion. Well, Senator
16 White and other committee members, good morning,
17 and thank you for inviting me to share my views
18 with you today. I am providing testimony at the
19 invitation of Senator White, and I'm not
20 representing any organization.

21 I would like to make three main points.
22 First, nobody disputes that methylmercury can be
23 toxic to the developing nervous system if women
24 are exposed to too much of it during pregnancy.
25 But what is disputed is how much methylmercury

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1 exposure has to occur before it becomes a
2 problem. Current methylmercury exposures do not

3 appear to pose a threat to public health for
4 most U.S. women and children.

5 Second, fish is good for you, and the
6 children of women who eat fish during pregnancy
7 even when it contains small amounts of
8 methylmercury apparently perform better on tests
9 of neurologic development than the children of
10 mothers who avoid fish thanks to the important
11 nutrients in fish.

12 And, third, while reducing power plant
13 mercury emissions is certainly desirable, it is
14 inappropriate to assume that doing so will lead
15 directly to reduced risks from methylmercury.

16 I believe that the public health benefits
17 of the proposed rule are unlikely to exceed
18 those attainable through implementing EPA's
19 Clean Air Mercury Rule. And I think they're
20 being both oversimplified and oversold.

21 I will also say something briefly on the
22 issue of potential risks to children from
23 inhaled mercury vapor potentially associated
24 with power plants.

25 As a witness at one of your earlier

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1 hearings, as testified, the U.S. Centers for
2 Disease Control reports that children and women
3 of child-bearing age in the U.S. have
4 methylmercury levels in their blood well below
5 those that have been reported to produce adverse

6 effects.

7 And I think it's helpful to visualize how
8 the levels associated with adverse effects
9 compare with actual exposure levels. And I
10 think you have a handout that has some figures
11 that I'll refer to.

12 Figure 1 in the handout compares the level
13 of mercury in blood associated with a 5 percent
14 likelihood of poorer performance on a test of
15 memory among children in the Faroe Islands where
16 people rely primarily on seafood as their source
17 of dietary protein. That's compared to EPA's
18 reference dose which is the exposure that is
19 likely to be without an appreciable risk of
20 adverse effects over a lifetime, and it was
21 based upon the Faroe Islands memory test.

22 And, finally, the average mercury blood
23 level in U.S. women of child-bearing age. And
24 as the inset on the figure indicates, 94 percent
25 of the women tested had mercury levels below

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1 EPA's reference dose, and about 6 percent had
2 levels that exceeded EPA's reference dose.

3 None of the women, however, that were
4 tested had mercury levels even approaching the
5 exposure associated with the change in their
6 children's performance on the memory test.

7 Figure 2 in the handout shows another way
8 to compare exposures. In addition to blood

9 levels, mercury exposure can be reflected in
10 hair. And Figure 2 shows first the measurements
11 of mercury level in the hair of the women in the
12 Faroe Islands whose children tended to perform
13 more poorly on the memory test as their mother's
14 exposure to mercury increased, EPA's reference
15 dose translated in terms of hair, the average
16 mercury level found in the hair of U.S. women of
17 child-bearing age, the upper 90th percentile
18 hair mercury level, and mercury level reported
19 for a sample of Japanese women.

20 Both figures show that the mercury level
21 associated with subtle neurodevelopmental
22 deficits in the Faroe Islands is much higher
23 than the levels of mercury exposure in U.S.
24 women. And I thought that the Japanese data
25 provided an interesting contrast. Apparently

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1 more than 90 percent of Japanese women have
2 mercury levels that exceed EPA's reference dose
3 for methylmercury. As far as I know, there is
4 at present no epidemic of poor
5 neurodevelopmental performance in Japan.

6 It is the finding that 6 percent of U.S.
7 women have blood methylmercury levels exceeding
8 EPA's reference dose that has served for the
9 basis for a variety of claims about how many
10 babies in the U.S. are born each year adversely
11 affected by methylmercury including a claim on

12 the Pennsylvania DEP's website.

13 Much has been made out of one EPA's
14 scientist's assertion that either 300,000 or
15 600,000 children, depending on assumptions, are
16 born each year at risk of developmental
17 neurotoxicity.

18 First of all, that's an assertion made by
19 EPA's scientist and is not EPA's position. And,
20 second of all, exceeding a reference dose does
21 not put someone at risk. As EPA clearly states,
22 it is important to note that the reference dose
23 does not define a bright line above which
24 individuals are at risk of adverse effects.

25 Finally, and most importantly, EPA's

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1 reference dose is based solely on the study
2 performed in the Faroe Islands that no other
3 public health organization in the world relies
4 on for the development of methylmercury exposure
5 limits.

6 The study is not relied on by others for
7 two reasons. One, the primary source of mercury
8 exposure was pilot whales, not fish, so the
9 well-established benefits of fish consumption
10 during pregnancy that appear--

11 SENATOR MARY JO WHITE: I'm sorry, it was
12 what, not fish?

13 DR. CHARNLEY: Pilot whales.

14 SENATOR MARY JO WHITE: Pilot whales.

15 DR. CHARNLEY: In the Faroe Islands the
16 primary source -- primary protein source for the
17 women in the study and the primary source of
18 methylmercury exposure was pilot whale, not
19 fish, although they did of course eat some fish,
20 yes.

21 But the well-established benefits of fish
22 consumption during pregnancy that appear to be
23 protective against the effects of mercury were
24 not applicable in many of the cases there. And,
25 second, pilot whales were contaminated with very

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1 high levels of PCBs which have been associated
2 with the same neurodevelopmental effects that
3 were reported for mercury.

4 In fact, when the effects of prenatal
5 exposure to PCBs in the Faroe study were
6 properly controlled for, the correlation between
7 mercury exposure and poorer performance on the
8 memory test was no longer significant.

9 So it is my opinion and that of many other
10 scientists that the results of the Faroe Islands
11 study at best should be attributed to combined
12 exposure to mercury and PCBs. And concluding
13 that there are hundreds of thousands of U.S.
14 children either at risk or actually experiencing
15 neurodevelopmental effects from mercury because
16 their moms' blood mercury levels exceed EPA's
17 reference dose is disingenuous, inappropriate,

18 and inflammatory.

19 I don't doubt that there are groups of
20 subsistence fishers in the U.S. who may be
21 exposed to higher levels of methylmercury if
22 they rely on fresh water predator fish as their
23 primary protein source and whose children may
24 truly be at risk as a result. I don't know how
25 many of those live in Pennsylvania or whom

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1 exactly this state rule is meant to protect.

2 Most people in Pennsylvania, as with
3 everywhere else, eat ocean fish, not fish caught
4 in Pennsylvania. And I understand that there
5 are over a million sports anglers in
6 Pennsylvania, but I could not find any data
7 specific to what they do or do not eat in terms
8 of what they catch.

9 I also understand that there is a catfish
10 farming industry in Pennsylvania but could not
11 find any data on the extent to which those fish
12 are or are not contaminated with methylmercury,
13 although I know that in general catfish are
14 considered one of the least mercury contaminated
15 fish -- fish species. And even Physicians for
16 Social Responsibility considers farmed catfish
17 to be safe.

18 Data from other states indicate that most
19 sports anglers don't eat what they catch at all
20 or eat it less frequently than once per month,

21 but I'm sure other studies probably show other
22 rates of consumption amongst anglers.

23 Data also indicate that less than one-third
24 of women who eat fish reported eating sport
25 fish, and there's no difference between their

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1 hair mercury levels and those of the women who
2 do not eat sport fish.

3 So I believe that it would be good to
4 include in your deliberations whatever specific
5 data might be available on who the people are in
6 Pennsylvania who really are potentially at risk
7 for methylmercury present in Pennsylvania fish
8 so that a more informed discussion of the
9 potential benefits of either the Clean Air
10 Mercury Rule or the proposed state rule might be
11 conducted.

12 SENATOR MARY JO WHITE: Let me interrupt
13 for a moment.

14 DR. CHARNLEY: Sure.

15 SENATOR MARY JO WHITE: You're talking
16 about fish.

17 DR. CHARNLEY: Yes.

18 SENATOR MARY JO WHITE: And every public
19 health type person who has come before this
20 committee to talk about mercury and its health
21 effects talks about fish.

22 DR. CHARNLEY: Right.

23 SENATOR MARY JO WHITE: And yet we're being

24 told that there are hot spots around power
25 plants. And I assume this hot spot is being

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1 measured in the soil or somewhere. I'm assuming
2 some soil, I don't know what else you would
3 measure, or in the air.

4 DR. CHARNLEY: Wet deposition maybe or-- I
5 don't know.

6 SENATOR MARY JO WHITE: Or the air.

7 DR. CHARNLEY: I'm not an expert.

8 SENATOR MARY JO WHITE: And I guess my
9 question is, what does that mean for the health
10 of people who live around power plants?

11 DR. CHARNLEY: That's not clear because
12 there is the connection between that deposition
13 or soil content or whatever it is and the
14 connection between methylmercury in the local
15 fish and then the connection between
16 methylmercury in local fish and who actually
17 catches and eats them and depends on them is not
18 made.

19 SENATOR MARY JO WHITE: So in the hot spots
20 argument I have a hard time linking that to any
21 public health impact.

22 DR. CHARNLEY: Well, it's a theoretical
23 linkage, but I don't believe that there are any
24 data that actually support that.

25 While we're on the subject of hot spots,

2 do women who avoid fish during pregnancy.

3 A study of kids in the Seychelle Islands
4 where they eat a lot of fish found that the kids
5 whose moms ate more fish and had higher hair
6 mercury levels tended to perform better than the
7 kids whose moms had lower hair mercury levels and
8 ate less fish.

9 And a recent study of children in the UK
10 reported that increasing mercury levels were not
11 associated with cognitive problems but that
12 increasing prenatal fish consumption was
13 associated with improved cognition. In fact,
14 the children of mothers who ate more fish during
15 pregnancy and were exposed to more methylmercury
16 in the UK actually had IQs five points higher
17 than the children of mothers who ate less. And
18 as you know, these cognitive benefits are
19 attributed to omega-3 fatty acids which are, in
20 fact, essential for appropriate nervous system
21 development and function.

22 These studies, please, do not suggest that
23 methylmercury is good for children. But I
24 believe that they do demonstrate that the
25 benefits of fish clearly can overcome

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1 methylmercury's potential threats.

2 As for power plants and mercury what --
3 germane to what your recent question was,
4 Senator White, much of what appears in the media

5 implies that mercury comes directly out of the
6 power plants, falls directly onto nearby fish,
7 turns into methylmercury, and threatens
8 children's health.

9 And the implication of that scenario would
10 be that reducing mercury emissions from power
11 plants would lead directly to less methylmercury
12 in fish and safer children. And unfortunately
13 such a simple and direct relationship between
14 mercury emissions and fish methylmercury levels
15 has not been supported scientifically.

16 A couple of your earlier witnesses
17 mentioned evidence from the everglades to
18 support a direct link between lowering mercury
19 emissions and reduced fish methylmercury levels,
20 but for some reason, those witnesses did not
21 mention the other data from the same study that
22 do not support such a link.

23 There were 12 sites sampled in Florida, not
24 just the everglades, and the results were split
25 between decreasing, increasing, and no change in

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1 methylmercury levels in fish.

2 So while it seems logical to assume that
3 reducing power plants or other mercury emissions
4 will lead to reductions in local fish
5 methylmercury levels, the relationship between
6 mercury emissions and fish methylmercury levels
7 is actually highly site specific. So it is

8 likely that reducing power plant mercury
9 emissions will lead to lower fish methylmercury
10 levels in some places and not in others.

11 But it's not yet possible to predict
12 whether and to what extent reducing power plant
13 mercury emissions will result in reduced fish
14 methylmercury concentrations in Pennsylvania.
15 And it certainly will not be able -- be possible
16 to distinguish in my view between the effects of
17 the proposed -- the governor's 90 percent
18 reduction versus EPA's 86 percent or whatever
19 the prediction is in terms of its impact on
20 public health even if it were possible to
21 achieve one earlier than the other.

22 There are no data to support the contention
23 that Pennsylvania's proposed rule will protect
24 high consumers of Pennsylvania fish any better
25 than will the federal rule.

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1 As for threats to children from mercury
2 inhalation, the American Academy of Pediatrics
3 has apparently identified coal-fired power
4 plants as a major threat to children's health
5 resulting from inhalation of elemental mercury
6 vapor. And I have tried diligently to identify
7 studies that demonstrate or even suggest an
8 association between mercury emitted from power
9 plants and ambient levels of mercury vapor to no
10 avail.

11 The vapor phase mercury that is emitted
12 from power plants does not become breathable
13 mercury at ground level. That mercury becomes
14 part of the global atmospheric cycle of mercury
15 and ends up in the troposphere.

16 Vapor phase mercury measurements taken
17 right next to and directly downwind of power
18 plant stacks at ground level are all consistent
19 with the naturally occurring background
20 concentration of mercury which is 1.6 nanograms
21 per cubic meter of air. So those data show that
22 power plants do not contribute to ground level
23 vapor phased mercury concentrations. And as far
24 as I can tell, the American Academy of
25 Pediatrics' suggestion otherwise has no support.

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1 And that's all I had to say today. Thank you
2 for your attention.

3 SENATOR MARY JO WHITE: Very good. Thank
4 you. I appreciate your testimony. Questions?
5 Senator Williams.

6 SENATOR WILLIAMS: You have a Ph.D. in?

7 DR. CHARNLEY: Toxicology.

8 SENATOR WILLIAMS: From where?

9 DR. CHARNLEY: MIT.

10 SENATOR WILLIAMS: Your history of --
11 because I know you know more than just whether
12 fish was good or bad, so I just wanted to get
13 that for the record. The details-- Well, how

14 long have you been involved in the study of this
15 particular area that we're talking about?

16 DR. CHARNLEY: This particular area--
17 Well, I've studied children's health for a
18 number of years. I've studied the relationship
19 between environmental exposures and public
20 health outcomes my entire career.

21 SENATOR WILLIAMS: So this area that we're
22 talking about today for the record is one that
23 you have knowledge of, not just in a cursory
24 kind of, oh, somebody asked me to come, I know a
25 little bit about this. You actually have a

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1 history of this.

2 DR. CHARNLEY: I like to think so.

3 SENATOR WILLIAMS: I think that it was a
4 great benefit and enlightenment. Thank you.

5 DR. CHARNLEY: Thank you.

6 SENATOR MARY JO WHITE: Thank you, Doctor.
7 I'm sorry, I should have talked a little bit
8 about Dr. Charnley's qualifications. But we
9 selected her because one of our earlier
10 witnesses stated that he thought our hearings
11 were a bit short on public health experts in
12 toxicology, and because she is a recognized
13 expert in this field, we invited her to present
14 testimony today and in addition to her oral
15 testimony, the material submitted for the record
16 with her testimony and specifically the report

17 that she mentions on -- from the Environment
18 Reporter and it incites with approval is going
19 to be very helpful I think to this committee.
20 Thank you very much, Dr. Charnley.

21 DR. CHARNLEY: Thank you.

22 SENATOR MARY JO WHITE: I saw Dr. Johnson
23 come in with a guest. Is he testifying,
24 Dr. Johnson?

25 DR. JOHNSON: She is not.

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1 SENATOR MARY JO WHITE: She. I didn't get
2 a good look.

3 DR. JOHNSON: She's here to report back on
4 how I do.

5 SENATOR MARY JO WHITE: Good morning.

6 DR. JOHNSON: Good morning. How are you?

7 SENATOR MARY JO WHITE: Thank you for
8 joining us.

9 DR. JOHNSON: Thank you for inviting me
10 this morning. Chairwoman White, and I don't see
11 Chairman Musto, and members of the committee,
12 I'm Calvin Johnson, Secretary of Health for the
13 Commonwealth. And I'd like to introduce to you
14 sitting to my left Dr. Kandiah Sivarajah who is
15 a public health state toxicologist with the
16 Department of Health, and I've asked him to join
17 me here this morning.

18 SENATOR MARY JO WHITE: Good morning.

19 DR. JOHNSON: As you know, in addition to
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20 my being the Secretary of Health, I am also by
21 training first and foremost a pediatrician. And
22 I appreciate the fact that you all have invited
23 the Department and myself to come and speak to
24 you about the harmful effects that mercury
25 emissions have on children and also for

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1 recognizing that the issue is a public health
2 matter, so thank you for that.

3 This issue and the Department of Health's
4 involvement in this issue of mercury exposure to
5 humans is not new. We--

6 SENATOR WILLIAMS: Mr. Secretary.

7 DR. JOHNSON: Yes.

8 SENATOR WILLIAMS: I apologize. And,
9 Madame Chairperson, I apologize. I wanted to
10 hear your testimony. I don't want people to
11 think I'm leaving to be rude, but I'm told I
12 have to go up to the floor to make sure I'm
13 introduced.

14 DR. JOHNSON: Thank you, Senator. Just
15 making the point that the Department of Health's
16 involvement in this issue is not new--

17 SENATOR MARY JO WHITE: I just want to make
18 one point, Doctor, while we're-- This is going
19 to be videotaped. It will be posted on the
20 website. So even though we are a bit short on
21 members because of everything that is going
22 today, please be assured that people -- Senator

23 Williams and others will be able to have the
24 benefit of this testimony. So thank you.
25 Please proceed.

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1 DR. JOHNSON: I repre-- Through a
2 representation on the Environmental Quality
3 Board, a participation in the Mercury Rule Work
4 Group that was convened by the Pennsylvania
5 Department of Environmental Protection, and our
6 participation in the contingency work group on
7 fish advisories and partnering closely and
8 continually with the Department of Environmental
9 Protection to address the public's concern on
10 mercury as a whole are all examples of our
11 extended and longer term involvement in this
12 issue.

13 I want to talk about briefly this morning
14 what mercury is, how it can harm the human body
15 and particularly children and pregnant women,
16 and also talk briefly about the issue of mercury
17 in and vaccines that most likely you've come
18 across in your research and information
19 gathering on this issue.

20 So what is mercury and how is it ingested?
21 And forgive me if this is repetitious, but I
22 think it is important to emphasize these points
23 and reiterate these points. Mercury is an
24 element that's found throughout the earth and
25 the environment, occurs in liquid or elemental,

1 organic, and inorganic forms. It is a toxicant,
2 and it can impact humans in -- neurologically.
3 It can impact neurologically speaking and
4 developmentally as well primarily affecting the
5 brain, spinal cord, the kidneys, and the liver
6 as organs, but other organs as well.

7 It's the organic forms of mercury that are
8 more easily absorbed when ingested in the human
9 body, and the body has a more difficult time
10 expelling organic mercury than inorganic forms
11 of mercury.

12 So methylmercury which is what the topic
13 the committee has been -- the compound of
14 interest and the focus of the committee is the
15 organic form. And that can easily accumulate in
16 aquatic food chain and is easily absorbed by
17 humans through ingestion of fish.

18 While methylmercury can enter the body
19 through a number of food stocks other than fish,
20 it is consumption of contaminated fish that is
21 the major source of human exposure of
22 methylmercury in the United States.

23 Methylmercury can accumulate again up the
24 food chain in the aquatic system meaning bigger
25 fish eating smaller fish and adding to the load

1 and then when consumed by humans can result in
2 increased risk of adverse health effects.

3 Probably the more important issue in front
4 of us, though, is the impact that mercury
5 ingestion has on the human body, in particularly
6 children and pregnant women. Recent information
7 data suggests that umbilical cord mercury, in
8 fact, may have concentrations that are on
9 average 70 percent higher than the maternal
10 blood mercury concentration where it is
11 typically measured. And the danger of mercury
12 exposure can arise and does arise really -- and
13 this is an important point to emphasize -- from
14 the chronic exposure as opposed to the acute or
15 instantaneous exposure to mercury.

16 So once methylmercury enters the
17 bloodstream, it rapidly moves into the tissues
18 of the human body and then readily crosses the
19 blood brain barrier and into the brain.

20 Exposure to methylmercury is probably more
21 dangerous to younger children than it is to
22 adults because of its ability to pass into the
23 developing brain and interfere with and in the
24 worst cases permanently harm the developmental
25 process.

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1 In addition to children being a high-risk
2 group, as I mentioned, pregnant women are also

3 highly vulnerable to adverse effects of mercury
4 exposure. And methylmercury in the blood of
5 pregnant women can easily move into the blood of
6 the unborn child, as I just mentioned, with
7 umbilical blood. Recent studies showed
8 umbilical blood concentrations can be
9 significantly higher than maternal blood
10 concentrations. So it can demonstrate that this
11 can happen and can happen in significant
12 concentrating forms.

13 Methylmercury also is passed into a child
14 through breast milk so even out of utero in the
15 developing infant in the neonatal and infant
16 stages.

17 After its conversion in the body to the
18 inorganic mercury, the body slowly excretes the
19 mercury over a period of several months. So as
20 it comes in, it doesn't go out as fast as it
21 comes in. But over a period of several months,
22 it's slowly excreted by the body. And this is
23 important when we talk about and think about the
24 cumulative aspects of this.

25 So a study by the National Academy of

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1 Sciences recently concluded that the human
2 exposure to methylmercury from eating
3 contaminated fish and seafood is associated with
4 adverse neurological and developmental health
5 effects. This is further confirmation that

6 women of child-bearing age and pregnant women
7 represent vulnerable and sensitive populations.

8 The National Academy of Sciences also found
9 that chronic low dose prenatal methylmercury
10 exposure has been associated with poor
11 performance on neurobehavioral tests in children
12 which is typically measured by their language
13 ability, fine motor skills, their ability to
14 pick up small things.

15 SENATOR MARY JO WHITE: Is that a U.S.
16 study?

17 DR. JOHNSON: This is-- It's a reported
18 compilation of data, looking at data. But
19 National Academy of Sciences is a United States
20 organization, yes.

21 And so looking again, language ability,
22 fine motor skills, and intelligence measures.
23 Adults of course can be affected, as we
24 mentioned, and the effects on the nervous system
25 can show an impaired vision and hearing as well.

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1 So there are two published studies showing
2 association between low level of methylmercury
3 exposure and cardiovascular effects.

4 SENATOR MARY JO WHITE: When you say low
5 level, what level are we talking about?

6 DR. SIVARAJAH: We are talking about 1 to
7 10 micrograms, the increase blood pressure going
8 from-- I think it gives you the exact number.

9 DR. JOHNSON: It's in this study, and this
10 will tell you in the study of 1,000 seven year
11 old children, and this is outside the U.S. It's
12 a Faroe Islands study where mercury ingestion
13 increased the systolic blood pressure going from
14 a core blood dose of 1 to 10 micrograms per
15 liter, and it showed a diastolic and systolic
16 blood pressure increase of 13 and 14.6
17 millimeters of mercury respectively.

18 SENATOR MARY JO WHITE: I guess I'm having
19 trouble kind of comparing this to the EPA's
20 reference dose because Dr. Charnley who just
21 testified also referenced Faroe Islands study,
22 and she shows a number here of 85 compared to
23 the EPA reference dose. And, again, I don't
24 know-- I apologize for not knowing 85 what.
25 But she shows 85 in the Faroe Islands as the

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1 exposure level or the dose, and the EPA
2 reference dose is 5.8.

3 DR. SIVARAJAH: Actually they use the bench
4 dose mark level as 58 was used. Fifty-eight
5 micrograms per liter was the one which was used
6 in making the reference dose, okay. So the
7 reference dose was based upon the 58 benchmark
8 level. So there's no conflict there. That was
9 the one which was used by National Academy of
10 Sciences in establishing the reference dose.

11 SENATOR MARY JO WHITE: And I show the EPA

12 reference dose as being 5.8.

13 DR. SIVARAJAH: Yes, that's correct.

14 SENATOR MARY JO WHITE: So the Faroe
15 Islands study is 85. That's a pretty big
16 difference.

17 DR. SIVARAJAH: No. I think what they did
18 is they look at the Faroe Island study as we
19 have other studies, and they came up with the
20 number of 58 as the benchmark dose level.

21 DR. JOHNSON: And I'll speak about the
22 benchmark versus reference in just a moment,
23 Senator. But the point is that there have been
24 studies nationally and internationally that have
25 represented that mercury exposure at low dose

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1 and at higher levels can have and does have a
2 health effect.

3 SENATOR MARY JO WHITE: When you say low
4 dose, what are we talking about?

5 DR. JOHNSON: That was just as said, the--

6 SENATOR MARY JO WHITE: Fifty-eight?

7 DR. JOHNSON: --the 1 to 10 micrograms.

8 SENATOR MARY JO WHITE: One to 10.

9 DR. JOHNSON: Then there's another study in
10 Finnish men with hair level mercury levels of
11 two parts per million that had twice the risk of
12 acute myocardial infarction than the rest of the
13 studied population.

14 So now speaking to those reference doses

15 and the benchmark doses, the Environmental
16 Protection Agency recommended that a safe intake
17 level which is the reference dose and defined
18 that as the dose that can be absorbed daily
19 essentially for a lifetime without significant
20 health -- adverse health effects is
21 .1 micrograms of mercury per kilogram body
22 weight per day, so. And that is again the
23 reference dose. So if one is to take in based
24 on their weight, based on their weight on a
25 daily level or averaged out to a daily level

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1 that level or lower, that's considered a safe
2 reference dose where there will not be adverse
3 effects showing.

4 This is different than the benchmark dose
5 which is the level that adverse effects can be
6 seen -- at which adverse effects can be seen.
7 That benchmark level was used to derive the
8 reference level. The reference level is one
9 that looks at again based on your weight and
10 based on the daily intake how much can one take
11 that will not cause effects.

12 Let me just move to speaking about mercury
13 in vaccines in the interest of time. And,
14 again, I'm sure that you've heard about a course
15 of certain childhood vaccines and in your
16 research and testimony prior to my being here
17 vaccines -- childhood vaccines containing

18 mercury and whether or not there are adverse
19 health effects that have occurred from as a
20 result of receiving these vaccines.

21 The history of that is for the past
22 50 years or so thimerosal which is a
23 preservative that contains a form of mercury
24 called ethylmercury as opposed to methylmercury
25 in this case, but ethylmercury was used in small

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1 amounts in this preservative in certain vaccines
2 to again preserve the multidose vials of that
3 from bacterial contamination.

4 And there have been some parents and
5 researchers who expressed concern about a
6 potential link between vaccines with thimerosal
7 and health problems, particularly autism.

8 Multiple reviews and analyses of literature
9 and data and mega-analyses of data has
10 established there's no causal link between
11 thimerosal and autism. Nothing has been
12 evidenced or established.

13 And although there's no evidence documented
14 harm was caused by the small amounts of
15 thimerosal in these vaccines, vaccine
16 manufacturers still did begin the removal of the
17 preservative from the majority of routinely
18 recommended childhood vaccines since back in
19 1999 and largely because of the public's concern
20 raised about this, about the health effects.

21 Eliminating-- What that does essentially
22 is eliminating mercury from the vaccines reduces
23 an infant and young child's overall lifetime
24 exposure by taking that small amount that they
25 would have been exposed to obviously it reduces

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1 their potential overall lifetime exposure.

2 And today with the exception of a majority
3 supply of influenza vaccine, essentially no --
4 none of the routinely recommended childhood
5 vaccines have any mercury in them, have been
6 preserved with any mercury in them.

7 So any of the vaccines given at childhood
8 that protects against 14 of the preventable
9 diseases that we do vaccinate for, none of them
10 have thimerosal in them. And essentially newly
11 formulated childhood vaccines now contain less
12 than overall a total less than 3 micrograms of
13 mercury in all the vaccines that we recommended
14 during the first six months of life. So that
15 would be their max -- a child's maximum
16 exposure. So there's been a significant
17 reduction in terms of that.

18 And based on the guidelines established by
19 the FDA, the EPA, and the Agency for Toxic
20 Substances and Disease Registry, no child will
21 receive excessive mercury from childhood
22 vaccines whether or not they receive the
23 influenza vaccine that contains thimerosal as a

24 preservative or not in that case.

25 So as you've heard over the past several

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1 weeks and in my testimony this morning,
2 methylmercury exposure does have the potential
3 to create serious health problems among humans
4 in a cumulative way, in a cumulative way. And
5 while those conditions can occur at different
6 levels over a period of time, the impact on
7 human health due to methylmercury exposure
8 certainly should not be and cannot be and you
9 have not discounted it in overall discussion of
10 this topic.

11 The evidence shows that there are and can
12 be adverse health effects, and so I thank you
13 for considering those and taking testimony on
14 the aspects of that during the discussion. At
15 this point Dr. Sivarajah and I would be happy to
16 take questions. And he also goes by Dr. Siva to
17 make it easier.

18 SENATOR MARY JO WHITE: Oh, thanks. Just
19 one question, do any of these studies, the one
20 on Finnish men or in the Faroe Islands or any of
21 these link any of this mercury exposure to
22 emissions from power plants?

23 DR. SIVARAJAH: Not because power plants
24 it's very difficult to establish a linkage
25 between power plant emission and health defects

1 because once it is deposited and gets into water
2 bodies, then through fish consumption and other
3 food items that people can be exposed to
4 methylmercury. But making a direct relationship
5 between release of mercury from the power plant
6 and health defects has not been shown.

7 SENATOR MARY JO WHITE: If I understand
8 correctly, about half of the mercury emissions
9 in the world, global emissions, come from
10 natural sources such as volcanoes or other
11 natural emissions.

12 DR. SIVARAJAH: Yes. But we have dealt
13 with mercury releases by an accidental breaking
14 of a thermometer in schools, then in hospitals,
15 then in homes. And in some instances we have
16 also evacuated the home because the level of
17 mercury in the air was so bad enough that they
18 couldn't occupy the home. And in some-- In one
19 case, if I remember right, I think gas company
20 decided to buy the property and sort of cleaning
21 it up. The cleanup was to a level which is
22 recommended by EPA they couldn't afford to spend
23 this much money, so they decided to buy the
24 property.

25 SENATOR MARY JO WHITE: That was not

1 methylmercury?

2 DR. SIVARAJAH: Not methylmercury.

3 DR. JOHNSON: I think the important point
4 is one which raises that there are a number of
5 sources of mercury, methylmercury, in the
6 environment. And I think what's most relevant
7 when we talk about mercury exposure is not just
8 the source of the mercury but also the fact that
9 it exists and there are a number of sources and
10 it is a cumulative effect.

11 And so if there are ways when we know how
12 to reduce the potential for that cumulative
13 effect just as it was done in vaccines, I think
14 that's something that has to be considered very
15 seriously because there are, in fact, some
16 sources, naturally occurring sources, that we
17 won't have the means or the ability to--

18 SENATOR MARY JO WHITE: Hard to regulate
19 volcanoes.

20 DR. JOHNSON: Yes. I would not want to be
21 involved in attempting that. But the fact is
22 when we have sources other than volcanoes that
23 we do have technology, means, resources to
24 reduce the exposure, then we have to really
25 think seriously about that because it does in

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1 effect reduce the overall lifetime exposure and
2 that cumulative effect.

3 SENATOR MARY JO WHITE: I agree with you,
4 but I think the cost benefit analysis is a very

5 important thing to undertake and particularly
6 when you're talking about a Pennsylvania
7 specific rule when our neighbors are not going
8 to adopt a similar rule and the air is moving as
9 we all know.

10 So while I appreciate your testimony-- And
11 I think it is definitely the intent of this
12 committee to do something about methylmercury.
13 I mean, we are not saying let's not reduce
14 mercury emissions. We by all means are in favor
15 of it. I think the question that's under
16 discussion here is how.

17 But I think your testimony has been very
18 helpful, and it explained a few things to me
19 that I think I was a little confused on, on the
20 reference doses and limits. I appreciate that.
21 Any questions?

22 (No response)

23 SENATOR MARY JO WHITE: Thank you,
24 gentlemen. I think that concludes our hearing
25 today and probably concludes our hearings on

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1 mercury. I thank everyone for their
2 participation and attention.

3 (The hearing concluded at 11:27 a.m.)

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CERTIFICATION

I hereby certify that the proceedings and evidence are contained fully and accurately in the notes taken by me on the within proceedings, and that this copy is a correct transcript of the same.

Dated in York, Pennsylvania this 12th day of June, 2006.

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