

U.S. ENVIRONMENTAL PROTECTION AGENCY

Section 316(b) Public Meeting

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Arlington, Virginia

PARTICIPANTS:

JIM ELDER
Facilitator
11048 Thrust Ridge Road
Reston, Virginia 20191
(703) 860-1652

DAVID BAILEY
Potomac Electric Power Company
1900 Pennsylvania Avenue, Northwest
Washington, D.C. 20068
(202) 331-6533

KRISTY A.N. BULLEIT, ESQUIRE
Hunton & Williams
1900 K Street, Northwest
Washington, D.C. 20006
(202) 955-1547

RICHARD DELGADO
28 Bayberry Road
Trenton, New Jersey 08618
(609) 530-0849

DOUGLAS A. DIXON, PH.D.
EPRI
7905 Berkeley Drive
Gloucester Point, Virginia 23062

THERESA ROSE HANCZOR
Hudson Riverkeeper
Castle Rock Field Station
Route 9D, P.O. Box 130
Garrison, New York 10524

LARRY OLMSTEAD
Duke Power Company
422 South Church Street
Charlotte, N.C. 28242
(704) 875-5411

KIT KENNEDY
Natural Resources Defense Council
40 West 20th Street
New York, New York 10011
(212) 727-4463

CARA LEE
Scenic Hudson
9 Vassar Street
Poughkeepsie, New York 12601
(914) 473-4440

DEBRA LITTLETON
U.S. Department of Energy
Office of Fossil Energy
Forrestal Building (FE-4)
Washington, D.C. 20585
(202) 586-3033

KEVIN McALLISTER
Peconic Baykeeper
2560 Paradise Shores Road
Southold, New York 11971
(516) 765-4145

DEBORAH NAGLE
U.S. EPA
401 M Street, Southwest (4303)
Washington, D.C. 20460
(202) 260-2656

BILL NEAL
Omaha Public Power District
444 South 16th Street Mall (9E/EP4)
Omaha, Nebraska 68102
(402) 636-2303

JIM PENDERGAST
U.S. EPA
401 M Street, Southwest (4203)
Room 2205, Northeast Mall
Washington, D.C. 20460
(202) 260-9545

ED RADLE
Division of Fish, Wildlife & Marine Resources
New York State Department of Environmental
Conservation
Wolf Road, Room 638
Albany, New York 12233
(518) 457-0986

BRIAN J. ROTHSCHILD, PH.D.
Center for Marine Science & Technology
706 S. Rodney French Boulevard

New Bedford, Massachusetts 02744
(508) 999-8193

WILLIAM SARBELLO
Division of Fish, Wildlife & Marine Resources
New York State Department of Environmental
Conversation
Wolf Road, Room 638
Albany, New York 12233
(518) 457-0986

JERRY SCHWARTZ
American Forest & Paper Association
Regulatory Affairs
1111 19th Street, Northwest, Suite 800
Washington, D.C. 20036
(202) 463-2700

JACKIE SINCORE
Senior Regulatory Analyst
American Petroleum Institute
Health & Environmental Sciences
1220 L Street, Northwest
Washington, D.C. 20006
(202) 682-8326

ALEXIS STEEN
American Petroleum Institute
Health & Environmental Sciences
1220 L Street, Northwest
Washington, D.C. 20006
(202) 682-8339

JOHN TORGAN
Narragansett Baykeeper
Save The Bay
434 Smith Street
Providence, Rhode Island 02908
(401) 272-3540

MAYA K. VAN ROSSUM
Delaware Riverkeeper
Delaware Riverkeeper Network
P.O. Box 326
Washington Crossing, Pennsylvania 18977
(215) 369-1188

TONY WAGNER
Chemical Manufacturers Association

1300 Wilson Boulevard
Arlington, Virginia 22209
(703) 741-5248

BILL WEMHOFF
American Public Power Association
2301 M Street, Northwest
Washington, D.C. 20037
(202) 467-2943

LEROY M. YOUNG
Fisheries Biologist
Division of Environmental Services
Pennsylvania Fish Commission
450 Robinson Lane
Bellefonte, Pennsylvania 16823
(814) 359-5133
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P R O C E E D I N G S

1
2 JIM ELDER: If you haven't taken a seat,
3 please do so. My name is Jim Elder. I'm the
4 facilitator for the meeting today, the Public Meeting
5 on Cooling Water Intake Structures and Adverse
6 Environmental Impacts resulting therefrom.

7 First of all, we have a few name tags at the
8 table. If there's anybody in the room from these
9 organizations, I strongly encourage you to come forward
10 and sit there. We're missing the representative from
11 the U.S. Department of Energy, from Peconic Baykeeper,
12 Maryland State, American Petroleum Institute. Anybody
13 from those organizations present? Apparently not.
14 Maybe they'll come later. We have somebody who's
15 willing to admit their affiliation.

16 At this time, I'd like to turn the meeting
17 over to Jim Pendergast. Jim is the Director of the
18 Permits Division at EPA, and he's going to present the
19 welcome and get things started for today's meeting.
20 Jim?

21 JIM PENDERGAST: First of all, without a
22 microphone, I just want to check and make sure my voice
23 is carrying to the back of the room. Everyone, can you
24 hear me? Okay. Great. If I start to fade out, please
25 give me the high sign, and I'll speak up. I have a
26 little bit of a sore throat, and I'm not sure exactly
27 how long I'm going to be able to talk.

28 First of all, let me offer my welcome to you
29 all today. Today is the first of several Public
30 Meetings that we're going to be having on this topic,
31 the development of this proposed rule. This is the

1 rule that deals with cooling water intake structures
2 and how we implement Section 316(b) of the Clean Water
3 Act.

4 The focus of the meeting today is to discuss
5 the adverse environmental impact that could result from
6 cooling water intake structures and also the structure
7 of the regulatory framework that we are considering
8 here how to deal with this today.

9 We're going to talk about the draft of the
10 framework and our ideas on this. We will get your
11 ideas on what it should be doing and how we could be
12 doing it better. We'll talk about the framework a
13 little bit later. The discussion today, is going to be
14 divided into three separate periods.

15 The first is the period on the framework
16 where we will discuss the overall approach. In there I
17 know that you're going to be eager and, I predict,
18 asking very strong technical questions. We'll be
19 asking you to hold that for the second and third
20 discussions, in which we'll be describing the
21 environmental criteria that we'll be talking about on
22 how to describe matters of environmental effect and
23 also plant characteristics on how this is occurring.

24 In preparation for all the folks that have
25 not spent their last two or three years looking through
26 this part of the statute, is that 316(b) talks or says
27 in the Act that any standards established pursuant to
28 Sections 301 or 306 of the Act, applicable to a point
29 source, shall require the location, design,
30 construction and capacity of the cooling water intake
31 structure to reflect the best technology available to

1 minimize adverse environmental impact. That's pretty
2 much straight out of the law.

3 This is the part of the law that we're
4 talking about implementing with the draft regulation
5 that we're working on. This is what we'll be focusing
6 on today.

7 In the overall regulatory process, we've got
8 three general stages and we're going [inaudible] on the
9 first stage especially. This is where we're collecting
10 the information to try and scope out, what is the
11 industry that we're talking about?; what is the
12 potential impact from there?; what are the things that
13 we need to know about to develop a draft rule?

14 The second stage will be to propose rule,
15 based upon input from the Public Meetings that we're
16 having, and based upon input from the information
17 collection processes that we're going through. We'll
18 get to them later, hopefully.

19 Finally, we'll talk about the third action is
20 behavior, based upon evaluating the comments about the
21 proposal to take the final actions with respect to the
22 proposed regulation [inaudible]. In the first stage,
23 there are two activities. The first is the collection
24 of information, and this is where we've been spending a
25 lot of the time over the last few years. We're
26 reviewing studies that have been conducted, primarily
27 in the late '70s and early '80s, with respect to 316(b)
28 impacts of the planning and we're also taking a look at
29 the new technology that are available and also
30 affordable.

1 We are developing an industrial questionnaire
2 in two parts. First is the screener questionnaire which
3 goes out to people who have intake structures, not in
4 public facilities, but at [inaudible]. We hope to have
5 the screener questionnaire approved and out sometime in
6 late July.

7 From that information, we'll be able to
8 refine and get out a detailed questionnaire that will
9 be looking for the type of information on intake
10 structures and on the cost and what information on
11 benefits that facilities might have. We hope to have a
12 detailed questionnaire out sometime in October of '98.
13 Of course, that's contingent upon getting the screener
14 out and getting the input from that.

15 We're also thinking about doing some site
16 visits, going out taking a look on site, see what type
17 of intake structures exist, what type of mitigative
18 actions have been taken to prevent the entrainment and
19 also the impingement of organisms on the intake
20 structures, and we hope to be able to do those studies,
21 those site visits, starting sometime this summer moving
22 into the fall, next fall.

23 Let me give you a sense in terms of what we
24 know so far of the scope of what we're taking a look
25 at. We're taking a look at information from the 1982
26 Census of Manufacturers, taking a look at the types of
27 industry that are likely to have cooling water intake
28 structures that are relatively large.

29 The industry typically stratifies in the way
30 that we have seen out here, that a large amount of
31 cooling water, it should be no surprise, is used by the

1 traditional steam electric utilities, and they
2 manufacture it into the generation of electrical power.
3 There are also other types of industries that use
4 cooling water to some significant degree, and these are
5 the ones that are showing up here.

6 These are the ones that we're going to be
7 taking a look at in the screener, not the traditional
8 steam electric utilities, because we do know how much
9 water that they take, and we have some information on
10 them. But these are the ones that we're going to be
11 taking a strong look at right now, our thoughts are, as
12 part of this proposed rule.

13 All the technical details that we're talking
14 about, the approaches we'll be going through at the
15 Public Meeting today. Again, any of the technical
16 details and adverse environmental impact of the plant
17 characteristics, we're going to ask you to hold your
18 thoughts and your questions on that until we get to
19 that part of the agenda. Frankly, you ask me a
20 technical question, I'll defer to those folks any how.
21 So this will make things go a little bit smoother
22 around here.

23 I am looking forward to the discussions, the
24 give and take, the sharing of information is very
25 important for us in terms of developing a proposed
26 rule. We need to have this information, and we need to
27 have these thoughts. As you all know from the history
28 of rule making, it's better to have these thoughts out
29 in the open up-front. We know about it; we get the
30 information, rather than having to deal with them as

1 last minute comments the day before the comment period
2 ends on a proposed rule.

3 We're going to be talking about the draft
4 regulatory framework today, which I'll describe to you
5 in a few minutes. That framework is a little bit
6 novel. It's designed to set up a process to allow the
7 site-specific characteristics to be brought into
8 consideration and accounted for when individual
9 decisions are made. At the same time, it provides a
10 uniform framework that should provide a level playing
11 field around the country.

12 In closing, I'd like to announce that we will
13 have another Public Meeting here on September 10th in
14 Washington, D.C. At that, we intend to discuss the
15 issues of mitigation and also facility cost-test
16 approaches, so if you have questions about that, we can
17 talk about it a little bit today, but I prefer if we
18 could talk about that back in September. This meeting
19 will be announced in the *Federal Register* and also
20 you'll be able to an announcement on our home page,
21 which we will be having up and make use to get
22 announcements to those folks who do not spend their
23 life reading the *Federal Register*.

24 If you have any questions on this proposed
25 rule, I ask you to please direct those to Deborah Nagle
26 of my staff. Deborah over here, she's the rule
27 manager. You can phone her. You can fax her. You can
28 E-mail to her, or you can come in and visit. We'll
29 even tell you where she sits in the building.

1 I'll now turn the podium over to Jim Elder,
2 who will talk about some of the ground rules and how
3 we're going to conduct this meeting.

4 JIM ELDER: Thank you, Jim. I notice there
5 have been some additional people who have come into the
6 room since I've made my announcement. I still see a
7 couple of empty name tags, the Department of Energy and
8 Hudson Riverkeepers, so if they've shown up, would you
9 please come up to the front table? We'll keep looking
10 for them.

11 All right, let me talk about ground rules.
12 As Jim has said, EPA is seeking a constructive exchange
13 of ideas at this meeting. Once they go through this
14 [inaudible] to the point/counterpoint type of
15 discussion. Also, I would hope that none of the
16 comments are directed toward any particular
17 organization or toward any particular plant.

18 Also, let me now explain the concept of the
19 people at the front table. EPA attempted to identify
20 the key stake holders that have been involved in this
21 issue for the last several years and, based on the
22 preliminary registration, decided to put those people
23 up front. During the comment period or questioning,
24 they will have priority in terms of who gets recognized
25 to make comments or ask questions. But at the same
26 time, everybody in the audience will be given an
27 opportunity to speak, just that the people up front
28 will get to go first. There will be a general time
29 limit of three minutes for each person's comments, and
30 I also reserve the right to intervene to try and keep

1 the meeting on track. I'll try to do that as gently as
2 possible.

3 Also, let me talk about one additional ground
4 rule that is exactly the point that Jim Pendergast
5 made. If I believe something comes up that is more
6 appropriately discussed in later parts of the agenda or
7 needs to be dealt with as part of the next steps later
8 in the afternoon, I will attempt to have those ideas
9 recorded and put those in a parking lot to make sure
10 that we come back to them, but we're going to try very
11 hard to stick to the particular Roman numeral ideas on
12 the agenda that each of you received when you
13 registered for the meeting.

14 EPA, I want to announce, is also accepting
15 any written comments today or also up until July the
16 20th of this year. Deborah has already been introduced
17 by Jim Pendergast, but I want to make sure that the
18 other EPA officials at the table over here to my left
19 are recognized.

20 Brad Mahanes is to Deborah's left. Brad is a
21 biologist working on the 316 Project. Lynne Tudor is
22 an economist also working on this. Dave Gravellese is
23 from the Office of General Counsel, and he is the
24 attorney. We also have Darryl Williams for Region IV,
25 who is also on the work group.

26 Now, at this time I would like each of the
27 people at the table to take the opportunity to
28 introduce themselves by name. If you happen to be just
29 strictly from a particular organization, go ahead and
30 mention that name. If you happen to be a
31 representative from a particular utility, for example,

1 but you are also sitting at the table because of your
2 membership in some other organization, I'd like you to
3 identify that as well. So, if I could, I would like to
4 start to my left.

5 JOHN TORGAN: Thank you. My name is John
6 Torgan. I'm the Narragansett Baykeeper for the
7 environmental group Save the Bay in Rhode Island.

8 KIT KENNEDY: I'm Kit Kennedy. I'm with the
9 Natural Resources Defense Council.

10 CARA LEE: Cara Lee, I'm representing Scenic
11 Hudson.

12 BILL WEMHOFF: Bill Wemhoff, American Public
13 Power Association.

14 THERESA HANCZOR: Theresa Hanczor, Hudson
15 Riverkeeper.

16 DOUG DIXON: Doug Dixon, Electric Power
17 Research Institute.

18 MAYA VAN ROSSUM: Myra Van Rossum, I'm with
19 Delaware Riverkeeper.

20 ALEXIS STEEN: Alexis Steen, American
21 Petroleum Institute, and I started out my career in
22 316(a) and (b) and [inaudible] I thought it was all
23 done.

24 JACKIE SINCORE: I'm Jackie Sincore, American
25 Petroleum Institute.

26 TONY WAGNER: Tony Wagner with the Chemical
27 Manufacturers Association.

28 JERRY SCHWARTZ: Jerry Schwartz, American
29 Forest and Paper Association.

1 WILLIAM SARBELLO: Bill Sarbello of New York
2 State, New York State Department of Environmental
3 Conservation.

4 ED RADLE: Ed Radle, New York State,
5 Department of Environmental Conservation.

6 DAVE BAILEY: I'm Dave Bailey. I am with
7 Potomac Electric Power Company, and today I'm
8 representing the Utility Water Act Group.

9 KRISTY BULLEIT: I'm Kristy Bulleit, and I'm
10 here on behalf of the Utility Water Act Group and
11 Natural Rural Electric Cooperative Association.

12 LEROY YOUNG: Leroy Young, I'm with the
13 Pennsylvania Fish and Boat Commission.

14 LARRY OLMSTEAD: Larry Olmstead, I'm with
15 Duke Power Company, representing Edison Electric
16 Institute.

17 BILL NEAL: Bill Neal, Omaha Public Power
18 District, representing the large Public Power Council.

19 KEVIN MCALLISTER: Kevin McAllister, I'm with
20 Peconic Baykeeper.

21 DEBRA LITTLETON: I'm Debra Littleton. I'm
22 with the Fossil Energy Office at the Department of
23 Energy.

24 JIM ELDER: Okay. Thank you. At this point,
25 we only seem to be missing Maryland State and the
26 American Iron and Steel Institute, in terms of the
27 previously identified name tags.

28 Now let me shift briefly to talk about
29 housekeeping.

30 First of all some of you have already
31 realized this is an EPA meeting. EPA is under strict

1 rules about not being able to provide any particular
2 food to the participants or beverages, other than
3 cooling water, which is provided in the back of the
4 room and at the front table. You can have as much of
5 that as you like.

6 Lunch, as indicated on the agenda, is on your
7 own. There are many food facilities in this complex.
8 In the back of the room, there are pamphlets sitting on
9 the water table back there, if people need directions
10 about how to get to the food court, which, as best I
11 can tell, if you take the elevators to your right as
12 you go out the door, go to the bottom level and turn
13 left. But, please make sure you remember how to get
14 back. Do not get on the Metro as you're attempting to
15 go to lunch. It might be the trolley and the MTA story
16 all over again.

17 Restrooms also are to your right. As you go
18 back down the hall, go past the chandelier and keep
19 going to your right.

20 Telephones are in two locations on this
21 floor. I believe there's three just outside this door,
22 and there's also a bank of phones just outside the
23 restrooms down to your right as well. Incoming calls,
24 I would plead with everybody as a courtesy to put your
25 beepers on vibrate as opposed to beep. Also with cell
26 phones, use a light mechanism instead of a ringing
27 device. This could be very discourteous to other
28 people.

29 I also want to mention that there is a hotel
30 business center, again to your right as you go out the
31 door, down at the end of the hall, that provides fax,

1 copying, PC capability, and I was able to obtain a
2 price list, which is also located on that table in the
3 back of the room.

4 Any questions about housekeeping or ground
5 rules?

6 Okay, with that, I would like to turn the
7 meeting back over to Jim Pendergast, who's going to
8 present the regulatory framework, which I believe all
9 of you have received a copy of as you registered at the
10 table outside. Jim?

11 JIM PENDERGAST: There for a minute I thought
12 Jim Elder and I were playing tennis. We're going back
13 and forth from over there. That in itself would be a
14 great story. He's a tennis player; I'm not.

15 What we want to do in this part of the
16 agenda, essentially, is to lay out the overall
17 regulatory framework that we're thinking about. What
18 I'd like to do here is, as you look at this, as you
19 focus on the idea -- this is a framework. This is a
20 framework that would be approached, that would be
21 applied around the country using the same steps, but
22 the individual decisions would be based upon site-
23 specific information. The individual decisions would
24 be things that require information that permit writers
25 would be asking for and looking for and making site-
26 specific decisions on permits based upon that
27 information. But the approach would be something that
28 would be followed in all cases.

29 I'm going to go through here, and although we
30 have a whole hour and a half set up for this on the
31 agenda, what I'm going to do is spend no more than

1 about ten minutes, because I'm not here to listen to
2 myself talk. I'm prepared to listen to you folks and
3 your ideas.

4 What I want to do is to explain what this
5 approach is, how we think it might work and then listen
6 to your reactions or thoughts on this.

7 A couple of other things on here. I did hear
8 when Alexis said that she had her start on 316(a and
9 b). I had my start in my career over 20 years ago in
10 TMDLs and I thought we were done with that then. So
11 what goes around, comes around in your careers.

12 Okay, let's start with the first slide, which
13 I believe is the one on impingement.

14 The concept that we have here is essentially
15 a tiered approach that starts with a screen, goes to
16 asking a more elaborate question, then a more elaborate
17 question and finally comes up with things that have to
18 be done with the permits.

19 This is an approach that, by the way, should
20 not be too dissimilar, because you can see this showing
21 up in many different other environmental issues where
22 screening analyses are first used to say there are some
23 things that are so clear cut not a problem, that we can
24 put them aside? So all the attention would focus on
25 things which could be a problem. Through an
26 intermediate level of analysis, see if there were more
27 things you could put out, and later focus your
28 attention and your data collection on those facilities
29 which truly are causing a problem or could raise the
30 strong potential of having a problem.

1 The way that we see this working on the
2 impingement side is that there would be some certain
3 screening analyses that were done up-front by which we
4 can say that if these characteristics are met, that
5 there would clearly not be a problem at the facility.
6 These would be things such as if the approach velocity
7 is sufficiently low enough for the intake structure
8 that you would not expect impingement to occur. Or
9 things that there are certain operational standards
10 that, if we can define and if those were existing, that
11 you can be sure that impingement would not be a
12 concern.

13 There might be other qualitative criteria.
14 For example: you're not located in sensitive
15 ecological areas. There is no endangered or threatened
16 species that would be impinged, and thus we would not
17 have too much of a concern.

18 The concept right here is for a screen that,
19 if a facility would pass all the elements of a screen,
20 we'd say that they are currently meeting requirements
21 of 316(b) of the Clean Water Act, and we do not need to
22 focus more attention on them.

23 For those that don't, we go into the second
24 tier, (and the second tier is one which is more of an
25 ecological evaluation) to ask the question of whether
26 the source of the water body itself is experiencing
27 some ecological stress or attack that could occur from
28 impingement.

29 What the thoughts we have here, and later on
30 Brad Mahanes will spend some time talking about
31 specific details, is that we characterize our streams

1 using biological criteria. It's a criteria that
2 characterizes whether a body of water is fully
3 functional, as compared to a reference body of water
4 where you don't see these stresses.

5 And if we can find that, if you don't have
6 those stresses out there, that we could say then that
7 we're not seeing the impact of impingement upon biota
8 itself, and thus those facilities may not be of a
9 concern, because they would be meeting the goals of
10 316(b).

11 For those that fall through this would fall
12 into tier three. Here's where you would now have
13 bodies of water where we see some biological stress
14 that's related to impingement, and we have facilities
15 which have not passed an initial screen.

16 In tier three, we take a look at studies on
17 the facilities themselves and try to quantify the
18 impact that those specific facilities have with respect
19 to the biota. Deborah Nagle will be talking about more
20 details on terms of our characteristics that we're
21 thinking about in this area. But let me give you some
22 foreshadowing of some of the things that we're thinking
23 about.

24 Here's where you take a look at the relative
25 contribution of this facility compared to other
26 facilities, so that you're now taking a look at the
27 total impact within a watershed of cooling water intake
28 structures.

29 Here is where you take a look at the
30 different types of technologies that may be in place
31 already and the relative benefits that they may be

1 accruing at this time, compared to those technologies
2 which may include more benefits. And here's where you
3 also take a look at the cost of the facilities. And
4 based upon this point, this is the point in which the
5 permit writer decides whether or not there needs to be
6 conditions that need to go into the permit to require
7 that best technology available is put into play or to
8 make the call that it's already in play.

9 So again, the concept on here, and probably
10 the best visual image I can give you is the one with
11 the geologist with the various screens and sieves in
12 that you have one in which you're taking out the
13 facilities which you know, without any doubt, are
14 causing a problem. That's tier one.

15 Tier two, you're taking out the water bodies
16 where they aren't a problem.

17 And tier three, you're getting down and
18 taking a look at truly facility-specific information to
19 decide which ones need to have the controls put into
20 the facility. Like I said, on the technical details,
21 we'll go into that later, next.

22 The concept that we have for entrainment is
23 very similar. It follows the same paradigm of screens,
24 of a three tier screen. What's different on here is
25 the type of technical questions that we ask in the
26 tiers, pretty much more in tiers one and tier three.

27 In using what we just talked about as kind of
28 a template here, in tier one again, the different types
29 of things you're looking at. You're now looking at --
30 You're now looking at screening criteria that would be
31 relevant to entrainment. Such as approach, velocity;

1 taking a look at flow that actually comes to the intake
2 structure; taking a look at things such as the relative
3 volume of flow coming into the intake structures within
4 the body of water; and also taking a look at the
5 relevant ecological sensitivity in the body of water.
6 But again, the difference between the first approach or
7 impingement and this approach for entrainment, is the
8 criteria is more specific to entrainment.

9 In tier two, the biological criteria are
10 pretty much the same.

11 In tier three again, the difference would be
12 that the plant specific factors that we looked at were
13 things that would be more specific to entrainment
14 rather than to impingement. Deborah Nagle will go
15 through that.

16 Thinking about how this would be set up, this
17 would be an approach that would be required in all
18 analyses that were done for 316(b). The information
19 that would be collected, as you can glean from the
20 brief discussions, with factors are plant specific,
21 watershed specific, that they take a look at specific
22 facilities; that take a look at the cumulative effect
23 of all facilities within the watershed; that take a
24 look at the ecological sensitivity of the water body.

25 So thus there's information that comes in
26 that is location specific, into our approach, that
27 would be applied nationwide, and the results that would
28 go into the facility are the requirements that would
29 end up in the permit at the bottom of the tiering with
30 these things that would be reflective of that facility,
31 that watershed. We think that this approach on here

1 has the ability of being able to focus on unique, local
2 ecological needs.

3 It also has the ability of being able to
4 minimize the cost to regulated entities to not have to
5 do detailed analyses where ones are not needed. It has
6 the benefit of providing lower costs to regulated
7 entities to not have to go through analyses or put in
8 technology where it's not warranted. And, it helps to
9 focus the attention truly on where the problems are and
10 things that can be preventive of the problems.

11 It's a little bit more elaborate than simply
12 a one size fits all approach, but that's not what a one
13 size fits all approach means. We don't think it's
14 necessarily the right way to go with this type of
15 analysis. The focus is on the biology here.

16 Like I said, I do not want to spend a long
17 time listening to myself talk. I know that most of you
18 don't want to do that either, and so what we want to do
19 now is to open the agenda for questions on the
20 approach, and we'll answer them to the best that we
21 can. If you have thoughts that are not questions, but
22 rather comments that you would like us to consider,
23 please feel free to express those as well.

24 JIM ELDER: You'll take questions now?

25 JIM PENDERGAST: Yes. Can we get the hall
26 lights on before we all fall asleep? Thank you.

27 JIM ELDER: Thanks, we'd like to start with
28 the questions asked from the Hudson Riverkeeper.

29 THERESA HANCZOR: Yes. My name is Theresa
30 Hanczor, and I have a comment on tier two under both
31 flow charts. Specifically, these flow charts say to

1 evaluate whether the source water body is experiencing
2 adverse environmental impacts. This implies that a
3 power plant can kill as many fish as it wants, so long
4 as the source water body isn't harmed. This is not
5 what the Clean Water Act mandates.

6 The impacts that Section 316(b) is concerned
7 with are the specific impacts of impingement and
8 entrainment. If we were to keep tier two as it stands,
9 then the utilities could say, look, we may be killing
10 millions of fish, but the water body's okay because
11 we've stocked it or because it's a particularly good
12 year.

13 We must remember that any ecosystem is not
14 static, but is constantly changing day-to-day, month-
15 to-month and year-to-year. So in one year, the fish may
16 be more abundant than the next year, but the amount of
17 mortalities due to impingement and entrainment will be
18 the same.

19 Does that mean that one year is any worse
20 than the other year because the water body is doing
21 better? What the Clean Water Act mandates is that
22 regardless of the number of the fish in the river, the
23 lake or the stream, it is the impacts, the impacts of
24 fish killed that counts.

25 If we take tier two to its logical
26 conclusion, then the utilities could merely compensate
27 in the way that they have chosen, i.e., mitigation,
28 restoring wetlands so we have fatter, healthier fish,
29 restocking the river with hatchery-breed fish, doing
30 anything to avoid the technologically driven mandate of

1 the statute, which is that best technology available
2 must reduce impacts due to impingement and entrainment.

3 JIM ELDER: That's it? Do you want to
4 comment Jim?

5 JIM PENDERGAST: Well, it's offered
6 [inaudible] which shall be taken down, and Brad may
7 pick up on some of that as we go into the discussion on
8 Tier 2.

9 JIM ELDER: Well, from Scenic Hudson, I'll
10 get the names down. It will take me a little while.

11 CARA LEE: My name is Cara Lee, and I think
12 you could probably clarify this. In the first box
13 where you describe the qualitative criteria, was it
14 meant to imply that those qualitative criteria would be
15 measured in determining whether the facility was
16 currently meeting their 316(b) requirements?

17 JIM PENDERGAST: The question was on the tier
18 one where we talk about the qualitative criteria, as to
19 whether we're asking a question and whether it was
20 currently meeting 316(b).

21 I think it was more in terms of taking a look
22 at a screening criterion, not asking a screening
23 criterion, that if the facility was meeting those
24 criteria, we consider that they would be meeting 316(b)
25 requirements.

26 It's a little bit different than the question
27 that you asked, and I think the way that you asked it
28 presumes that you have an abundance of organisms around
29 there that you're testing. You could have a body of
30 water where you didn't have, let's say, a large amount
31 of fish, you may not see any impingement.

1 What we're trying to do here is set up
2 criteria that where you had a very healthy body of
3 water with a lot of organisms in there, that would
4 certainly be meeting 316(b) there as well.

5 The point here is that we're trying to
6 identify those facilities that, absent of any other
7 environmental impact, you can say that there's no
8 impingement, there's no one entrainment of the levels
9 that would cause 316(b) requirements to kick in.

10 Deborah, do you want to add to that?

11 DEBORAH NAGLE: Yes. One of the key concepts
12 here is that we're looking at potential for adverse
13 environmental impacts. So we were trying to look at a
14 way in which we can do a screening of facilities where
15 potential is very low to be causing adverse
16 environmental impact and move down to those facilities
17 that exhibit characteristics where we want to focus our
18 attention on. So, it's kind of like you're focusing on
19 those [inaudible] type criteria. We can focus more on
20 these when we get to the plant characteristics, because
21 it rides more on the velocity of the intake and the
22 capacity of flow of the intake as it relates to the
23 impingement and entrainment and what might be
24 representative. We're looking for ideas of what that
25 might make sense.

26 JIM PENDERGAST: Deborah, I was going to ask
27 you and all the folks at the EPA table to use the
28 microphone as well.

29 DEBORAH NAGLE: Oh, yes. We'll both use it.

30 JIM ELDER: Okay. If I may, are you
31 listening?

1 DEBORAH NAGLE: Yes.

2 JIM ELDER: This gentleman has been standing
3 at the floor microphone, so I'd like to give him an
4 opportunity. Please identify yourself.

5 RICHARD DELGADO: Thank you. I'm Richard
6 Delgado. I want to state for the record, I'm not
7 speaking on behalf of any group. I may bring the state
8 government perspective by reason of where I work and
9 have worked for 29 years, but I am speaking on my own
10 behalf.

11 I'd like to commend you for starting with an
12 organized approach to these studies, from the state
13 government perspective, anyway. From many of the
14 utility perspectives, these are complex studies. We
15 have to go about them in an organized or step-wise,
16 I'll call it, hierarchical approach. If we don't have
17 that in mind, we're really going to get lost somewhere
18 in that complex process.

19 With that comment, I feel that what you're
20 missing is the technology. There is a need, as well as
21 addressing the biological questions, to look at the
22 alternatives technologically. Now the engineer needs
23 the definition of the problem before he can really
24 solve it. So we do need the biological information,
25 and we do need that very early in the process.

26 That's also necessary when the regulator is
27 looking at the question of how reasonable is the cost
28 of the technology. We have to be aware of whether
29 we're buying five hundred thousand dollar fish or not.
30 So we need the problem defined. I think we have to
31 recognize and, I'm sure we'll get into this in the

1 afternoon, that there are limitations in terms of how
2 well we can define the absolute magnitude of losses.
3 But we need to define the problems before we start
4 solving them. We need to know whether we've got
5 impingement or entrainment before we really start
6 picking technologies, and we need to know what we're
7 trying to protect before we can pick a technology.

8 JIM PENDERGAST: Thank you, Mr. Delgado.
9 Kristy Bulleit?

10 KRISTY BULLEIT: Yes. I'm here.

11 JIM PENDERGAST: With the National Rural
12 Electric Cooperative Association.

13 KRISTY BULLEIT: Right. I'm here on behalf
14 of the UWAG and NRECA, just to make the acronym simple.

15 I have what may be a drafting question. We'd
16 certainly agree that the first inquiry under the
17 statute has to be whether or not there's an
18 environmental impact that is adverse. That involves
19 something more than counting numbers.

20 Your screening tier, looking both at
21 entrainment and impingement, appears to focus on the
22 potential for impact, and in the context of
23 entrainment, it explains that it is looking at the
24 potential for the facility to cause adverse
25 environmental impacts. But on the impingement side, it
26 only refers to impacts. And I'm wondering if there's a
27 significance to that; that it is conscious, or that's
28 just a drafting issue. Deborah?

29 DEBORAH NAGLE: Let me answer that Jim. That
30 is just a drafting issue. It all refers to adverse
31 environmental impacts.

1 KRISTY BULLEIT: So in other words, the
2 intent is to focus on the potential for adverse
3 environmental impact?

4 DEBORAH NAGLE: That's correct.

5 KRISTY BULLEIT: Thank you.

6 JIM PENDERGAST: Okay. The gentleman from
7 Pennsylvania.

8 LEROY YOUNG: My name is Leroy Young. You
9 mentioned that many of these original 316(b) studies
10 were conducted in the late 1970s and early '80s, which,
11 that is the case in Pennsylvania, I know. And there
12 seems to be an assumption here that the standard is
13 that 316(b)'s will be reevaluated. Will facilities be
14 reevaluated in a systematic way in the future? What
15 has been the practice across the nation regarding
16 316(b) reevaluations? Have they been done? Is it a
17 once and done thing? Where is this all headed?

18 JIM ELDER: Jim?

19 JIM PENDERGAST: I think the best answer to
20 that is yes, 316(b) evaluations have been redone at the
21 time that the permits have come out. They have been
22 done inconsistently, and that's been part of the
23 problem here. In a number of cases, the level of
24 expertise of the people who have reviewed those
25 evaluations has been going down in states and EPA
26 regions. There was probably more careful review of the
27 first one, by senior folks who had a better
28 understanding of what the impacts are.

29 This is the nature of all environmental
30 programs and governments. As the program goes on
31 you'll find more and more junior folks doing it. So

1 the inconsistency has gotten larger, and in some cases,
2 perhaps out of hand.

3 The way we see this operating on here is that
4 316(b) evaluations are something that's done at the
5 time of permit re-issuance, to the extent that we have
6 final actions and final decisions on how we do things.
7 I think that will be probably the time in which you see
8 the greatest change in permits, or potential change in
9 permits, as a result of what 316(b) analysis within the
10 subsequent permits on there. The focus will be more on
11 what has changed over the five year period of the
12 permit. If not much has changed, the 316(b) analysis,
13 of the subsequent permit may not be as rigorous. If
14 things have changed, then you have to go through a more
15 rigorous review.

16 The keys, of course, here will be that the
17 reviews are done as part of the permit issuance
18 process, and that is a process that occurs roughly
19 about every five years.

20 JIM ELDER: While we're at it, I would invite
21 other comments from any of the other state people here,
22 since they're going to have a major role in helping
23 their State to implement whatever comes out of the
24 final rulemaking. So, the gentleman from New York.

25 DEBORAH NAGLE: Well, let me make a
26 connection there. Just in case anybody's picked up all
27 that final rulemaking. EPA, remember, we have to take
28 the final action, so that's the correct terminology.

29 JIM ELDER: Okay. Bill.

30 BILL NEAL: Thank you. Yes, we have a
31 difficulty with a number of aspects of the approaches

1 as has been identified. For the tier one part of the
2 process, a screening, an initial screening, I think,
3 that potentially could be worked with, to essentially
4 simplify to say, is there impingement mortality? If the
5 answer is yes to that question, then I think we have a
6 problem.

7 Same thing with entrainment. If there's
8 entrainment any mortality that any mortality from
9 either of those causes, we have considered an adverse
10 environmental impact, and basically from that point, we
11 concentrate on essentially tier three, which is
12 measuring the magnitude of the adverse environmental
13 impact, developing technology to avoid or minimize the
14 impact, and balancing the magnitude of the adverse
15 impact against the costs of impact avoidance and
16 mitigation, in other words, doing the best technology
17 available evaluation.

18 We have great difficulty with the tier two
19 aspect of this. The first point would be in terms of
20 evaluating whether the water body is being impacted
21 that is extremely difficult. In our Hudson River, we
22 probably have one of the best databases of information
23 on fish populations - 25, 30 years of data on the
24 variety of species, and we're still arguing about how
25 much impact is a serious impact. Basically, there is
26 so much noise from natural populations, that you will
27 not be able to answer that question. So let me just
28 say that you will not be able to answer it to
29 everyone's satisfaction. It will be endlessly debated.

30 The second point on that is that these are
31 our trust resources as states, and we do not feel that

1 is right to allocate any of these resources to
2 industrial mortality. If you compare it to a toxic
3 chemical program, there the standard is toxics in toxic
4 amounts; essentially it is a zero mortality in acute or
5 chronic levels.

6 Here you're talking about allocating a
7 portion of mortality to the industries. Those are our
8 trust resources, and we have difficulty with the EPA
9 making those decisions and substituting their judgment
10 indeed for state resource management agencies.

11 My time is up, so we'll stop there. Again,
12 tier one with the very, very fine filter. If there is
13 mortality, go down to tier three and start evaluating
14 how you can minimize and avoid and what the costs are.
15 Thank you.

16 JIM PENDERGAST: Before you take a seat -
17 quick clarification. Are you describing New York's
18 current approach, or your philosophical approach to the
19 future?

20 BILL NEAL: This is our current approach and
21 has been, really, since 1975 when we assumed the NPDES
22 Program.

23 JIM ELDER: Okay, the next person should be
24 Kit Kennedy from NRDC.

25 KIT KENNEDY: Thanks. I think it might be
26 helpful to add to the comments you've heard already by
27 going over some of the expectations that I think some
28 of states and some of the environmental groups have for
29 this rule making. As you may suspect, we have high
30 expectations.

1 The problem, of course, that the absence of
2 these regulations has lead to, as Bill has alluded to,
3 really, there's been a kind of a vacuum of clear
4 analysis for how we should be making these decisions.

5 One thing that we're hoping for that will
6 come out of this rule making is an emphasis on
7 technology. What technologies are out there to deal
8 with impingement and entrainment? What works? What
9 doesn't? What are potential avenues for further
10 technologies that we could develop?

11 My concern about these frameworks is that
12 there's hardly any emphasis on technology at all at any
13 point in the framework. Instead, the emphasis is on
14 these biological aspects, which, as Bill says, are very
15 difficult to grapple with. In New York we've been
16 grappling with them and debating them for 25 years, and
17 we're still not there yet.

18 We'd like to have some clear-cut answers
19 based on technology that we know works, so that other
20 people know works, so that we can cut through some of
21 this and come up with some uniformity and come up with
22 some answers.

23 I'm very concerned that both tier one and
24 tier two here will instead just make the debate go on
25 longer and longer about very vague impact issues that
26 could be debated forever.

27 Also, just going back to a point that Theresa
28 made, if you look at the language of 316(b), it focuses
29 very heavily on technology. It talks about the
30 location, design, construction and capacity of cooling
31 water intake structures should reflect the best

1 technology available. The language of the statute
2 doesn't seem to allow an approach which would simply
3 say, okay, there's no endangered species here, so we're
4 shunting this plant off and saying 316(b) doesn't
5 apply, or this is not a sensitive ecological area so
6 316(b) doesn't apply. I would question whether the
7 approach that is outlined here is really true to the
8 language of the statute.

9 JIM ELDER: Okay. Jim, would you or someone
10 else from EPA like to respond to that comment?

11 JIM PENDERGAST: Yeah. We take a look at the
12 language of the statute and all the words in there.
13 It's also the technology that prevents the adverse
14 environmental impact on there. And the concepts have
15 to come on from there because there can be technologies
16 that prevent any impact. And you can go to, you
17 probably can find one out there.

18 We're trying to find a way of marrying the
19 technology and the adverse, and preventing the adverse
20 environmental impact. That's what we are trying to
21 capture now. I think that, first of all, the comments
22 that you have on here are very valid, and there are
23 things that we will try, as I said, to have the
24 technical folks explain in much more detail when we get
25 to the discussions on that this afternoon. As to how
26 we see right now that going together, your comments
27 will help us.

28 JIM ELDER: Deborah, would you like to add
29 anything?

1 DEBORAH NAGLE: No, I think we'll talk more
2 about it when we get into the plant characteristics
3 issues.

4 JIM ELDER: Okay. Yes, sir. David Bailey
5 from PEPCO and representing UWAG.

6 DAVID BAILEY: Right. I'd like to provide a
7 different view of your suggested framework. I'd first
8 of all like to indicate, we see a lot of merit in a
9 number of the principles that have been embraced in
10 this draft framework. We think it's very positive that
11 you've recognized the importance of looking at
12 facilities on a site-specific basis. We also think
13 there's a lot of merit in using the tiered process or
14 approach in decision making. We think that's very
15 sound. We like the idea that you're considering a
16 number of different parameters in making decisions
17 about what constitutes an adverse impact. And we also
18 think it's very positive you have acknowledged that
19 cost also has a role in the 316(b) decision making
20 process.

21 However, I think there are a number of areas
22 where your proposed process could be enhanced. Among
23 those would be, first of all, I would suggest that
24 right up-front, rather than looking at the small number
25 of parameters you suggested, that there's really a much
26 broader suite of parameters that can influence whether
27 or not a given facility is going to actually have an
28 adverse impact. Those would include a variety of not
29 only design characteristics regarding a given facility.
30 Also siting characteristics, where it's located on a
31 water body, the nature of the water body, whether it's

1 a river, a lake, estuary, etcetera. Also in terms of
2 the biology, it's quite variable, we've found, in terms
3 of what species are present, what life stages are
4 present, as to whether or not any significant adverse
5 impact results from entrainment or impingement of a
6 given species.

7 We also believe that science is more advanced
8 than some folks have suggested, in terms of being able
9 to focus in on what these impacts are. We recognize
10 there is some uncertainty, no question about that. But
11 we believe the tools are available to reach a point
12 where decision making can occur. We believe, for
13 example, the recently published EPA risk assessment
14 framework presents some excellent examples of tools or
15 a general approach to make decisions regarding these
16 complex issues.

17 The other thing I would say is, in terms of
18 the variability that goes on between years, as you've
19 stated, this isn't a one time deal. We would
20 anticipate that we would go back during each permit
21 recycle and look at things in the context of how the
22 operating circumstances of the given facility has
23 changed. Have there been significant changes in terms
24 of the water quality or the biology that would continue
25 to make a 316(b) adverse impact decision relevant or
26 not?

27 JIM ELDER: Okay. Thank you. That is self
28 explanatory. I invite other people at the table to
29 make comments about the regulatory framework
30 presentation.

1 Yes. You were not on the preregistration
2 list. John Torgan from Narragansett Baykeeper.

3 JOHN TORGAN: Thanks. We appreciate and can
4 see a lot of merit to this proposed framework and in
5 the tiered approach as well. So to start off, it's good
6 to see EPA moving in this direction. But to act on
7 some of the concerns that Theresa raised.

8 We're concerned with the narrow language of
9 tier two, whether or not the source water body is
10 experiencing adverse environmental impact from
11 impingement or entrainment. If we seek to link each of
12 these things independently, impingement or entrainment
13 with the ecosystem-wide ecological impact to fish, we
14 may be too limited to make a really rational,
15 responsible, decision if you look at these things in a
16 vacuum. As we know from cases of fish mortality in
17 power plants, causation is next to impossible to prove
18 or to attribute to any one factor.

19 The way the permits are set up is to give EPA
20 some latitude to make decisions based on the best
21 available information and principal [inaudible] where
22 simple explanations tend to be the ones that we follow,
23 absent better information from other sources.

24 When I think of impingement and entrainment
25 in particular, one of the biggest ecosystem wide
26 impacts is in larva and eggs. If you're taking in larva
27 and eggs in your cooling water, those may not be
28 adequately counted, and those things will certainly
29 have ecosystem-wide effects.

30 I won't mention any particular cases, but in
31 Rhode Island, there is one particular facility which,

1 according to one state report, is responsible for an
2 annual adult loss of 30,885 pounds of [inaudible]
3 96,507 pounds of winter flounder, both species of which
4 are in decline in my bay. Fishing in Rhode Island is a
5 \$500 million a year industry. We're feeling tremendous
6 pressure from our constituents in fishing to deal with
7 that impact, and yet it's not really clearly covered
8 under this framework.

9 We would be concerned to make sure that when
10 you make these decisions, you're looking and you're
11 screening not only at whether or not the impingement or
12 the entrainment can be causably linked with an
13 ecosystem-wide impact, but what role those specific
14 factors play in your fish mortality in your system.

15 JIM ELDER: Thank you. Other comment on the
16 discussions at the table? Yes, sir. Bill Neal, Large
17 Public Power Council.

18 BILL NEAL: Thank you. Bill Neal. I work for
19 Omaha Public Power District. We, again spent a lot of
20 years on the Missouri River, and I look around the
21 table here, and there's other site-specific expertise
22 that also spent years way back when. It seems like a
23 long time ago with waders on and dragging nets.

24 We're pleased from the LPPC's perspective
25 that the Agency is taking an approach that appears to
26 be recognizing the very diverse and site-specific
27 nature of impact.

28 It's also clear that there's a diverse
29 opinion of what adverse impact means. That's an issue
30 for the Agency to certainly grapple with. From our
31 perspective, it's certainly not one fish or one fish

1 egg. It depends upon the river system, the estuary or
2 the bay.

3 I guess this is a question as much as a
4 comment, in that the comment was made about one of the
5 problems that existed was that EPA recognized there
6 were inconsistencies in the way that various states
7 reissued permits or reevaluated permits. The comment
8 would be that perhaps a little bit of inconsistency is
9 not all bad, recognizing the differences between the
10 various bodies of water and the operation and
11 environmental impact of the intake structures.

12 If we're trying to solve the inconsistencies,
13 perhaps, that some of the states have, and I'm just
14 reflecting discussions we've had with our own state
15 agencies, and the studies we did on the middle Missouri
16 River had to do with lack of guidance of a process that
17 was put forth by the Agency for the states to follow.

18 If you want an evaluation of flow, intake
19 velocity, fisheries population, have they changed?
20 Yes/no, that's the kind of guidance that the states are
21 looking to the Agency to develop for them in terms of
22 how they should periodically reevaluate the impact, if
23 any, of the intake structures.

24 JIM PENDERGAST: When I said inconsistency, I
25 wasn't talking about that the end results were
26 different. Obviously if you're taking a look at the
27 permitting program, not every facility has the same
28 permit limit, say, for copper or lead or something like
29 that. That site-specific characteristics do come into
30 play.

1 When I was talking about inconsistency, I was
2 talking about the inconsistency in the approach that in
3 some places a good amount of [inaudible] and in others,
4 it may be more of a problem with those being at the
5 ends of the spectrum. That's too much diversity in an
6 approach on that.

7 What I was trying to describe here is a
8 consistent approach, with a consistent level of rigor
9 depending upon what the potential for impacts might be
10 and a consistent amount of data collected, so that the
11 data is targeted to answering the questions on that. Of
12 course, there's the devil in the details.

13 JIM ELDER: Yes, other comments?

14 ALEXIS STEEN: Alexis Steen of the American
15 Petroleum Institute. I guess two comments and one
16 question.

17 First comment is we really would like to add
18 into the groups' consensus that seems to be building
19 the tiered approach is the right way to go, so that the
20 resources from the EPA and facilities can be properly
21 allocated.

22 Secondly, we want to encourage that for each
23 of the tiers when you're defining your evaluation
24 factors, you do that as simply and clearly as you can,
25 both for the facility folks who have to interpret them
26 and the in-house staff, who won't. We are not
27 entrainment and impingement experts, but also for the
28 permit writing staff for the states in the Regions.

29 My question has to do with the comment made
30 down at the end of the table on the focus on
31 technology. I was wondering what EPA plans are, if

1 any, because I don't know the answer to this one, to
2 prepare the evaluation of various technologies that may
3 be used at intake structures, or intake structures in
4 particular, that may be used to minimize environmental
5 impacts.

6 JIM PENDERGAST: Let me provide a little
7 comment on the criteria and then on the technology.
8 Deborah will get to it.

9 We see the need and we echo the need for
10 having clear criteria. The last thing in the world we
11 need is more confusion and ambiguity, because that
12 doesn't lead to any environmental progress. It just
13 leads to more discussions, more heartaches, and we know
14 -- we know what that means. We've been there before.

15 This is one of the things that I personally
16 want to focus on. I had my start in EPA as a permit
17 writer, where I actually had to do a 316(b) evaluation
18 based upon the guidance we had back in 1985, and that
19 wasn't fun. It was very difficult to do. Supposedly, I
20 was one of the more knowledgeable ones at that time
21 too, so I can imagine what someone who is fresh out of
22 school working in a state dealing with the same type of
23 guidance, the problems they would have.

24 We want to make things clear on the process.
25 We want to make sure that people know what steps they
26 do, so not only the permit writers, but everyone else
27 who has a stake in that decision knows what the
28 expectations are and the factors that are looked at.

29 On the technology, Deborah.

30 DEBORAH NAGLE: On the technologies,
31 obviously we are going to be looking at the different

1 technologies that are out there and how they perform,
2 the efficacies of those technologies as they deal with
3 impingement and entrainment.

4 We also recognize that sites are very
5 different, and what might work in an estuary perhaps
6 might not necessarily work in a large river, or lake or
7 bay kind of environment.

8 So just like any kind of technology-based
9 regulations, we will do an evaluation in which we will
10 lay out the different technologies available and their
11 efficacies in different eco-regions. But typically, as
12 EPA does not do, I do not foresee that we will say that
13 this is the technology that will fix everybody's
14 issues.

15 JIM ELDER: Yes, ma'am.

16 JACKIE SINCORE: Jackie Sincore with API. I'd
17 like to back up from the technology, a little bit.
18 We're talking about technology, but what you've asked
19 us to come here today to talk about is what you want to
20 address with that technology. And you've asked us to
21 share our opinions and help you out a little bit with
22 what we consider adverse environmental impact. I'm
23 really interested coming here to this meeting to find
24 out what EPA considers adverse environmental impact,
25 and if it differs from situation to situation, what
26 those differences are, and also if you are already
27 considering specific guidance or policy or existing
28 definitions already used in other programs.

29 JIM PENDERGAST: All right. Do you want to
30 pick that up, Brad?

1 BRAD MAHANES: Well that's going to be this
2 afternoon's discussion on -----

3 JIM ELDER: Roman II.

4 BRAD MAHANES: Defining and assessing adverse
5 environment impact.

6 JACKIE SINCORE: So you will start off and
7 give us your view first? I think that will stimulate
8 discussion a bit more.

9 BRAD MAHANES: What not to do is, basically,
10 kill the afternoon. What we're planning to do this
11 afternoon is lay out how we perceive right now the
12 process for defining adverse environmental impact.

13 The throw away for right now is that we
14 foresee AEI being different at each site. If you take
15 a look at [inaudible] Dave and some of the other people
16 the Baykeeper mentioned, you're going to have a
17 different biology, and a different intake and coastal
18 environment in the north shore of Hawaii when you
19 compare that to a different type of intake with a
20 different type of flow in a third order stream in Ohio.
21 It's not going to be one specific thing is consistent
22 across the country. All right? But let's save the
23 voice and this for this afternoon.

24 JACKIE SINCORE: The reason I raise it now is
25 you talked about technology [inaudible]. The end point
26 is the environmental impact. That's what we're
27 thinking about, what we're trying to get at. We
28 already talked about technology. I think it makes
29 sense to talk about the impact that you're trying to
30 address, but we'll go with your agenda.

1 JIM ELDER: Seeing no one else at the table,
2 Yes sir? Please identify yourself.

3 DENNIS DUNNING: My name is Dennis Dunning,
4 and I work for the New York Power Authority. I have a
5 question for Jim. You indicated that there's a need
6 for clear criteria. My question is this. Do you mean
7 there needs to be clear issues that need to be
8 considered in the screening process, or are you
9 referring to specific, numerical values for some of the
10 things that you've listed, like cooling water intake
11 flow?

12 JIM PENDERGAST: Okay. That's a little bit
13 difficult for me to answer at this point. Certainly in
14 terms of the process and the types of questions that
15 need to be answered, the types of information that
16 needs to be gathered, that needs to be clearly spelled
17 out. To the extent that we can quantify end points or
18 decision points in terms of, let's say, intake
19 velocities, if we can do that, those certainly also
20 should be laid out.

21 The catch on saying that now, before doing
22 the analysis, is that you don't know where you're going
23 to be on there. One of the things that we have
24 certainly recognized is that depending upon what type
25 of volume of water you're in, the criteria would be
26 different. Your quantifying decision criterion could
27 be different, in a very fertile eastern estuary versus
28 something that's a half a mile off the continental
29 shelf or off the Island of Hawaii, as Brad is using on
30 there.

1 So being able to say today at this point
2 based on what we know and can quantify those and make
3 it clear, I don't know. We'll have to take a look at
4 the data. But that certainly is the philosophical
5 direction we want to go in, is if we can make those
6 calls, based upon the information to make them. If
7 not, then we have to rely upon certainly weighing out
8 the process to the extent that we can. The data will
9 be able to tell us what we get to.

10 JIM ELDER: At the table? Yes. Delaware
11 Riverkeeper.

12 MAYA VAN ROSSUM: I got a --

13 JIM ELDER: Tell them your name again.

14 MAYA VAN ROSSUM: Maya Van Rossum.

15 JIM ELDER: Maya Van Rossum?

16 MAYA VAN ROSSUM: Yes. Delaware Riverkeeper.
17 I've got a couple of questions. I know you're not
18 going to go change your agenda, but I must say that I'm
19 having a really difficult time commenting on this
20 approach without understanding how you're defining all
21 of the terms that you're using here. Half of my input
22 is going to be lost because I don't really know what
23 you're talking about. I don't really know what I'm
24 talking about.

25 Just by way of example, to me, the fact that
26 we have a facility in the Delaware Bay that's killing
27 17 million pounds of bay anchovy a day. I'm sorry, a
28 year. We have met productivity losses of bay anchovy;
29 11 million pounds of wheat fish; 38 thousand pounds of
30 white perch, and the list goes on annually by one of
31 our facilities.

1 To me that's an adverse environmental impact,
2 but I don't know if that's an adverse environmental
3 impact to you. Maybe you're going to look at what's
4 going on in my river and say, "Hey, the fish are fine.
5 You've got plenty." So it becomes a very difficult
6 conversation, I think, with this agenda schedule.

7 JIM PENDERGAST: Okay.

8 MAYA VAN ROSSUM: Okay. But any way, with
9 that in mind, I also would like to for the record state
10 that I think Kit Kennedy and Theresa and John have
11 articulated very well many of the concerns and issues
12 that Delaware Riverkeeper has with the approach, to the
13 extent that I can understand it. But I think that
14 they've talked about a lot of very important issues
15 that EPA needs to grapple with and consider, especially
16 in terms of the definition of adverse environmental
17 impact.

18 And I have some questions. It seems to me,
19 when you're trying to define adverse environmental
20 impact from this, that you're going to be looking only
21 at a single facility. You're not going to be looking
22 at the cumulative impacts of other water intake
23 structures and other issues going on in the water way.
24 Is that the case or not?

25 DEBORAH NAGLE: No, we do plan to look at
26 cumulative effects. That is a part of our analysis.

27 MAYA VAN ROSSUM: Okay. But how are you
28 going to address them? You're dealing with one permit
29 at one point in time, and you identify an impact.
30 You're not really going to be able to address it
31 because again you're dealing with one permit at one

1 point in time, and we won't know what's going on with
2 the other waterways.

3 JIM ELDER: Okay.

4 MAYA VAN ROSSUM: You might maybe be thinking
5 about it, but you can't really be addressing cumulative
6 impacts the way this is set up.

7 JIM ELDER: Either Deborah or Brad?

8 JIM PENDERGAST: Well, let me start from
9 this, and then we'll go on a little bit more with the
10 technical thoughts on this. We recognize that
11 cumulative impacts are something that have to be looked
12 at here, we are trying to grapple with ways of doing
13 it. There are a couple of ways to get at this.

14 One, which is outside of the discussion on
15 this specific proposed rule or any other specific
16 approach, is that we've been trying to encourage states
17 that haven't done so to start taking a watershed view
18 when they do their permitting. What we mean by that is
19 instead of going facility by facility by facility,
20 taking a look at decisions solely at that facility, is
21 take a look at all decisions, to essentially organize
22 their information collection and their permitting
23 issuance timing so that all the facilities are looked
24 at in a watershed at one given time so they can take a
25 look at cumulative effects.

26 We're seeing that in a number of the states
27 already where they are-- I think New York has gone to
28 that, for example, where they go around and collect the
29 data on a five year cycle and take a look at the
30 permitting on there. Other states are going into that

1 direction. So that's something that's outside of this
2 discussion that we're trying to make happen.

3 Looking at 316(b) here, I'm trying to get the
4 cumulative decisions into it. Certainly in tier three,
5 we're looking at how to do that. We're trying, we're
6 trying to get at it indirectly by looking at the body
7 of water itself in tier 2. I think those are some of
8 the points that Brad and Deborah are going to elaborate
9 on when they go into their discussions later on this
10 afternoon.

11 And Maya, you presented a question earlier on
12 about it's tough to talk about the overall framework
13 without knowing the details. Frankly, we had this
14 whole meeting inverted, where we would talk about the
15 details first and then go to the framework. Then we
16 said, "Well gee, people will say, how do you put it
17 together?" It's tough to be able to do this thing.

18 You present the framework first; people will
19 ask you about the details. You present the details
20 first; they ask about the framework. Frankly, we
21 flipped a coin and thought that this would be the best
22 way of doing it. It works for some, but not for all.

23 MAYA VAN ROSSUM: Well, I was thinking if you
24 quickly presented the framework and then give some
25 details, then we could have some conversations, but I
26 understand you're sort of stuck at this point.

27 JIM PENDERGAST: Okay.

28 MAYA VAN ROSSUM: You've got a lot of
29 biological studies going on here. This has been an
30 issue that raises significant concerns for us in the
31 Delaware River, along the Delaware River, which is why

1 I'm asking it. Again, there are a lot of studies going
2 on. Who would you envision doing those studies? The
3 permittee, the state agency, EPA, independent
4 consultant?

5 JIM PENDERGAST: That's an excellent question
6 here. I was going to say certainly not EPA, because
7 the Lord knows we have trouble doing the things we're
8 given the dollars to do right today. But I see it more
9 -- I see the studies being something which could be
10 done by either the facility, the state, a collection of
11 facilities on the watershed. It can be done in
12 different ways. The key thing is to get the
13 information there.

14 Some of the things that we've been
15 encouraging again, this goes outside of the 316(b) box,
16 but we've been encouraging on a watershed that everyone
17 gets together and jointly collect the environmental
18 data that's necessary to support permitting decisions
19 on any individual entity. The reason for that is by
20 bringing together all the resources within a watershed,
21 people who have some interest on there are able to
22 generally get better information than if you try to get
23 it facility by facility, or even by the state itself.

24 MAYA VAN ROSSUM: I would suggest that we
25 have significant concerns with having the permittee do
26 the studies without any ability for a very thorough
27 independent review, not simply a cursory review by
28 perhaps the agencies, but some mechanism, whether it be
29 paid by the permittee to allow the agencies to hire a
30 totally independent consultant to do it again, a
31 thorough review, because as we all know, there is a lot

1 of finagling that can be done with numbers and studies,
2 and I would hate to see that opportunity arise here.

3 Then this is a question in terms of process
4 for how you're going forward with this whole thing.

5 I see on today's agenda we're not going to be
6 discussing what is the definition of best technology
7 available. There are a number of things, very
8 important issues, that are going to be discussed today.
9 How are you planning to go forward with this process?
10 Are you going to have other meetings like this to
11 discuss some of the other details, or are we just going
12 to have a proposed rule? How are we going to go?

13 JIM PENDERGAST: Well, as I said in the
14 opening remarks here, we're having another public
15 meeting on September 10th in Washington, D.C., in which
16 we'll be picking up other issues. Certainly the ones
17 we don't talk about today are right for the agenda for
18 that meeting.

19 MAYA VAN ROSSUM: When you say public meeting,
20 is it this type of set up or --

21 JIM PENDERGAST: This type of setup.

22 MAYA VAN ROSSUM: Thank you.

23 JIM ELDER: Before we move on, I appreciate
24 Maya carefully avoiding mentioning any particular
25 facility by name in her opening comments.

26 Mr. Delgado has been up for some time, so if
27 I might call on him next, and then we'll go back to
28 someone at the table.

29 RICHARD DELGADO: Thank you. I wanted to
30 talk about environmental impacts, and it's appropriate
31 not to have a one size fits all approach. The

1 environmental impact that we're really concerned with
2 is going to vary from facility to facility.

3 However, generally the environmental impact
4 that is going to be of most concern to the regulatory
5 agencies is going to be the reduction in populations of
6 fish, and we're not always talking of fish. That also
7 changes from time to time. But that's the impact that
8 we're going to be looking at most frequently at most
9 facilities, is how much of a reduction do we have in
10 the populations of organisms in the affected water
11 body. That's the real environmental impact question.

12 I also would be very interested in hearing
13 how EPA is going to guide the states in terms of those
14 decisions. I certainly want to echo the comments of
15 New York State when we're dealing with waters and fish
16 and living resources in waters. We're dealing with the
17 resources that most states are holding in public trust.
18 That certainly affects state thinking or state decision
19 making.

20 It's also going to be very helpful to the
21 states if the EPA can come out and say this is what's
22 scientifically known about what's supportable. This is
23 where you're safe. This is where you're not safe. And
24 that's an area where hopefully state governments would
25 go. I would sure love to see some technical support in
26 that regard.

27 JIM ELDER: Thank you. The gentleman from
28 Edison Electric Institute.

29 LARRY OLMSTEAD: Larry Olmstead, Duke Power,
30 representing Edison Electric Institute, which is an
31 organization of investor-owned utilities which produce

1 about three quarters of the power in the nation, so we
2 have a vested interest in this.

3 Edison Electric Institute sees a lot of merit
4 in this, and I like the idea that it's a framework.
5 It's an approach. I don't think we should lose sight
6 of what you're proposing here as an approach to the
7 problem.

8 A couple of things we like, first of all, is
9 the tiered approach. This allows for best utilization
10 of resources. When resources are limited, let's find
11 out the areas where there are no problems and let's not
12 spend money and effort there. Let's look for other
13 areas.

14 We like the site specificity of it. It's been
15 mentioned several times that one size does not fit all.
16 And, depending on where the facility is located, the
17 environmental conditions around there, it makes a big
18 difference. So we like the site specificity.

19 Finally, we like the emphasis on biology that
20 I see that's implicit here, because it goes back to the
21 adverse impact, and I understand we're going to be
22 looking at what adverse impact means this afternoon,
23 but certainly, I think it means like something at the
24 population level.

25 So I guess I'll summarize by saying, the
26 framework as an approach, we find that this has a lot
27 of appeal, because it balances resource protection
28 along with the equatability to the users of the
29 resource.

30 JIM ELDER: Thank you. I'm sorry. Bill from
31 [inaudible] Bill Went?

1 BILL WEMHOFF: Wemhoff.

2 JIM ELDER: Wemhoff.

3 BILL WEMHOFF: American Public Power
4 Association. I'd like to echo some of the comments
5 that have been said here regarding the tiered approach
6 and how that makes a lot of sense.

7 One of the concerns I have though, what Jim
8 said earlier about having some clear criteria
9 established, and I'm looking at the tier one and the
10 decision relative to potential for adverse impact for
11 either one, the impingement or the entrainment.

12 The concern that I have here is that if EPA
13 in its thinking is looking at coming up with numerical
14 values, for example, for the speed of water going
15 through the intake structure, in light of the fact that
16 I think it's obvious already that there is no common
17 definition of what adverse impact is, even from the
18 short discussion that we've had this morning.

19 What I'm concerned is that if the numerical
20 values, if that's what EPA is thinking, would be
21 applied across the board to everyone, it would have to
22 be set, or likely would be set, at such a low value,
23 the most stringent case to include every possibility of
24 where there could be an adverse environmental impact,
25 that it could essentially wipe out the benefits of
26 having the tier one.

27 In different words, if those values are set
28 so stringent that almost no intake structures could
29 meet the task, then everyone is almost automatically
30 thrown into tier two and beginning to do expensive
31 studies. That's one concern that I have.

1 It wasn't clear to me whether you were
2 talking about a single numerical value that would be
3 applied across the board, or whether you were thinking
4 of maybe there's one for rivers, maybe there's one for
5 bays, you know, different categories. If that's the
6 thinking then, maybe that's something that approaches
7 more of a site-specific instance.

8 Or should it be left up to the states?
9 That's just another consideration.

10 JIM PENDERGAST: Let me address that one
11 before you go on.

12 BILL WEMHOFF: Okay. I do have another one,
13 that kind of fits in the same category. Many of EPA's
14 members are small communities with small generating
15 units. Those small generating units don't operate for
16 many hours of the year, although they are very
17 important units to have for the community to and that's
18 to meet peak loads, or emergencies and things like
19 that.

20 Deborah was saying that the purpose of tier
21 one was to look at the potential for adverse impact.
22 Well, if you look at a power plant that operates only
23 maybe a few hours a year, to me the potential is
24 relatively small for a big impact. But if you look at,
25 well, that power plant could operate theoretically
26 every hour of the year, that's a much different
27 scenario.

28 So when you're thinking about potential for
29 adverse impacts, I wondered whether that would be
30 incorporated, or how would that be incorporated in tier
31 one.

1 JIM ELDER: Can you remember both questions?

2 JIM PENDERGAST: Yeah, I was started writing
3 down the first one as you were saying the second.

4 We understand your point on tiers, and that's
5 one of the dangers when we hear the phrase of a one
6 size fits all approach, which, by the way, doesn't
7 necessarily also sweep in a lot of people. It also may
8 not deal with those very sensitive water bodies that
9 need to have something even more.

10 The concept of the tier one is to screen on
11 here. It's one that if it brings in everybody, it
12 doesn't work as a screen, then it's not doing its job.
13 We haven't scoped out how a tier one would work, but we
14 certainly wouldn't start off by looking at how would it
15 work with different types of bodies of water. If there
16 was a difference between a river and a lake or a river
17 and estuary in terms of screening criteria, then we
18 would go with that. If there wasn't the difference,
19 then we wouldn't.

20 Then again, without having set out what those
21 criteria are and analyzing it, it's tough to say
22 exactly what it is at this point.

23 We've run into the same type of approach with
24 other types, with actually dealing with discharges in
25 terms of which ones you screen out, which ones you
26 don't.

27 For example, when we deal with water quality
28 standards, if we have facilities that are operating
29 below the standards, we may not do a further analysis
30 on it, because we don't have to figure mixing zones or
31 dilutions. They are already at a certain point.

1 We recognize that the result of a tier one
2 screen with those folks who fail the screen as they go
3 into a more elaborate review, and that gets to the
4 answer of the second question on here. We haven't yet
5 worked out how do we deal with peak plants or those
6 that provide the capacity at, like a day like Wednesday
7 last week, it's 90 degrees, 90 percent humidity.

8 What we want to make sure is that if there is
9 a potential, any facility where there's a potential
10 that gets kicked into a more elaborate analysis, to see
11 if that potential is a reality. Still we may be a
12 little bit more on the conservative or stringent side
13 on the tier one, knowing that when you get down to tier
14 three, you're actually doing the right level of review.

15 JIM ELDER: Kevin McAllister.

16 KEVIN MCALLISTER: Yes. Thank you.

17 JIM ELDER: Peconic Baykeeper.

18 KEVIN MCALLISTER: I'd like to tie together a
19 couple of comments from the Narragansett Baykeeper, Mr.
20 Delgado, the gentleman from New York State.

21 Something to focus on when we're trying to
22 qualify impacts certainly is population dynamics. Some
23 of these studies may take a little snippet of time,
24 particularly when we're talking estuaries and eggs and
25 larval stages, as well as fin fish populations. The
26 dynamics are incredible. We need to take a broader
27 look I believe. If we focus on a short term study,
28 we're really not going to identify and quantify what
29 some of the impacts are.

30 So with respect to that, I'd like EPA to take
31 a very closer look. Thank you.

1 JIM PENDERGAST: Let me comment on that. We
2 understand that. You can't essentially characterize
3 any impact by going out there one day and taking a snap
4 shot of something that requires taking a look at
5 changes over time.

6 The catch, or I guess the trick here is how
7 can you make the decision? Do you wait till you get a
8 long period of time a record of data before you make a
9 decision? If we do that, all of us would be retired
10 before we make some decisions. But that's also
11 unacceptable.

12 We're trying to find that balance of what
13 type of data and the length of time that you need to
14 have to make a responsible decision is the balancing
15 act that we're trying to go through. We certainly
16 recognize that you have to take a look at the
17 populations. Frankly, the dynamics of a population
18 taking a one day, or a one week or even a one month
19 snap shot doesn't really give you any answer.

20 JIM ELDER: Mr. Radle from New York State.

21 ED RADLE: In terms of looking at the
22 population analysis, New York State has probably one of
23 the most studied rivers in the country, the Hudson
24 River estuary. And 25 years of intensive, thorough,
25 quality controlled data, we still don't know what the
26 population effects are. So as Jim suggested, we could
27 be retired before the decision -- in fact I am going to
28 be retired before that decision is made.

29 SPEAKER: We'll see about that Ed.

30 ED RADLE: And it can go on even beyond that.
31 Even if you understand the population dynamics, if you

1 understand it, what's happening to a particular
2 species, you haven't begun to scratch what you're doing
3 to the ecosystem. So even if you know you change the
4 population by 5 percent through the mortality, you
5 don't know what you did to the rest of the ecosystem
6 that would have used that source of food or would have
7 been impacted by those organisms growing and developing
8 until a point where it was chopped off.

9 The impact studies that you're looking for
10 are going to get you into an extremely protracted
11 process. It's very dangerous to get into it.

12 One other quick point I'll make while I have
13 the microphone. A number of people have assumed that
14 there's a consensus on the tiered approach that you
15 have here, I would say there's a consensus, if it's an
16 off/on switch. If you're killing fish, if you're
17 killing the public resource, that switch is on.

18 You go to the next stage. Don't get into
19 trying to evaluate, because people have remarked how
20 complicated and how different the systems are, and a
21 dead organism is a dead organism. It's time to go and
22 look at what is reasonable to do about it, not to get
23 into a protracted argument. You can have those
24 arguments forever.

25 JIM ELDER: Bill? Are you trying to amend the
26 comment?

27 BILL NEAL: No, just to add in terms of, to
28 carry forward on the degree of science. We've had a
29 workshop process where we've had numerous workshops,
30 three of them on the population dynamics and got some
31 of the best minds in North America, at least on the

1 issue. As I say, we're still debating it on the
2 species for which we have the best data, and you've got
3 a wide array of species for which you're not going to
4 have any data at all.

5 I have another comment but I'll make after.

6 JIM ELDER: Okay. David Bailey.

7 DAVID BAILEY: I would begin by saying I
8 fully support, and UWAG fully supports a rule that
9 focuses on ensuring that the populations of organisms
10 where facilities are located are protected.

11 We also believe that in many cases you're
12 going to be looking at a variety of fish species or
13 shell fish species to ensure that the community
14 structure itself is being protected.

15 I, again, would reiterate in the first tier,
16 I think we're going to be best served if we consider
17 not these factors independently, like the intake flow
18 or the velocity, because individually, those factors
19 tend to be not very meaningful. We can have facilities
20 with higher flows, but lower entrainment rates.
21 They're only meaningful in the context of the biology
22 in the water body that we're withdrawing water from.
23 It's very important to make those decisions in a
24 holistic manner.

25 In terms of science, our industry has spent a
26 substantial amount of money evaluating the impacts of
27 these facilities, and again, I would reiterate, while
28 there is uncertainty, we can narrow that uncertainty
29 down to a point where we can make reasonable decisions.

30 We do have to think these studies are costing
31 us money as well, and we're prepared to do that,

1 because we think when we're going to commit substantial
2 economic resources, which in some cases may be called
3 for before those resources are committed, we think
4 socially, that a benefit should be realized if those
5 resources are expended. That supports taking the time
6 to look if a facility, and in some cases, there may be
7 facilities, faced with large expenditures, that that
8 opportunity is provided so that good social decisions
9 could be made.

10 JIM ELDER: Thank you. Okay. Bill. You get
11 your second or third chance.

12 BILL NEAL: Just to clarify something. In
13 terms of balancing, yes, there definitely needs to be a
14 balancing, but it's the stage in which the balancing is
15 being done that we dispute.

16 We have facilities in New York State that
17 literally will kill a bucket of fish a year, and we
18 require no changes from what the plant was originally
19 built with.

20 We have other ones that kill, kill many
21 millions in impingement and probably billions in
22 entrainment, and there something else needs to be done.
23 Essentially what the something else is, is where you do
24 the evaluation. What is the actual impact and again,
25 actual, rather than projected? You need to look at
26 these plants, but you put the effort into spending that
27 money towards what is the impact? What can I do about
28 it? What's the cost, and doing the balancing then. Not
29 back at the early stage of saying, well gee, let's
30 spend multi-million dollars to decide whether we have
31 an impact or not.

1 We think it'll save a lot of money just to
2 have a very simple, undisputable threshold of if
3 there's mortality. You have an impact; now go on to the
4 next stage.

5 Otherwise, we'll be in litigation and people
6 will not agree, because it's not in their interest a
7 lot of times to agree. I don't want to cast that in a
8 bad light, because we have a very good, cooperative
9 program. We are trying to reach these decisions in
10 cooperation, and that does work well. But even working
11 in cooperation, some of these problems are very
12 untractable.

13 JIM ELDERS: I believe you're the gentleman
14 from the New York Power Authority.

15 DENNIS DUNNING: That's correct.

16 JIM ELDERS: Is it Dennis Dunning?

17 DENNIS DUNNING: Dennis Dunning. Jim, I'd
18 like to make an observation.

19 We are one of the utilities regulated by New
20 York State. We've also worked with Natural Resources
21 Defense Council, and I believe there is an item in your
22 flow chart that hasn't received enough attention, and
23 it's really the crux of the entire issue that we're
24 talking about. It is the item called Perform Wholly
25 Disproportionate Costs Tests.

26 I would make an observation, and the
27 observation is that you ask industry whether it would
28 prefer to operate its facilities to kill more fish or
29 less fish. I think to the industry, it would say less
30 fish. The real question is, what is an appropriate
31 amount of money to spend to offset fishing mortality?

1 Using scientific information, we have tried
2 to provide some idea of how important mortality is and
3 how much money should be spent, and we have a facility
4 that has that best technology available for impingement
5 that was agreed to by all of the parties on the Hudson
6 River, because the agreement was reached on an
7 acceptable amount of money. It becomes more difficult
8 as the amount of money goes up.

9 Our experience would suggest to you that that
10 one bullet needs at least as much attention as how you
11 define adverse environmental impact, because as Bill
12 pointed out, that's like trying to define how many
13 angels stand on the head of a needle. There's no
14 scientific consensus on what it is, and clearly from
15 the audience you've heard here, there is no consensus
16 on what peoples' belief is.

17 If you can reduce this down to how much money
18 should be spent to address Kit's concern, which is,
19 let's focus on technology and talk about what can be
20 done, as opposed to spending a lot of time trying to
21 debate whether or not there is an impact.

22 JIM PENDERGAST: That's a good point. We
23 recognize that that's probably the problem that's going
24 to need the same amount of time and discussion as any
25 other of these significant issues in this action. Thus
26 that's one of the things that we -- looking at, how
27 much time we had today -- recognizing that we're going
28 to have to pick it up in a separate meeting. We have
29 that on the agenda for the September 10th meeting.

30 JIM ELDER: You might note that if you
31 haven't seen it yet, today's *Federal Register* does have

1 in it the most availability about how many angels can
2 stand on the head of a pin.

3 JIM PENDERGAST: The California Angels or --

4 JIM ELDER: Theresa?

5 THERESA HANCZOR: Yes. In response to
6 Dennis' comments that the bullet, referring to the
7 performance of the wholly disproportionate cost tests,
8 be placed on the same plane as the top bullet as to
9 what is an adverse environmental impact.

10 Well, if you look at the plain language of
11 the statute, which is the best indication of its intent,
12 and we look at its rather scant legislative history,
13 and the any decisions of regional administrators, and
14 those courts that have dealt with this issue, it's
15 quite clear that the statute does not require any cost
16 benefit analysis test, that's the first prong.

17 It was only after technologies were put into
18 place in addressing impact did the courts in Seabrook
19 and the Brunswick cases discuss the wholly
20 disproportion test. And why did they have to do that?
21 They had to do that because it was a vacuum. There
22 were no regulations. So they relied on the discretion
23 of the regional administrators.

24 It's just remarkable that here we are, 26
25 years after the enactment of the statute, and we're
26 still arguing over the 20 words in the statute and
27 trying to put a new spin on things by saying, "Well,
28 adverse environmental impact yeah, but it's the same as
29 wholly disproportionate." It's just not the case.

30 JIM ELDER: Okay. Kristy.

1 KRISTY BULLEIT: In the spirit of your
2 instruction not to engage in point, counter-point, I'll
3 keep my comment pretty general. I want to say two
4 things.

5 First of all, there's been a lot of
6 discussion about value to be placed on resource.
7 Different people take a different approach to that.
8 One thing that seems pretty clear is that Congress, by
9 using words of value, "adverse" is a word value,
10 intended the Agency to make some value judgments that
11 were more than simplistic.

12 Eventually, in order to make those value
13 judgments, you have to give a meaning to the term. We
14 think that the right meaning is to look at the impact
15 on at least the population level or higher. Taking
16 into account important factors like John and Kevin have
17 mentioned, like community structure and other
18 functions, which I think can be dealt with by looking
19 at populations -- in the intelligent selection of the
20 populations that we study, and looking at the relevant
21 time period. That's one thing.

22 Second, as to the whole question of whether
23 cost is or isn't a factor to be considered under
24 316(b). Again, Congress used words of value that had
25 meaning in context of the Clean Water Act. Specific
26 words like "best" and "available". Those are terms
27 that Congress chose; terms that Congress clearly
28 understood, and those terms are used to describe costs
29 in other situations.

30 This provision is unique in the sense that it
31 then requires a consideration of technologies and their

1 costs versus environmental impacts, and requires the
2 balancing of those two factors. The fact that they
3 didn't specifically incorporate language like that
4 which was incorporated in 301 and 306, points that had
5 been made over and over again in the past, isn't
6 particularly meaningful in this context. Since they
7 chose terms of value that clearly incorporate concepts
8 of costs.

9 That's our view on the interpretation of the
10 statute and that has, frankly, in the Agency, to the
11 extent we're citing past, precedent history, has agreed
12 with the general concept that costs are relevant under
13 the statute for a very, very long time.

14 JIM PENDERGAST: The first hand I saw was Mr.
15 Neal from Large Public Power Committee.

16 BILL NEAL: Yes. Thank you. Without spending
17 a lot of time on this LPPC perspective, the analogy
18 here that we're talking about considering economics is
19 very similar to what Congress and the agencies
20 interpreted air standards for years and years, versus
21 their best available control technology standard, and
22 then the most achievable mission standard of which you
23 have very little consideration of economics at that
24 point. There's also compelling evidence and a track
25 record when one considers BTA that economics are a part
26 of that consideration.

27 Otherwise, in the statute of lowest -- what
28 would be the acronym? LAIER? the Lowest Achievement
29 Impingement and Entrainment Rate, which doesn't exist.

30 THERESA HANCZOR: Excuse me. May I respond?

1 JIM ELDER: Could you just wait a second?
2 I've seen both hands right here.

3 THERESA HANCZOR: I just wanted to add, don't
4 forget the goal of the Clean Water Act, which is zero
5 discharge. In the case of these particular intakes,
6 you can achieve zero discharge through cooling towers
7 and other technology. So, when you're considering
8 something else, it's one of the things that has to be
9 considered, is what is the impact compared to the zero
10 discharge impact, particularly if you couple that with
11 excellent screens that would avoid impingement and
12 entrainment of organisms for the make-up water that you
13 would need. So keep that in mind.

14 JIM ELDER: All right. Theresa Hanczor.

15 THERESA HANCZOR: In response to Mr. Neal's
16 remark that Congress did not insert language as to the
17 Lowest Available Impingement and Entrainment Rate, I
18 suggest they did. When they used the word minimized.
19 If you look in any Webster's Dictionary, that's defined
20 as reduced to the smallest amount possible.

21 JIM ELDER: Okay. Now, I believe Jerry
22 Schwartz with the American Forest and Paper
23 Association.

24 JERRY SCHWARTZ: Running a risk of walking
25 into a point/counterpoint that isn't a
26 point/counterpoint. I would just like to echo some of
27 the earlier sentiments, that were made about the
28 overall framework of this tiered approach that it does
29 include a screening stage, that as this gentleman has
30 pointed out, a screening stage needs to have useful
31 criteria to really screen out folks. If the criteria

1 is too conservative, obviously everybody stays in the
2 process. You haven't effectuated a screening process.
3 I would just like to reemphasize the point that was
4 made earlier.

5 JIM ELDERS: Okay. Mr. Wemhoff.

6 BILL WEMHOFF: Thank you. Getting back to
7 the framework, there is another area that I'd like to
8 just ask that the Agency consider. The way the process
9 appears to be set up right here is that, if you go
10 through tier one and you determine that you have
11 potential for adverse impact, it immediately throws you
12 into performing studies. The concern that I have again
13 for the small communities is they have limited
14 resources, and I wondered if there would be a way of
15 incorporating in here, into spending those limited
16 resources on minimizing any perceived adverse impact,
17 as opposed to spending the money studying to determine
18 whether they are or not.

19 I can think of some instances where those
20 limited resources could be spent quite readily in doing
21 studies to determine whether there were or were not
22 adverse impacts that could go beyond the limited
23 resources and you'd never get to the point of limiting
24 any adverse impacts that might potentially be there or
25 isn't there.

26 I'm just asking the Agency to consider some
27 way of incorporating into the framework of the process
28 here perhaps a way of spending these limited resources
29 and actually minimizing any perceived adverse impact as
30 opposed to studying.

1 JIM PENDERGAST: That's an excellent point,
2 and that's something we will take a look at here.
3 Obviously, if the cost of doing BTA is less than the
4 cost of the study, then it probably makes sense to do
5 BTA.

6 JIM ELDER: I think it gets back to the point
7 that Dennis Dunning was making, and that is performing
8 a wholly disproportionate cost test, maybe looking at
9 that or some version of that a little bit earlier.

10 JIM PENDERGAST: Let me add one thing. We've
11 had some discussion on tier two on whether there's any
12 value to it or not, but let me add one thought to it.
13 It's that outside of the box of 316(b), EPA is
14 encouraging states to develop biological criteria and
15 biological evaluations of the bodies of water to the
16 extent that that's being done, and we expect that there
17 will be some additional statewide or state sponsored
18 studies that will be available for taking a look.

19 Now I know that there's probably a number of
20 commenting that shouldn't be taking a look at that. I
21 understand that. I just wanted to let you folks know
22 that there is a push to have more biological
23 characterization of streams being done and available.
24 We're looking at the extent that we can incorporate
25 that information into the decision process.

26 JIM ELDER: All right. Ms. Kennedy from
27 NRDC.

28 KIT KENNEDY: A comment, and a couple of
29 questions. The comment is as you're aware in many of
30 the states this process of restructuring of the

1 electric industry is going on, and there may be
2 activity on the federal level as well.

3 This raises some important issues for this
4 rule making and for the need for some national parity.
5 It wouldn't be fair to have one state imposing strict
6 316(b) requirements on its utilities, and then have
7 those utilities competing with utilities from another
8 state where 316(b) is not being strictly interpreted or
9 applied.

10 To my mind, that underscores the need for
11 having some uniform technologies. I'm not saying every
12 single plant requires the same technology, but there
13 has to be some awareness in this proceeding that the
14 industry is going to be operated differently, and there
15 needs to be a level playing field.

16 The specific questions are, "Are you coming
17 up with the same framework for existing power plants,
18 and power plants that are seeking initial permitting
19 approvals?"

20 And also, who bears the burden of proof under
21 this framework? For instance on tier two, "Is the
22 water body experiencing adverse environmental impact
23 from impingement or entrainment? Does the state bear
24 the burden of showing adverse environmental impact
25 under your theory, or does the power plant actually
26 show that it is not having an impact, or how does that
27 go?"

28 JIM PENDERGAST: Three things on here.

29 First of all, on the level playing field,
30 that's certainly something we're trying to achieve with
31 having a national framework in terms of what's to be

1 done. But keep in mind that's not also to be used to
2 preclude states where the desire is to be more
3 stringent. We certainly want to make sure that
4 everyone's adhering to what we call the national
5 minimum playing field, and then where necessary and
6 desirable, states can go further from that. I think I
7 heard that in your words.

8 KIT KENNEDY: Right.

9 JIM PENDERGAST: Okay. In terms of dealing
10 with existing versus new plants? That's something we
11 need to take a look at here. Obviously, some
12 technologies are much more expensive on existing
13 facilities versus a new one. The costs are lower if
14 you build it from the ground up. That's something that
15 we will be looking at.

16 On the burden of proof, we tend as the
17 federal government to try to put the burden of proof on
18 the entities that are permitted. The question then also
19 becomes how much information is necessary to satisfy
20 the burden of proof, and that's where I think a lot of
21 discussions are.

22 We do the same thing, for example, on an
23 NPDES permit on the discharge, we ask facilities to
24 disclose what's in their effluent. We ask them to
25 disclose. We don't have to go out and collect that
26 information ourselves. But in that, there's a
27 balancing act in terms of how much information we ask.
28 We certainly don't ask for massive GC runs of 10,000
29 contaminants. We focus on the things which tend to
30 have the greatest concern. The information necessary
31 is the balance on there.

1 JIM ELDER: Okay. John.

2 JOHN TORGAN: We'll stray quickly back to the
3 cost benefit. If this regulation guideline moves
4 forward cost benefits, we would insist that any type of
5 cost test must consider the public trust externalities,
6 such as the effects of commercial and recreation
7 fisheries, and related to cost, not simply putting a
8 dollar value on each individual organisms that are
9 killed in the process.

10 I'd like to just echo what Kit said about the
11 need for national standard and regulations. Under
12 utility deregulation, it's very difficult for
13 environmental groups as representatives of the public,
14 to follow a lot of the technical issues that are going
15 on here. As we are now being hit with a glut of new
16 power proposals, this framework is critically needed.

17 It would be very useful for us to have some
18 uniform standard with which to view new permits and new
19 proposals. We don't have that presently, and I think
20 it would work both ways, both in terms of giving us a
21 level of comfort that we're going to have our natural
22 resources protected, at the same time, avoiding
23 arbitrating capricious input from communities and
24 environmental groups about specific plants and specific
25 technologies.

26 JIM ELDER: Okay. Bill, yet again. Bill is
27 the vacuum.

28 BILL NEAL: Just one more point. In terms of
29 monitoring the water body and essentially having a
30 framework for making decisions, one thing that was said
31 earlier was having reference water bodies to compare.

1 I just want to suggest that that's going to be
2 extremely difficult, because usually if you have
3 something like a large estuary, you're not going to
4 find a large estuary that doesn't have power plants and
5 other industrial users.

6 If you recognize that there is an impact, how
7 do you allocate that impact? How much of it is from
8 non-point source? How much of it's from fishing? How
9 much of it's from point sources, and how much of it is
10 from the power plants cumulatively and individually?
11 It's a very difficult issue. Please keep that in mind
12 in terms of trying to define the reference case.

13 I don't know if I mentioned it, but how do
14 you also know what would have been there, or what had
15 been there in the past, compared to the present state
16 that you observed?

17 Thank you.

18 JIM ELDER: Okay. This is remarkable. We're
19 ending this discussion exactly on time.

20 JIM PENDERGAST: Right.

21 MYRA VAN ROSSUM: Just one final say.

22 JIM ELDER: Oh yes, Myra.

23 MYRA VAN ROSSUM: Real short and quick.

24 There were a lot of comments about the many tiered
25 approach. I just wanted to say to the gentleman from
26 New York, Bill, you said that we would support a two
27 tier approach, which is "Are you impinging and
28 entraining aquatic species?" and if so, look at the
29 best technology available. Because there if you find
30 you're only killing a bucket full of fish, then you are
31 implementing the best technology available. Yet on the

1 other hand, if you're killing millions or billions,
2 then you're not.

3 When you're killing fish, you're having an
4 adverse environmental impact, and we recognize that
5 with fishermen. We've got catch and size limitations
6 on recreational fisherman who catch one or two fish a
7 day. We should definitely at least be having that
8 thought process about cooling water intake structures
9 that are killing millions and millions.

10 JIM ELDER: Thank you for that. Yes, Dr.
11 Dixon.

12 DOUG DIXON: Doug Dixon from EPRI. Just a
13 follow-up on what she said. There's a value judgment
14 that has already been made -- there's a difference
15 between a bucket of fish and a million fish. Just as a
16 lead in to the discussions this afternoon is that,
17 relative to impacts that are occurring, there are
18 definitely losses associated with intakes.

19 But one of the things that needs to be
20 considered with those losses is the ability of the
21 population to compensate for those losses, not to
22 automatically imply that because the numbers are large,
23 that that automatically implies an impact and,
24 necessarily, an adverse impact.

25 Just a final comment, there was some mention
26 about the frustration of dealing with 25 years of data
27 and not being able to find a signal. I don't personally
28 bear that same level of frustration. I believe the
29 tools exist. I believe the science is there to begin
30 to measure the changes that are occurring. I would
31 argue that if you did not see a signal after 25 years

1 studying, maybe this signal is not there and possibly
2 you're looking for the wrong type of signal.

3 JIM ELDER: That comment go unchallenged?

4 Jim, would you like to say anything in
5 conclusion to this morning's session?

6 JIM PENDERGAST: Yes. I'd like to say that's
7 the beauty of scientific debates. Everyone has
8 different views and tries to express it.

9 First I'd like to thank you, not only for
10 being here, but for sharing your thoughts, asking the
11 questions. This is the type of input that we were
12 seeking today.

13 If you think about this, five years ago we
14 wouldn't have a meeting. The interaction would have
15 been on a proposed rule that would have been in the
16 *Federal Register*, and you would have written your
17 comments, most of them in forms of briefs, and we would
18 have dealt with that during the comment period.

19 Hearing the comments now, hearing the
20 thoughts now, helps us to do a number of things. One
21 certainly, better clarify what we mean to say, so
22 that's there's no confusion about that. Second, to the
23 extent that there are issues that are up on the table,
24 to try to address them in the proposal, rather than
25 trying to figure out what you meant to say to us
26 through comments on the proposal.

27 This type of dialogue is something that we've
28 been doing over the last two or three years, this being
29 one example in this rule and in others. We will
30 continue to do this, because we find it's very
31 beneficial, not only for us in trying to figure out

1 what we're going to write, but also for all the
2 stakeholders here to hear what are the concerns, what
3 are the issues and perhaps even be able to jointly
4 collect the data to resolve the issues before it even
5 gets to a drafting stage.

6 With that, I really thank you for being here.
7 I also highly encourage that you do return from lunch.
8 A lot of the questions that you asked we have deferred
9 to the technical discussions later -- will be talked
10 about, and certainly by the right people here to
11 present that.

12 Have a good lunch. See you back here at
13 1:00.

14 (Whereupon, a luncheon recess was taken.)
15

A F T E R N O O N S E S S I O N

1
2
3 JIM ELDER: Could we please take our seats so
4 the meeting can be started. Could we please take our
5 seats? That's great. Thank you. Hope everybody had
6 an enjoyable lunch.

7 We're going to start the second item of
8 discussion with Brad Mahanes. Brad used to be in the
9 Permits Division. Jim Pendergast reminded me he was a
10 nice guy. Now, he's in the Office of Regulatory
11 Enforcement in OECA, Office of Enforcement Compliance
12 Assurance. He works in the Water Enforcement Division.
13 So, here's Brad.

14 BRAD MAHANES: Well, the second discussion
15 issue that you see on your agenda is one that several
16 people have already pointed up as an important issue.
17 Like Jim, I'm going to do a brief overview of the
18 framework that you see in your handout, and then open
19 it up to your input.

20 The primary function of this meeting is to
21 get input from you all. The issue that I'm going to be
22 touching on is defining and accessing adverse
23 environmental impact.

24 When we talk about the context of adverse
25 environmental impact, some of the key elements that we
26 were looking at as we were developing the strawman that
27 you see both for impingement and entrainment, was the
28 concept of minimizing not completely reducing. The
29 concept of a low threshold. Minimization is a low
30 threshold.

1 Focusing on adverse environmental impact is a
2 way of determining what would drive the best technology
3 available. Where there was no adverse environmental
4 impact, what would happen? What would be the next
5 step?

6 That's why you see this framework screening
7 based, first, on certain physical parameters, and then
8 moving straight into the tier two assessment of is
9 there an impact being reflected in the source water
10 body.

11 The way we currently envision this occurring
12 is deployment of a RBP, a rapid bioassessment protocol,
13 both in the source water body nearfield to the intake
14 structure, and then selection and assessment, at an
15 appropriate reference condition, reference site,
16 looking for something that would be a least empiric
17 water that would be comparable to the source water
18 body.

19 In those instances where the source water
20 body did not reflect an adverse environmental impact,
21 the metric that we were looking at right now is some
22 sort of an IBI comparison, Index of Biological
23 Integrity comparison. What that number is right now, we
24 don't know, quite candidly, because this is not a
25 proposal; this is not a final agency action. This is
26 early in the rule making.

27 What we're looking at is some level that
28 says, okay, if you have a delta between the two, if the
29 difference between the two sides is over an acceptable
30 limit, then you need to go to tier three, which is a

1 more detailed, rigorous assessment of the source water
2 and the cooling water intake structure.

3 What's really happening in a multiple series
4 of biological metrics? Not just four or five
5 assemblages, but looking at everything.

6 In the instance where the source water body
7 is not expressing an adverse environmental impact, the
8 protocols that we have out on the street today show
9 relatively vigorous and viable biota in and around the
10 cooling water intake structure. At least the current
11 approach is that we would assume that there is no
12 significant adverse environmental impact.

13 One of the advantages we see to this approach
14 is that the tier three step, which is the very vigorous
15 detailed I think. Dave Bailey has referred to this as
16 the traditional 316(b)-full blown, lots of biologists
17 employed. And being a biologist, I like that.

18 What are the specific contributions to the
19 impairment from the cooling water intake structure?
20 What trophic level is being impaired? What species are
21 being impaired? Is it seasonal impairment? That will
22 drive you to the best selection of the suite of
23 technologies that you're going to deploy to meet BTA.

24 That's about a 45 second synopsis of where
25 we're at with the general approach. The protocols we're
26 looking at, again, are the rapid bioassessment
27 protocols that are out in the public domain from EPA's
28 Office of Science and Technology. They have some
29 recently revised ones.

30 Some of the issues that came up earlier, "Do
31 we envision this as an exclusive and a one size fits

1 all sort of thing?" We think by looking at this type
2 of approach where you do either paired site or pre-
3 operational data for states that have a more rigorous,
4 more mature biocriteria program where they have their
5 own biocriteria to use.

6 It gives you that site specific component and
7 let's you see exactly what's going on. But if states
8 want to use a more stringent approach, if they want to
9 bypass step two, if they want to go to a cropping
10 analysis like what, I understood that's where the state
11 of New York was, certainly states under NPDES have the
12 ability to be more stringent.

13 Likewise, the facilities know that they're
14 going to be causing an impact. If they had located
15 themselves on a primary high productive estuary in the
16 mid-Atlantic, for example, and they know that the
17 source water body is impaired, they may want to skip
18 tier two because it serves no purpose and go straight
19 into a tier three analysis.

20 That's basically a summary. You all can read
21 the framework. I'm really more interested in hearing
22 your comments specifically about the approach, about
23 problems, about advantages and disadvantages.

24 JIM ELDER: I'm back up. Okay. Jerry.

25 JERRY SCHWARTZ: This isn't going to help you
26 Brad, because I actually have one more question for
27 you, if you don't mind.

28 BRAD MAHANES: Okay.

29 JERRY SCHWARTZ: There are some of us that
30 may be less well versed than others in the state of the
31 art or state of play, if you will, about biological

1 indicators and those kinds of things. It might help
2 maybe get the discussion going a little bit more if you
3 could just talk a little bit about where the science is
4 on that or where we are on these indicators.

5 You referenced a couple of protocols. Again,
6 I'm not familiar with them. I don't know if other
7 folks are, but it might help if you address those a
8 little bit. We might get the discussion going.

9 BRAD MAHANES: Okay. To be brief. The
10 protocols would drive you to do a series of assessments
11 in water body assessments. You look at the nearfield
12 site around your cooling water intake structure, and
13 you're going to look at a different set of series of
14 assemblages.

15 You're going to look at periphyton, and
16 you're going to look at the creatures that live in and
17 along the bottom of the stream. You're going to look
18 at the biota that's in the mid-water column. And then
19 you're going to go to a reference condition.

20 A least impaired site, that's going to be
21 similar. Some of the things that I mentioned earlier
22 are, for example, for nuclear power sites after NEPA,
23 there was a fairly rigorous safety analysis report done
24 that generally captured a lot of that sort of
25 information.

26 If you've got good 'pre-op' data, you could
27 use that. But anyway, you do a comparison of the two.
28 Then there's indices that you assign to the two
29 studies, and you compare the two of them together, and
30 that gives you a relative indication of departure from
31 a least impaired state. The science, at least in

1 several instances, in small streams and rivers, is
2 pretty good.

3 The biocriteria approach is one of the few
4 tools that's out there right now that, while it may not
5 fix all the problems, has been peer reviewed. It has
6 been endorsed by the Science Advisory Board and is the
7 protocol that a number of states are moving through now
8 as they incorporate it into their designated uses, and
9 the Agency's moving forward with as a method of
10 measuring relative health in eco-regions and water
11 sheds.

12 Does that help? That's sort of simplistic,
13 but I could do a week up here on it.

14 JIM ELDER: Don't do that.

15 JERRY SCHWARTZ: What made me think of it is
16 that I know that ANPRM is out and its talking about
17 moving more toward the biocriteria approach. I was
18 trying to get a sense of how this connects up with
19 that.

20 BRAD MAHANES: Right. In all candor, this is
21 one of the few times where we really are trying to
22 coordinate a few things.

23 I know, it sounds unbelievable, doesn't it?
24 But we are trying to coordinate the water quality
25 standards, ANPRM and the issues that are being brought
26 forth there with the biocriteria plan and the further
27 development of biocriteria, and how that is implemented
28 across the country and the 316(b) rule making.

29 There's some sort of coherency as to how
30 these three interact. In fact, the biocriteria
31 steering committee is aware of and working with us on

1 the 316(b) rule making. Several of us sit on the other
2 work groups to provide that communication link.

3 JIM ELDER: Jerry, does that answer your
4 question?

5 JERRY SCHWARTZ: Thank you.

6 JIM ELDER: I believe Cara was next, from
7 Scenic Hudson.

8 CARA LEE: My question was along the same
9 lines. When you're talking about this, prospectively,
10 I would assume that this is not something that is being
11 used now for cooling water intakes.

12 I'm familiar with the use of biological
13 indicators and integrity indices for pollutants, but
14 has it yet been applied to the impact associated with
15 cooling water or with cooling intakes?

16 BRAD MAHANES: It has not, to my knowledge,
17 been applied yet. There are several facilities on the
18 west coast that are beginning to explore this approach,
19 and NMFS is actually working with us at one of those
20 facilities to use a biocriteria-based approach to
21 determine the relative degree of adverse impact and the
22 zone of impact.

23 CARA LEE: I'm having a hard time
24 understanding how this technique would be applied to
25 this kinds of impact; it seems like quite a jump to me.

26 BRAD MAHANES: Well, actually it's not. In
27 fact, in the biocriteria guidance, and in some of the
28 earlier documents in the mid '80s and early '90s, the
29 concept of water withdrawal, primarily for irrigated
30 agriculture, but also for cooling water intakes, was
31 viewed appropriate for biocriteria.

1 So this is not something that we dreamed up
2 out of the blue. We did see that this was an
3 appropriate tool, and again, you're looking at
4 assessing the relative health of a site in the
5 nearfield around the cooling water intake structure and
6 the referenced condition in comparing the two.

7 CARA LEE: One of the problems I'm having is
8 this morning there was discussion about whether it was
9 appropriate to be looking at population and population
10 modeling. In contrast to what you're talking about,
11 it's looking at the nearfield of the intake itself.

12 It seems like those are divergent approaches,
13 and I'm wondering if the application of this process or
14 technique will be subject to some other either rule
15 making or process outside this, or whether this will be
16 the forum for discussing the application of that
17 analysis?

18 BRAD MAHANES: I'm not sure I followed you
19 there.

20 CARA LEE: What I want to know is whether the
21 decision to apply these techniques will be made in this
22 forum or some where else?

23 BRAD MAHANES: For this rule making, the
24 decisions to apply these techniques will be made within
25 the concept or construct of this rule making. We won't
26 make them. Like any EPA rule making, we'll make our
27 recommendations to senior management, brief them up.
28 They will have their preferred options. We'll public
29 notice that in the proposed rule, take comment, and
30 then it will go through a similar fashion for final
31 Agency action, whatever that may be. But they would be

1 germane to the cooling water intake structure
2 implementing regulations.

3 JIM ELDER: So, if you're answering this, it
4 would be intrinsic to the final Agency action.

5 BRAD MAHANES: For a cooling water intake
6 structure, if you're getting regulations, yes.

7 JIM ELDER: Maya Van Rossum, Delaware
8 Riverkeeper.

9 MAYA VAN ROSSUM: I was hoping to ask two
10 questions before I have to leave for my train. One
11 question, you were talking about --

12 JIM ELDER: Is that entrain?

13 MAYA VAN ROSSUM: You were talking about the
14 reference site, and what I'm trying to get a handle on
15 is, you've got a waterway where you've got an intake
16 that's been operating for 20 years and been killing
17 millions and billions of fish for 20 years.

18 Recognizing that fish swim around, how are
19 you going to find a reference site that's not been
20 disturbed by that cooling water intake within that
21 water body or that arena that will be a comparable
22 reference site?

23 BRAD MAHANES: That question comes up, not
24 just specific to intake structures, that's also true,
25 with effluent dischargers that have been there since
26 1920 or 1930. How do you come up with a reference
27 site? You move to a parallel site, a site that has the
28 least impaired condition.

29 If you don't have that, if you don't have
30 pre-operational data, if you don't have historical
31 data, then you begin to generate what would be expected

1 as the conditions. The criteria that you expect to see
2 in a least impaired water body of that type in that
3 eco-region.

4 Is that the preferred option? No, that's the
5 least preferred option, but that is one. It's a BPJ,
6 or best professional judgment type of approach, and the
7 bio-assessment protocols lay out the hierarchy of
8 options to use and the rationale of why one is
9 preferred and one is least preferred.

10 I want to stress one thing. We recognize,
11 one, this is very early in the rule making. And we
12 also realize that this is not the perfect tool to fit
13 every single cooling water intake structure. But like
14 any tool, you have to dig in the box and find the best
15 one, at least for a national consistency, that fits the
16 most, the greatest number of facilities at one time.

17 To the extent that all you all can provide
18 input at how we can use a different approach or
19 alternate approaches, because that is what this about.
20 But this approach seems, at least from a number of
21 people that have been in the biocriteria business for a
22 while, to have a relative amount of merit, because it
23 gets to some of the key points that you see in the
24 statutory language.

25 Some folks said there was a real paucity of
26 legislative history, and that is correct. I'm a
27 biologist, so I can get away with making some of these
28 statements, but I see my attorney cringe.

29 The language says, minimize adverse impact.
30 So from a biologist's point of view, this is getting at
31 that. That's what biocriteria do. They assess the

1 relative health of the water body at a number of
2 assemblages, not just fin fish. Not just benthic but
3 it looks at a number of them and pulls them together to
4 give you a sense of is there a balanced community, a
5 viable community in and around the intake structure
6 based on the least impaired condition.

7 MYRA VAN ROSSUM: And my other question is
8 just -- is my interpretation and way of doing this
9 correct? It seems to me that nowhere within your
10 framework do you allow for the concept that the taking
11 of fish, in and of themselves. Particularly, let's say,
12 talking large numbers of fish, just looking at the
13 absolute number of fish taken that that nowhere gets
14 factored into this definition of adverse environmental
15 impact alone.

16 Recognize, I can only do this by example, but
17 I was throwing out numbers earlier, looking at the
18 concept that there's a facility in the Delaware estuary
19 that takes 17 million pounds of bay anchovy a year.

20 Now, nowhere, knowing that's not absolutely
21 precise, but nowhere - is it more than that. Nowhere in
22 your definition can that in and of itself, we can look
23 at that number and say, wow, that's a whole lot of
24 fish. That's an adverse environmental impact.

25 That doesn't get recognized or factored into
26 this anywhere; is that correct? Am I not asking my
27 question well enough?

28 BRAD MAHANES: No, the most simplistic answer
29 would be, you're correct. But that's not accurate
30 because it is considered. It's considered, to the
31 extent that the cropping of 17 million pounds of bay

1 anchovy, which is an important resource in the Delaware
2 estuary, in fact, that's probably around 10 percent of
3 the standing stock, if I'm not mistaken, would be
4 considered in the overall analysis of the comparison
5 between the reference condition and the site near the
6 cooling water intake structure to the extent that you
7 exceeded what we would determine would be the
8 appropriate difference in biological integrity that
9 would be considered.

10 If, in fact, the state had determined that
11 the resource could withstand 10 percent of the biology,
12 supported the fact that it could withstand 10 percent,
13 then it would be considered, but it would be accepted.
14 And where we are on drawing that line, we're not there
15 yet. This is an approach.

16 MYRA VAN ROSSUM: For the record, I just have
17 to say that that kind of approach that doesn't look at
18 the taking of fish as an adverse impact in and of
19 itself is rather offensive.

20 BRAD MAHANES: Thank you.

21 MYRA VAN ROSSUM: Sorry to have to leave on
22 such a negative note.

23 JIM ELDER: To any degree.

24 MYRA VAN ROSSUM: Yeah.

25 JIM ELDER: Even the bucket full analogy that
26 we've talked about.

27 MYRA VAN ROSSUM: We all have to recognize,
28 and I myself will say, that when you're talking about a
29 bucket full and when you're talking about thousands,
30 even millions, yes, there is that comparison, but
31 conceptually, to not look at that and say that is an

1 adverse environmental impact that needs to be
2 considered.

3 Again, addressing the bucket full versus the
4 millions in the best technology available aspect of the
5 equation. That's where that would get taken into
6 consideration.

7 BRAD MAHANES: To follow-up for a second, I
8 know we're not going to do point, counter-point. I
9 listened to it this morning. I'm going to get my shot
10 in this afternoon.

11 Is that properly done, this approach allows
12 the biology to speak for itself. It doesn't have a set
13 number, that 16,990 pounds of bay anchovy is okay, and
14 17,000 pounds of bay anchovy is bad. It doesn't do
15 that.

16 It says, what is going on in the water
17 column? What is the biology telling us? It allows the
18 environment, in the degree to which it expresses its
19 adverse impact, to speak, as opposed to some sort of
20 quantitative metric that may or may not have any real
21 meaning in the overall community structure that's
22 around that cooling water intake.

23 MYRA VAN ROSSUM: I feel that those issues
24 are better addressed within the context of the best
25 technology available discussion.

26 BRAD MAHANES: Okay.

27 MYRA VAN ROSSUM: Not early on, not knocking
28 everybody out of the box early on. And in large part
29 due to a lot of the issues that were raised earlier
30 with regards to our ability on the scientific level.

31 BRAD MAHANES: Okay.

1 MYRA VAN ROSSUM: I know other people want to
2 speak.

3 JIM ELDER: Kit, I've seen your hand, but Mr.
4 Delgado has been standing for some time.

5 RICHARD DELGADO: Thank you. I wanted to
6 talk about these RBPs. I agree conceptually on a rapid
7 biological-protocol. Bioassessment protocol certainly
8 can incorporate a population effect, but I think we
9 have to realize that today there's a difference between
10 protocols that we're ready to use today and the ability
11 to make that type of judgment.

12 Today, the protocols that we have are
13 directed primarily at looking at ecosystem health
14 defined in terms of biological diversity. So we may be
15 able to deal with this by developing new protocols or
16 breaking the protocols with this question. But in terms
17 of what I'll call the really developed tools, I don't
18 think the RBPs are developed to address that question
19 as we have it today.

20 Maybe EPA can work on that at the same time
21 that they're dealing with this, with a proposed rule
22 making. That's the question that we have to realize.
23 We have to address it for most of our steam electric
24 facilities or most of our big cooling water intakes.

25 What is the impact upon populations in
26 affected waters of living organisms? We need something
27 that gets us most of the time to a population type of
28 impact and a judgment as to whether that's acceptable.
29 We have to do that, obviously, before we have a crash,
30 or hopefully, we do that before what we have what we
31 would call a crash.

1 JIM ELDER: Do you have anything to add about
2 some of the scientific work EPA has underway?

3 BRAD MAHANES: I'm not sure that you all are
4 aware. We've just revised the small streams and rivers
5 RBP, and there are currently underway developments for
6 arbitrating protocols for estuaries and large rivers.
7 So, Rich, you speak to a good point. They are doing
8 that now. They are looking at incorporating land use
9 components and things like that into the protocol
10 analysis methodologies.

11 JIM ELDER: Thanks. Okay, Kit?

12 KIT KENNEDY: Now as I think you heard from
13 the discussion this morning, the environmental groups
14 have a fundamental disagreement with this approach as
15 it's laid out here, and here's just a question or
16 comment, which it was sensitive to get at, why the
17 system doesn't work for us.

18 Say you had two power plants. One on a
19 productive estuary where fish populations were high,
20 but fish are also valued both as a fishing resource and
21 as a recreational resource. You have a similar power
22 plant on another estuary, but this estuary is highly
23 impaired. It's struggling to survive. Fish
24 populations are low and are in danger of being wiped
25 out or are struggling to make a comeback.

26 Say there is a technology that could be
27 installed at both plants that could reduce impingement
28 and entrainment impact by 90 percent. And just for the
29 purposes of this example, say that the technology is
30 not wholly disproportionate, however you want to

1 measure that. It seems to me you would want to have
2 the same results at both of those plants.

3 You'd want to install the technology that
4 would reduce the impact at both plants by 90 percent,
5 regardless of whether you have the healthy estuary or
6 the impaired estuary. They both need help. The
7 healthy estuary needs help because those fish are
8 highly valued. It's doing well; you don't want to send
9 that backwards. And the impaired estuary needs help
10 because it's struggling to survive.

11 But it seems to me that under your bio-
12 criteria framework, you'd come up with different
13 results for those two estuaries or am I missing
14 something?

15 BRAD MAHANES: Well, I think one of the keys
16 that maybe I didn't - you probably didn't miss it, I
17 probably didn't explain it well, is for that impaired
18 estuary. Let's go back to the standard discharger
19 type, the effluent type. An impaired water body,
20 that's not an acceptable use. If the designated use is
21 more robust, it's more pristine. That's why we don't
22 use an exact paired site.

23 You don't go to an equally impaired water.
24 You go to a least impaired water, which means that
25 impaired water body is going to have some room to
26 recover.

27 KIT KENNEDY: So you're saying that you might
28 do more for the impaired estuary than for the healthy
29 estuary?

30 BRAD MAHANES: It would depend on what the
31 facility was. What's the technology? Are they

1 comparable, identical facilities? Are the water bodies
2 exactly the same? Yeah, possibly.

3 KIT KENNEDY: I don't understand that,
4 because I don't understand why you take into account
5 the health of the estuary. Healthy estuaries need
6 protection; failing estuaries need protection.

7 If there's technology which is going to
8 reduce the impact at both plants, why don't you just go
9 to the technology step? Why are you concerned with an
10 assessment of whether the populations are flourishing?

11 BRAD MAHANES: Because at least the current
12 interpretation we have is that's the mandate we were
13 given. It's not for every cooling water intake
14 structure to deploy a best technology available. It's
15 deploy a best technology available that minimizes the
16 adverse environmental impact.

17 I understand your position. I understand it
18 well. I just want you to understand our rationale, and
19 that's the reason for the development of this approach.
20 It's because we saw reading in to, to; there was a BTA
21 to minimize the adverse impact, so that was a very
22 important component of any analysis. In fact, perhaps
23 even the threshold question.

24 KIT KENNEDY: Even if you accept that as your
25 mission, it seems to me then, in both cases, you want
26 to put the technology in, because the adverse impact in
27 one case, even if you have a flourishing estuary with a
28 lot of fish, if you're going to have a use that's going
29 to reduce those fish populations, you would want to put
30 the technology in. I'm just struggling with why it

1 makes a difference whether the estuary is doing well or
2 not.

3 BRAD MAHANES: Well, what matters is, is
4 there an adverse environmental impact, and the way you
5 measure those, you compare what's going on at the site
6 today with the least impaired reference condition.
7 Where there is a large difference between the two, you
8 have an adverse environmental impact, so you deploy the
9 BTA to address that impact.

10 That's basically it. I don't understand; I'm
11 having a hard time...

12 JIM ELDER: Well, let me attempt. I think the
13 issue you're raising is what is the proper starting
14 point. Should you think in terms of technology first,
15 or should you make some assessment about biological
16 conditions first?

17 KIT KENNEDY: That's right. What I hear you
18 say, and perhaps I'm mishearing you, is that if you,
19 have a river that's doing well, that is then shunted
20 out of the 316 box. You don't have to worry about it,
21 unless you can make some sort of demonstration.

22 BRAD MAHANES: I would state that
23 differently. At a cooling water intake structure, you
24 do an analysis of the river, of the near-field study.
25 And essentially, you can not find an expression of
26 adverse environmental impact.

27 KIT KENNEDY: In terms of what? In terms of
28 population levels?

29 BRAD MAHANES: In terms of overall community
30 structure and health.

1 JIM ELDER: Whatever, I think Brad's saying,
2 whatever criteria you would want to apply at that
3 point.

4 BRAD MAHANES: Yeah. We haven't locked that
5 down, but generally the sort of references that we're
6 working off of now are abundance and diversity of your
7 major assemblages. How many shredders do you have?
8 What's your periphyton density? Things like that. I
9 didn't want to, particularly, get into the full, long
10 discussion of rapid bioassessment for any particular
11 site today.

12 But the overall idea was, you would use the
13 RBP protocols and determine what is the relative health
14 of the communities in and around the intake structure,
15 compare it to a relatively unimpaired or least impaired
16 reference condition, and where that difference was
17 high, that was essentially our default definition of
18 adverse environmental impact.

19 So you took that information, particularly,
20 because I told you what types of technologies you would
21 need to deploy. If your predominant impact is through
22 entrainment of larvae, it's going to be different than
23 if your predominant impact is the impingement of mature
24 fin fish.

25 So you use that, and you deploy the BTA.
26 They install it, and as Jim spoke earlier, there's a
27 continuing monitoring component to assess the efficacy
28 of the BTA that's been deployed. Again it gets to the
29 question of is there an adverse environmental impact?

30 If you do an assessment and you find no
31 difference between the area of the cooling water intake

1 structure and the least impaired reference condition,
2 for the purposes at least of the straw proposal, that's
3 a definition of no adverse environmental impact. Then
4 the question arises, what additional technologies would
5 you expect to be deployed and why?

6 KIT KENNEDY: I guess I'm saying, you have
7 this area which Maya referred to where there are a
8 couple of problems. One is, taking that site and
9 comparing it to some hypothetical other site is very
10 difficult to do, and that's easy to manipulate.

11 Two, say you do a comparison and you don't
12 find a difference in population level, yet you know
13 that that power plant is killing millions of fish.
14 Those fish have a value recreationally too,
15 commercially, if there's a commercial fishery, and yet
16 you're not accounting for them. And if you have a
17 technology which can reduce the kill, why aren't you
18 using it? I guess we're talking past each other.

19 BRAD MAHANES: No, I understand.

20 KIT KENNEDY: Yeah.

21 BRAD MAHANES: And that was an alternate
22 approach that we looked at. It's not laid out here,
23 and that was the cropping approach.

24 Just how many pounds of bio are you taking at
25 your intake screen, either sucking it through or
26 straining it out? What's the value of that? That has
27 it's own set of advantages and disadvantages. It's not
28 one that we were aggressively pursuing, but to the
29 extent that you can provide additional support for that
30 approach, we'd certainly further pursue it.

1 I mean, I'm not blowing you off. We went down
2 that road earlier. We found a lot of problems, a lot
3 more problems than we did with this one, but if you can
4 give us insight and better guidance on this or any
5 other alternate approach, that's why we're here today.

6 JIM ELDER: Okay. William? And Richard will
7 come back then.

8 WILLIAM SARBELLO: We still have the same
9 problem in terms of we view 316 as being a technology-
10 driven, standards approach. Going back to tier one
11 here, I understand that this is just a first cut. But
12 some of the screening criteria that you're using is, is
13 it an area of endangered or threatened species?

14 We can agree with that, but the logical
15 extension of that is if you haven't driven something to
16 the edge of extinction, you don't care. We're very
17 concerned about keeping the populations healthy so that
18 they not only don't get to that point, but that they're
19 thriving and abundant and provide a variety of uses to
20 all sorts of users. It's one fundamental problem.

21 The second one is that in terms of the rapid
22 bio-assessment measures, and you may have something
23 that's good, but just some of them that I am familiar
24 with, they tend to be again pollution oriented. They
25 tend to deal with sessile organisms. You can go in
26 there and kick sample caddis flies and those kinds of
27 things.

28 They are organisms that are staying put, and
29 they're generally exposed to the pollution over a long
30 periods of time, so you can pick up episodic, pollution
31 events will have an effect on diversity and abundance.

1 That's not the situation here with the
2 cooling water intakes. In a lot of cases, particularly
3 for the really big ones, they're on really large water
4 systems. A lot of them are on open systems, estuarine
5 systems. You're really looking at coast-wide
6 populations with multiple sources of reproduction.

7 It's going to be extremely difficult, even if
8 you saw effects in age structures. What's the cause?
9 What's the causality? Is it this particular plant or
10 not?

11 And again, it's going to be, unless you've
12 got something really good up your sleeve, it's going to
13 be a major, major different type of logic because
14 you're looking at population impacts over a variety of
15 interacting species and then the interactions of those
16 species.

17 It is different from what's been done with a
18 lot of the rapid biological assessment issues. And the
19 last thing, I alluded to this before, but what is the
20 reference condition? What other Chesapeake Bays do we
21 have to compare against? A lot of the systems are
22 large enough in magnitude.

23 Even if you have a Great Lake, do you compare
24 it to another Great Lake? They have very different
25 ecologies. It may work fine for smaller rivers and
26 smaller order streams. There you may be able to find
27 the reference cases before your largest magnitude
28 impacts, but on your largest and most complex water
29 bodies, I think you're going to have a problem finding
30 your reference case. Thank you.

1 JIM ELDER: Okay. Mr. Delgado? Oh, I'm
2 sorry. Richard, just one second. Let's go to David
3 first.

4 DAVID BAILEY: Thank you. A number of
5 responses in terms of your points, Brad.

6 First of all, we would very much endorse a
7 criteria such as a vigorous, thriving and abundant
8 population of fish in the vicinity of a facility as a
9 good indicator of health and as an absence of an
10 indication of impingement and entrainment impact.
11 That's exactly the parameter that ought to be
12 considered right up front in terms of making decisions.

13 However, I would tend to agree with some
14 others in terms of the point on the rapid bio-
15 assessment, not to say that it may not be an applicable
16 tool. It may be and should be considered in the bag of
17 possible tools to apply. We would just encourage the
18 rule to allow for other kinds of tools as well.

19 For many of our facilities, very extensive
20 historical work has been done, for example. To the
21 extent that we can show that that work remains relevant
22 in terms of current facility operating circumstances
23 and water quality conditions, we think that should be
24 utilized as part of the decision making up front.

25 In terms of paired sites or criteria, again
26 that may be useful, but I would encourage not
27 necessarily limiting the decision to that test. For
28 example, circumstances may be such that a facility can
29 show, based on the way it's designed or where it's
30 located, that it's not a reasonable threat to the
31 biological community it's withdrawing water from.

1 The weight of that evidence could supersede
2 in terms of making a reasonable decision that the
3 facility does not make a risk without going through
4 biological assessment, for example.

5 It may, for example, draw water from an
6 anoxic lower part of the water column, where reasonably
7 there's not going to be viable populations of fish
8 larvae or eggs that are going to be at risk in that
9 circumstance.

10 And finally, I'd like to get at the point
11 regarding individual entrainment numbers as a test, as
12 opposed to what should constitute adverse impact. We
13 really think the focus needs to be on population level
14 effects or social impacts to other uses of the water,
15 such as commercial, recreationally important species.

16 What we recognize is that most fish
17 populations have large compensatory mechanisms so that
18 cropping of individuals particularly at early life
19 stages, (eggs are yolk and sac larvae for example)
20 where larger numbers often occur, will not have any
21 measurable impact on the number of adult fish and may
22 not have any impact whatsoever on ecosystem pointers.

23 We know that capability exists in science.
24 We see it at work all the time, and that really speaks
25 to keeping the focus on the population impacts and the
26 integrity, the viability of the system, as you
27 appropriately identified, as opposed to keeping the
28 focus on numbers of individuals entrained, where a lot
29 of money could be spent to eliminate that. One would
30 see no change in terms of ecosystem function, and one
31 may see no change in the size of the population or the

1 harvest of the fish that are withdrawn from that
2 population.

3 BRAD MAHANES: One thing, just to respond to
4 your first point, the example you gave where the intake
5 was, let's say, located in the relatively anoxic zone
6 or located out in the relatively bio-sparse
7 environment. Those are the sorts of things that we
8 envision, eventually, will go into the tier one
9 screener criteria. You're right.

10 Someone said this was a first cut, it was and
11 it shows. But that's the sort of input that, ideally,
12 at final Agency action have polished, so that that sort
13 of facility would not have to go through this because
14 there is almost no potential for adverse environmental
15 impact.

16 DAVID BAILEY: Right. And we would endorse
17 that. We see that as what we're talking about in terms
18 of the holistic approach.

19 JIM ELDER: Okay. Dr. Dixon we would like to
20 defer for a second.

21 DOUGLAS DIXON: Okay. Thank you.

22 JIM ELDER: Briefly, Mr. Delgado and then the
23 gentleman behind him. We're coming up on 2:00, and we
24 have another topic yet to be discussed. We're going to
25 have to start thinking shorter term on this particular
26 topic.

27 RICHARD DELGADO: Okay. If we're looking at
28 referenced conditions for large estuaries, I just want
29 to make the point that's been made already. We don't
30 generally have reference water bodies for our big
31 waterways.

1 We don't have another Delaware estuary. We
2 don't have another Chesapeake estuary. We don't have
3 another Narragansett Bay. We don't have another Hudson
4 estuary to look at.

5 In terms of the analysis that we should be
6 thinking of, my opinion is we really need for these
7 facilities - we really need to be thinking of both the
8 environmental assessment and the technological
9 assessment.

10 The next thing that we need to do is think
11 about how we're going to integrate them in an
12 intelligent way. The engineer needs to know something
13 from the biologist. The biologist, before he goes out
14 and starts looking at fish, hopefully, is going to have
15 to understand what kind of information is going to be
16 useful to the engineer that's going to be looking at
17 technologies.

18 I really suggest to you that we need to think
19 about how we're going to bring those two disciplines
20 together, to get the people talking, and to get a
21 result that's going to have everybody happy at the end,
22 or less likely to have the engineer to say, well, you
23 should have told me about this, or the biologist
24 saying, well, you never asked about this fish.

25 The third thing I'd like to visit on is this
26 issue of compensation. We can find instances where
27 compensation does occur. But I want to suggest that we
28 need to be very, very careful with this one if you find
29 a couple instances where it occurs, this doesn't mean
30 that you can, scientifically, assume that it occurs
31 everywhere.

1 As regulatory agencies, it's appropriate for
2 us to stick to something that's scientifically
3 defensible, and this is an area where we can lead
4 ourselves into areas where, if we start extending what
5 we know, we are going to be getting into a lot of
6 trouble.

7 So in terms of that issue of compensation, we
8 need to make sure if we're relying upon that mechanism
9 occurring, that we have some strong scientific evidence
10 to show that it will occur in that instance that we're
11 dealing with.

12 JIM ELDER: Thank you. We'll also defer
13 monetary compensation for later.

14 Sir, do you have a name tag? I can't read
15 it, so please identify yourself.

16 BRIAN ROTHSCHILD: Thank you. My name is
17 Brian Rothschild, and I've been advising UWAG, and my
18 specialty is population dynamics.

19 I'd like to make the point, number one, that
20 in assessing impact, it's very reasonable to look at a
21 particular target populations.

22 Number two, it's much more important to look
23 at populations than to look at the numbers of fish
24 killed. And the reason for that is that the numbers of
25 fish killed is an incomplete measure of what's actually
26 happening to the population.

27 Because of that, particularly, because of
28 that, it's very important to look at the compensation,
29 because compensation is, after all, a property of
30 populations.

1 Now you might say, and no one has addressed
2 this, what is compensation? How does it work?
3 Compensation is the phenomenon that all natural
4 populations have, which is when a particular population
5 has a relatively low level, it increases its fecundity,
6 it decreases its survival rate, increases its mortality
7 rate. The reverse is true.

8 To think about compensation, just think of
9 the fact that most fish populations have fecundities of
10 millions of eggs, and the resultant recruitment from
11 those populations varies by a factor of only five to
12 ten. So the potential variability in a population is
13 millions, but the actual variability is five to ten.
14 That's compensation.

15 Responding to the comments by Mr. Delgado,
16 it's a well known proposition in the theory of
17 population dynamics that all populations have a
18 significant amount of compensation, and if you don't
19 believe that and you think about it, you'll see that if
20 they didn't have that compensation, then they would
21 almost immediately either collapse to zero or explode
22 to infinity.

23 So in the short time available, I would like
24 to leave you with the idea that the compensation effect
25 is probably most important at the entrainment stage,
26 and so compensation at the entrainment stage with eggs
27 and larvae may have some very counter-intuitive
28 effects.

29 You can not count the number of larvae and
30 translate that into the number of adults. It's well
31 known, again, that it doesn't work that way.

1 So to summarize, only population level
2 assessments reveal the true impacts. These are not
3 necessarily always a negative. If we don't take account
4 of populations and compensation then, after all, what
5 this is going to do is in this process lead to improper
6 and inaccurate assessments of impact. Thank you very
7 much.

8 JIM ELDER: Okay. Doug Dixon?

9 DOUG DIXON: Yeah. A couple of follow-up
10 points relative to that. First thing, as far as the
11 life stage that's being impacted, we've bantered about
12 the term "fish". I think we should know what we mean
13 by "fish".

14 For the most part, with exceptions, there are
15 exceptions, the impacts occur at the very early life
16 stage in the fish life cycle. There's the eggs,
17 larvae, early juvenile, [inaudible] juvenile and
18 [inaudible] juveniles.

19 There is a very weak correlation between the
20 number of early life stages and adults. And the reason
21 for that is because of the tremendous losses that occur
22 that are variable from year to year with the early life
23 stages.

24 It also further demonstrates the ability of a
25 population to compensate. It was mentioned earlier
26 that whether or not compensation occurs [inaudible] it
27 is fundamental aspect of fisheries biology. It's a
28 fundamental aspect of any population on this planet.

29 Certain species have much greater abilities
30 to compensate than other species. But it's essential.
31 It is fundamental. It happens in your fish tank at

1 your home. You put a lot of fish in a tank; some of
2 the fish die due to loss of oxygen. They don't grow as
3 well. Take some of the fish out, some of those fish
4 get real big. That is a basic demonstration of what
5 compensation is all about.

6 And finally, the other point I wanted to make
7 is that we spoke earlier about the bucket of fish and
8 the millions of fish. I ask this question first, how
9 many fish are in the bucket?

10 If we're talking about adult fish, there
11 aren't many. If we're talking about juveniles and
12 eggs, there's a lot. But the real point is that
13 somewhere between that bucket and the millions of fish,
14 there is some value judgment being made.

15 The scientific community can tell you or can
16 help in defining what is the change to a population.
17 Whether or not that change is adverse is not up to
18 scientists. That needs to be determined by our social
19 structure.

20 In the Pacific Northwest, we have an effort
21 right now to remove squaw fish, an active effort to
22 remove squaw fish. It is an indigenous population to
23 the Columbia River, and yet it is not an adverse
24 impact.

25 JIM ELDER: By someone's definition.

26 DOUGLAS DIXON: By a stake holder's
27 definition. The important thing is that there is a
28 very important value component to the term adverse.

29 JIM ELDER: The next person is Ed Radle from
30 New York State.

1 ED RADLE: I can agree with you, Doug, in
2 terms of the mortality on the squaw fish, if it's
3 management induced, we believe that is a legitimate
4 mortality. Beyond that, we do not agree that the
5 mortality is insignificant relative to compensation.

6 The number right now is 17 out of 20 of the
7 major fisheries in the world are on their knees begging
8 for help. That tells me all I need to know about
9 compensation.

10 In terms of the mortality not having any
11 effect, the fact that we can't detect the signal, the
12 fact that we can't sort it out from the background
13 noise is no way an indication that it doesn't exist.
14 These populations have resilience for a reason. They
15 evolve with that resilience so that when the
16 environment turns against them, they have a chance to
17 survive.

18 If we use that resilience up at a power plant
19 intake, those populations aren't going to survive.
20 They aren't going to thrive in the face of
21 environmental adversity.

22 And finally, the concept of having a thriving
23 population so you're less concerned, that seems to me
24 consistent with our efforts to drive everything to the
25 lowest common denominator. It's just not right.

26 JIM ELDER: Let Doug respond first.

27 DOUGLAS DIXON: Yeah. It's not a
28 point/counter-point thing, but I did not make the
29 statement that there's no effects.

30 JIM ELDER: You started this, by the way.
31 All right, you two.

1 DOUGLAS DIXON: No, I did not make the
2 statement that there would be no effect. The point I
3 was making is that the compensatory process needs to be
4 evaluated during the process of determining the impact,
5 because the magnitude of the numbers don't necessarily
6 imply an impact.

7 JIM ELDER: Bill? Of course, again, no
8 point/counter-point.

9 BILL WEMHOFF: Yeah. No point/counter-point.
10 Part of that is that, we think, where you do the
11 evaluation should be a part of the BTA analysis, not
12 just as an initial screen as to whether or not you use
13 the technologies.

14 What you're really talking about is a
15 resource allocation decision, and it's the same as if
16 you had the ability for a system to absorb copper, for
17 example, as a pollutant. How do you allocate that
18 load?

19 If you go with a technology-based standard,
20 you say, if its reasonable, we're going to have
21 everybody use a standard that doesn't put out the
22 maximum amount of copper so that the system is barely
23 able to tolerate it.

24 We'll cut everybody to a reasonable level
25 consistent with reasonable costs and have a healthier
26 system out there. It's the same thing with 316. As we
27 feel that if the technologies are reasonable and
28 effective, and again, if you have to have an impact, if
29 you're not impinging or entraining any fish, no, you
30 don't have to do something about it.

1 But if there is an impact, then we think you
2 need to go to assessing what is the reasonable
3 technology? What is the BTA, rather than, as I said
4 earlier, figuring that the users are entitled to kill
5 the fish just because it can't be demonstrated that the
6 population is on the verge of an unhealthy condition,
7 let's say.

8 JIM ELDER: Brad, would you like to make any
9 final comments before we turn this over to Deborah? Or
10 do you want to get out while you're somewhat ahead?

11 BRAD MAHANES: No. You said, we're accepting
12 comments till the 20th?

13 JIM ELDER: July 20th.

14 BRAD MAHANES: And to the extent that you all
15 can capture some of these thoughts in writing,
16 particularly where you can be very specific, that's
17 going to be most helpful to us. Seriously, thank you
18 for your input.

19 JIM ELDER: Thank you. All right. Next topic
20 is Plant Characteristics, and Senior Project Officer,
21 Deborah Nagle, will be opening up that discussion.

22 DEBORAH NAGLE: I have to give you a chance
23 to move [inaudible] here.

24 SPEAKER: [inaudible]

25 DEBORAH NAGLE: After I get done talking,
26 there will be a break so you can [inaudible] Can
27 everyone hear me if I talk from here? Yes or no in the
28 back? All right. All right. If you can't hear me,
29 raise your hand, and I'll try and go back.

30 We talked in our general framework, Jim laid
31 that out earlier and Brad, essentially, discussed tier

1 two. It's a three tier process we've laid out, and the
2 next topic that I'm going to talk about is plant
3 characteristics and how do plant characteristics play
4 into how we feel this framework's going to play out.

5 When we're looking at plant characteristics,
6 we go right back to the statute, and we focus in on the
7 cooling water intake structure.

8 There are four elements in the cooling water
9 intake structure that we, at EPA, think that facilities
10 can change. There's factors underneath each one of
11 those: location, design construction, capacity, that
12 can be changed and altered in order to reduce the
13 adverse environmental impacts, that may be occurring at
14 a particular site.

15 Now if we pull out, looking at tier one, this
16 is just taken right out of the large framework. You
17 look at what we're trying to do here for impingement,
18 and you say, okay, thinking about cropping the fish,
19 all right. There's a certain amount of fish that may
20 be taken in at a particular intake structure.

21 Tier one looks at the capacity issue of the
22 cooling water intake structure and what, within the
23 area of capacity, increases or decreases the impact on
24 the aquatic biota. Well, from impingement we said,
25 maybe there's a threshold. A threshold of velocity
26 looking from the juvenile size species that, in
27 general, obviously no case fits all, but in general, is
28 there is a velocity in which the first feed of
29 juveniles are likely to be able to escape the
30 withdrawal.

1 That's what we were looking at at that time.
2 That's something for you to think about. Is there a
3 threshold? Can we think of a threshold that is
4 reasonable. And this again is for the potential
5 adverse environmental impact. Now we realize that any
6 kind of statement of a specific threshold may not
7 necessarily be, because we have to take into account
8 the different systems, because you have estuaries, and
9 you have big rivers, and small rivers and lakes and so
10 forth, and that's where we put in these other bullets
11 here. I know a lot of people focused in on, just
12 because you might be in an area of endangered species,
13 that doesn't mean that's the only reason why you move
14 on the tiered process.

15 We agree. That's a safety net to say, hey,
16 we're looking at it more from the perspective, "Hey,
17 even though you might need this threshold if you're in
18 one of these sensitive areas then you're going to need
19 to continue on in this process", because there's a
20 reasonable potential to make policy in that area.

21 Looking at the tier one from the entrainment
22 side of the house, you said, "Okay, well, there are
23 different factors involved in entrainment." It's not
24 so much the velocity, because what are you looking at
25 in entrainment? You're looking at the larvae; you're
26 looking at the egg. They don't have the ability to
27 swim away. So the velocity, although it plays some
28 role, is not the key indicator. And here we said,
29 well, maybe there's a flow threshold. Is there a
30 volume that's being taken in that we could establish
31 some type of threshold? That would probably have to be

1 done on a major type setting where we looked at
2 different ecosystems. Almost each of these items here
3 on tier one would have to be looked on an ecosystem
4 basis.

5 Then, the other thing that we considered that
6 was important is when you're looking at the entrainment
7 issue, maybe there's a small volume, but maybe it's a
8 small stream. So it's relative, and we want to make
9 sure that we take that issue into account also. And
10 that's a ratio of intake versus a water body flow.

11 Then from tier one, you might hit that tier
12 two which Brad talked about. But let's say you move
13 into tier three. Here is where we take a look at the
14 tier three aspect, here's where we say, okay, you're in
15 tier three. You've done whatever studies you've been
16 required to do to determine what impact that particular
17 intake structure facility may have on the aquatic biota
18 for impingement purposes, and you start looking at
19 those technologies. You start looking at your options.
20 What can the facility do? What can the plant do with
21 respect to plant characteristics in order to minimize
22 adverse environmental impact?

23 Now tier three, we looked at trying to tie it
24 back to tier one and tier two. And once again, the key
25 identifiable characteristics that the plant needs to
26 look at those BTA options it would get them back to
27 that threshold perhaps that we said was diminimus, or
28 threshold, where the potential of impact was low, or
29 such that the biological criteria would be met in that
30 particular water body.

1 But there are other things that the facility
2 can look at in this particular area. As I had put up
3 there earlier, that there were three. They can factor
4 the capacity issue again, if you're going to wrap it
5 back up to tier one.

6 That takes care of the capacity issue, but
7 what about these other characteristics that can also be
8 altered or changed in order to minimize the adverse
9 environmental impact. Now you're looking at things
10 like, for existing plants, location and design. For
11 new facilities or facilities that are going through
12 some type of revamp or adding on to the facility, then
13 you're looking at the issue of construction.

14 So what I put up here, as far as location
15 type issues, are just our initial thoughts. There are
16 probably others, and we would like to hear about those.
17 But these are things that we think facilities can
18 change in order to minimize adverse environmental
19 impacts with respect to location. Most of them deal
20 with the [inaudible] intake, where they're located.

21 Then there's design type factors. What type
22 of intake structure do you have? The cooling water
23 intake system itself. The size of your structure. What
24 kind of mechanisms do you have for fish return? What
25 avoidance type factors do you have?

26 Technologies. Have you created some type of
27 artificial habitat that's like an attractor to species
28 coming into the zone in which they'll be either
29 entrained or impinged? What will you do about that?

30 JIM ELDER: Are you finished?

31 DEBORAH NAGLE: Um-hmm.

1 JIM ELDER: Do you want input now?

2 DEBORAH NAGLE: I'm almost done.

3 JIM ELDER: Oh, I'm sorry.

4 DEBORAH NAGLE: And then we'll just do the
5 same format that we have for the rest of the day.

6 And these are just construction issues. I see
7 more probably in the realm of existing facilities that
8 we've been discussing today, but these are the things
9 that would have to be considered when looking at
10 construction type activities is displacement of the
11 aquatic organisms, turbidity that's created, and so
12 forth.

13 Could I have a light, please? What we tried
14 to do in looking at the plant characteristics is we've
15 tried to take into account the issue of actual cropping
16 of fish and what things that a plant can do from a
17 technology side of the house that will help reduce or
18 minimize the impact to make things right.

19 So with that we'll open it up. Jim?

20 JIM ELDER: Okay. Thank you. Who would like
21 to react first? Kristy you're the first hand that I
22 noticed.

23 KRISTY BULLEIT: I have a question, because I
24 thought I understood Jim Pendergast's explanation of
25 the system but your explanation has raised a question.
26 As I understood it, first you did the screening; then
27 you looked at the biological criteria. Then in tier
28 three, there was further assessment of more
29 specifically, what is the [inaudible] entrainment?
30 What contribution is that making to any level of impact
31 that you see?

1 And then, if that is deemed to be adverse,
2 one would go on to evaluation of technology, assessment
3 of their performance in that [inaudible] and evaluation
4 of cost effective strategies. I may have misunderstood,
5 but when you described the assessment of relative
6 contribution, well, two things.

7 First of all, I did not get the impression
8 that that third step in assessing [inaudible], which I
9 would call the more tailored step, existed. I didn't
10 hear you say that. It sounded like when you got to
11 tier three, you were just looking at control options.

12 DEBORAH NAGLE: No, you have to look at the
13 full discussion. The first thing you have to identify
14 is your contribution, your site characteristics, your
15 facility characteristics.

16 KRISTY BULLEIT: I understood Jim to say in
17 his initial description, and I think it was echoed by
18 Brad, that also at that point, you make the final
19 determination of adversity.

20 DEBORAH NAGLE: That's right. Exactly.

21 KRISTY BULLEIT: Okay, is it or is it not?
22 Do we need to do something, or do we not?

23 DEBORAH NAGLE: That's correct. There is some
24 possibility that when you get to tier 3 based on where
25 you originated and what you have in place, you're
26 meeting BTA.

27 KRISTY BULLEIT: And what you have in place,
28 meaning BTA. I think that's important, because I
29 noticed that you incorporate in what I'll call the
30 design goals, the screening criteria and the biological
31 criteria. And I'm not saying that there shouldn't be

1 screening factors, and that screening isn't good. And
2 I'm certainly not saying that some intermediate level
3 of review that might include biological criteria, if
4 they're appropriate, isn't good.

5 But it seems to me that both for screening
6 purposes and for purposes of applying biological
7 criteria, you're going to be using factors that are not
8 necessarily determinative of the cause of adverse
9 impact. Biological criteria, for instance, rapid bio-
10 assessments, they can't tell you the cause and affect.

11 DEBORAH NAGLE: That's right, they're
12 indicators.

13 KRISTY BULLEIT: Right. They're indicators.
14 So designing to achieve those isn't necessarily going
15 to be the best goal for purposes of designing any
16 control technology you may want to develop.

17 What I'm suggesting is you're using your
18 screening criteria and your biological criteria as your
19 design criteria, too. But ultimately, when you make
20 that determination of adverse environmental impact, it
21 may or may not be directly related to what pushed you
22 on to the next level of assessment. Ultimately, it may
23 need a more species specific, site specific
24 [inaudible].

25 DEBORAH NAGLE: That's fair. I was focusing
26 on, obviously, the technologies, because if you're
27 looking at the point characteristics that you could
28 change if you needed to apply in a different
29 technology, then those are the types of things the
30 plant would look at doing.

31 JIM ELDER: Ed?

1 ED RADLE: Let me suggest that you add
2 operation to the four [inaudible] location, design. The
3 operation is sort of inherent in the design, and some
4 New York utilities have provided very meaningful
5 mitigation looking at the operation into the house. So
6 let me suggest you put that in the mill.

7 And the second issue, in terms of swim speed,
8 don't put too much stock in it. You'll find fish on
9 screens that could have gone three or four times the
10 velocity of the intake, and they still end up on the
11 screen somehow. Except for zero, I wouldn't put too
12 much faith in it.

13 JIM ELDER: Stock in the stock. Tony Wagner,
14 CMA.

15 TONY WAGNER: Thank you. Let me start by
16 saying that we think the framework, in general, is
17 pretty good. It's a good starting point. There are a
18 number of different details, which a lot of people have
19 mentioned that we would suggest maybe a slightly
20 different way to do it.

21 One of the things that we find very
22 interesting and desirable is the tier one screening
23 part of the framework. We think that a lot of the
24 decisions can be made there so that you won't have to
25 go through tier two and tier three, which are heavily
26 weighted towards studies which can be hundreds of
27 thousands of dollars, if not millions of dollars.

28 Then, just adding on to some of the things
29 that you just brought up about the location factors,
30 design of the intake and construction. Some of these
31 factors, it seems to me, could be incorporated into

1 tier one. So if, for example, you meet all the tier
2 one criteria to opt out, except for maybe your depth of
3 your intake is too shallow, why would you have to go
4 through a tier two biological assessment and then a
5 tier three type of assessment just to determine that,
6 okay, for your facility, BTA is to have your intake
7 another 20 feet down, if you could do that in tier one?
8 Save everybody a lot of time, money and, ultimately, be
9 better for the resource. That's just a thought.

10 Really what I'm getting at is that I would
11 like to see these determinations made in a flexible
12 way, using the framework as kind of a guidance. But it
13 also seems that if one ascribes to the framework a
14 little bit too closely, a lot of resources could be
15 wasted when sometimes a common sense solution is
16 sometimes the best.

17 JIM ELDER: Okay. William. I'll get you,
18 Richard.

19 WILLIAM SARBELLO: I'd just like to add two
20 more factors. One in terms of the location. One other
21 thing to consider is currents. We have experience with
22 one plant where it just happens to be located on a gire
23 [sp?], and it is a spot where, unfortunately, it
24 impinges a lot more fish than one would expect, just
25 because of the local currents.

26 And another factor which I think you should
27 be evaluating as well, probably at stage three, is
28 survival, because if you have screens that are
29 producing very good survival, that's important. And
30 likewise, if you have screens that are producing very
31 poor survival, you want to know that.

1 JIM ELDER: William, before you go on, could
2 you define a gire [sp]?

3 WILLIAM SARBELLO: An eddy.

4 JIM ELDER: Thank you.

5 WILLIAM SARBELLO: Probably is a better term,
6 actually.

7 JIM ELDER: Got me on that one.

8 LARRY OLMSTEAD: Larry Olmstead, Edison
9 Electric Institute. Like many of the other people here,
10 we find a lot that's really good about this approach.
11 I think it's great guidance, and I think you've
12 mentioned some factors that can certainly be important,
13 location, design, all of these.

14 I was somewhat bothered by the term
15 threshold, because it seems to go in the face of the
16 site-specific things. Following along with what Ed and
17 Jim say with regard to operations, the complex biology
18 out there, its interaction with the hydrology those
19 sorts of things. I'd recommend against setting
20 thresholds, but certainly giving considerations to each
21 of these factors, on which may or may not in the
22 particular instance be of importance.

23 JIM ELDER: Okay. Mr. Delgado?

24 RICHARD DELGADO: Yes. I wanted to make what
25 will seem somewhat of a technical point. On tier three
26 you've used the term "relative". It's very appropriate
27 to use that term in terms of the assessments that most
28 of us have actually done in the past. I don't know if
29 you just happened to stumble upon the right word for
30 the wrong reasons, but in terms of what we can do on
31 the assessments, I've been involved in on the things

1 that we have the least confidence in, or what I'll call
2 absolute magnitudes.

3 Some of the other people talked of the
4 absolute magnitudes of losses and population effects on
5 one of the facilities that I've been involved in. We
6 really need to recognize that it's very difficult for
7 the biological technicians whatever to come out with a
8 true absolute number as to the actual
9 impingement/entrainment loss to the facility.

10 There are many things that confound these
11 measurements. Then, when we go out and look at the
12 resource level in the impacted waters, we don't really
13 have good, strong numbers that we have great confidence
14 in, in terms of telling what the actual populations are
15 that are in these estuaries.

16 When we're talking of the impacts of the
17 plants upon these estuaries, the numbers that we're
18 really talking about are a relative impact upon,
19 hopefully, a population that we've assessed as a
20 relative impact. We can't really go out and drain the
21 waterway and count every fish that was there, and then
22 operate the plant for a couple years and come back and
23 count how many are left.

24 We are dealing with the best models that we
25 have in terms of models that everybody can come
26 somewhat close to agree upon, or models that are
27 empirical in nature, that are relative in nature.
28 Those are the best tools that we have today.

29 JIM ELDER: Okay. I'll invite Rodney
30 Dangerfield of EPA to talk about the relative
31 contribution concept.

1 DEBORAH NAGLE: And where is he?

2 JIM ELDER: It's you. No respect. How did
3 EPA stumble upon that term?

4 DEBORAH NAGLE: Well, every now and then, we
5 get something right.

6 JIM ELDER: Okay. David.

7 DAVID BAILEY: A few comments on your
8 approach here. Again, and I'm assuming this is the
9 case, that you wouldn't focus necessarily on the design
10 characteristics independently in your tier one
11 screening; you would consider those in light of the
12 biological information. We think that would be very
13 important.

14 It may well be that it exceeded some criteria
15 that was out there for velocity, but at the same time,
16 if there were other factors that indicated adverse
17 impacts were not occurring and that that could be
18 substantiated, that that would be sufficient to
19 indicate no need to go to tier two. Again, the
20 importance of looking at it holistically.

21 In terms of flow, for example too, I would
22 say in many cases you might see facilities on lakes, on
23 estuaries, on oceans, have a certain amount of re-
24 circulation that goes on, such that flow is not going
25 to be the constant number coming in. You may be
26 recirculating a certain amount of water that would
27 mitigate impacts, for example.

28 Another point that I'd like to speak to;
29 operational standards were mentioned. Operational
30 standards really aren't a BTA, but by the same token,

1 we believe that facilities should have the opportunity
2 to offer those technologies.

3 It's been pointed out that has been done in
4 certain circumstances, and if a facility were to decide
5 that it was in it's best interest to use that
6 technology, that it could continue it's charge to
7 deliver reliable electric service and have some kind of
8 constraint, that should be an option that may be
9 effective in certain circumstances.

10 My last point is regarding your comments on
11 design criteria related to the fix, the technology.
12 There I would emphasize we would encourage a lot of
13 flexibility on the part of utilities to develop the
14 appropriate BTA technology to eliminate the adverse
15 impact, such that, if a velocity criteria was exceeded,
16 it may be that the problem could be best and most
17 effectively addressed, not by necessarily reducing the
18 velocity, but through some other alternative.

19 And so, again, flexibility to select the
20 technologies, if it's been confirmed there is an
21 adverse impact that needs to be addressed, that would
22 be an important point from our perspective.

23 JIM ELDER: All right. Theresa?

24 THERESA HANCZOR: Yes. I just want to point
25 out how attenuated this conversation has become,
26 because we have taken the utilities cue and fell down a
27 slippery slope. That all began when we start talking
28 about adverse environmental impacts as something as
29 separate and apart from the impingement and entrainment
30 at the screens.

1 To discuss in your flow chart here, perform
2 study to quantify impacts to determine appropriate BTA
3 -- well, I've been involved in a case on the Hudson
4 River in which one plant was using BTA and one plant
5 wasn't. And when the judge ruled in this case, he said
6 you don't need tons of studies. I don't have to go
7 much further than looking across the river. I know
8 what BTA is.

9 So I guess to go from tier one to tier two to
10 tier three, and only to arrive at tier three to
11 quantify impingement and entrainment effects, is doing
12 the whole thing backwards. I think we have to start
13 with those impacts up above, at stage one.

14 On the policy level, this has been argued
15 many times before, but when we talk about how we have
16 to involve a concern for the social well being when we
17 balance these factors in determining how many fish can
18 be killed, a lot of sustenance fishermen have been
19 fined for catching an extra bass, yet the utilities
20 have killed millions of fish with impunity. I think
21 there's something that has to be addressed in the
22 social balancing there.

23 JIM ELDER: Okay. Kevin.

24 KEVIN MCALLISTER: Please. Comment on
25 impacts. I guess Theresa touched on that, and I
26 probably should have made this point earlier, so
27 forgive me for regressing. We're dealing with a lot of
28 open systems, so really the take is substantial, is
29 significant. I don't see it possible that we can do a
30 comparative analysis with another location.

1 So that has to be kept in mind. I think Bill
2 pointed out, apples to apples, Chesapeake versus
3 something else -- another system. They're not the same.
4 You can't compare them. And since they are open
5 systems, we have to focus on the issue, and that's
6 really the intake.

7 DEBORAH NAGEL: Good. Could you clarify
8 "open system" when you raise your question?

9 KEVIN MCALLISTER: Circulations, in other
10 words, open to ocean environments, so there's so much
11 change. It's not a closed system where it's surrounded
12 by land masses where the biota stays the same or is not
13 open to outside influences.

14 DEBORAH NAGEL: Are you speaking of things
15 like the oceans, estuaries and those things?

16 KEVIN MCALLISTER: Yes.

17 DEBORAH NAGLE: As opposed to lakes and --?

18 KEVIN MCALLISTER: Correct. Estuarine waters.

19 DEBORAH NAGLE: Okay. Thank you. Jim, over
20 there.

21 DEBRA LITTLETON: The question I had about
22 this third tier, in looking at the location and the
23 design of intake structures, you didn't distinguish
24 between revisiting permits for existing plants as
25 opposed to permits that would be given for new
26 construction. Could you speak to that for a minute,
27 please?

28 DEBORAH NAGLE: Well, I think as Jim
29 addressed earlier today, we are looking at existing
30 facilities versus new facilities and how we might
31 address them in this proposed rule. Are we going to

1 address them differently or the same? That's an issue
2 we have on our plate to evaluate.

3 DEBRA LITTLETON: You don't have a leaning in
4 terms of how you're going to proceed with that?

5 DEBORAH NAGLE: We're kind of leaning at this
6 time -- Typically EPA is more stringent on new sources
7 than they are on existing sources.

8 DEBRA LITTLETON: Another question I had
9 going back to the tier one, which is the triage phase,
10 as far as I could tell. Could you speak to the number
11 of plants, nationally, that are going to be subjected
12 to this level of scrutiny?

13 The assumption here has been that this
14 presents a bigger task than EPA has the resources to
15 conduct, and that seems to be the presumption for why
16 you would chose to focus on some plants as opposed to
17 others and make this initial separation.

18 DEBORAH NAGLE: You mean the initial
19 separation of the six categories?

20 DEBRA LITTLETON: Um-huh.

21 DEBORAH NAGLE: Well, basically, the reason
22 why we made those distinctions, we looked at the water
23 usage in the United States based on the census report,
24 and together, they used about 99 percent of all the
25 water that was being withdrawn. And so the other
26 categories, the other 14 or so categories, constitute
27 less than 1 percent of the water use.

28 It's not that it wouldn't apply to them; it's
29 just that we have decided to not target. We've limited
30 our target as far as collecting information, but it
31 does not eliminate their possibility of being in scope.

1 We feel that the intake structures and the information
2 that we'd get from these categories we could reflect...

3 DEBRA LITTLETON: Will capture the largest
4 quantity.

5 DEBORAH NAGLE: Yes. That's correct.

6 DEBRA LITTLETON: And when do you anticipate
7 that inventory being complete?

8 DEBORAH NAGLE: Inventory as far as who's
9 regulated?

10 DEBRA LITTLETON: Well, aren't you collecting
11 information at this point on the status of these
12 plants, the degree of technology they're employing?

13 DEBORAH NAGLE: Right. Okay, there's a
14 screener and there's a detailed questionnaire that are
15 in their process. I think Jim spoke earlier that the
16 screener which is going out to all the entities except
17 for the utilities is currently sitting at OMB for
18 review.

19 We expect that out in the next week or so,
20 couple weeks. Then we'll make whatever revisions OMB
21 wants us to make, and then we'll move on to mailing
22 that out. Hopefully, by the end of July, that mailing
23 will go out to all the non-utility folks.

24 The detailed questionnaire. We're currently
25 still evaluating all the comments that we've received
26 from the *Federal Register* notice requesting comments,
27 and we hope to get that, revised and packaged in to OMB
28 by the end of July is our target. Then it's a 60 day
29 period at OMB, and then there's time for revisions and
30 then mailing.

1 DEBRA LITTLETON: And where do the responses
2 to the utilities fit into that picture?

3 DEBORAH NAGLE: Responses to the utilities.
4 They will be receiving the detailed questionnaire.

5 DEBRA LITTLETON: And when does that occur?

6 DEBORAH NAGLE: The time schedule we're
7 currently on, probably October.

8 JIM ELDER: Okay, Debra?

9 DEBRA LITTLETON: Thank you.

10 JIM ELDER: Next, Bill Neal.

11 BILL NEAL: Thank you. Deborah, I really
12 think you really got a good handle on all the various
13 things to look at in terms of location, design into the
14 slope interface where whatever.

15 DEBORAH NAGLE: Relative?

16 BILL NEAL: Yeah. One of the things that I
17 would, at least, caution the Agency to look into, we
18 probably have probably the most current or newest
19 intake on the channelized Missouri. And I'm going back
20 to the days of dragging nets and running CPE shockings
21 on the river. We built what we considered then, and I
22 think still is, the state of the art technology for an
23 intake structure on the river.

24 DEBORAH NAGLE: And what's then?

25 BILL NEAL: Pardon me?

26 DEBORAH NAGLE: And what's then? Time frame?

27 BILL NEAL: This was built in 1979, came on
28 line in '79. The bottom line that needs to be
29 mentioned is, if one foot per second is good, half a
30 foot per second is better, and you took the best recipe
31 from everybody. But after all the years of monitoring,

1 instead of seeing a full bucket, you saw nine-tenths of
2 a bucket.

3 So it's not just those physical
4 characteristics and the best recipe. The resource has
5 to be there, which goes back into the site specific
6 case by case.

7 This is no surprise probably to the Agency,
8 but if you asked nine fisheries out of ten on the
9 Missouri River, it's not the intake structures. It's
10 what the river has turned into, from a channelized
11 river and the loss of habitat that's the limiting
12 factor on the fisheries. So, those are considerations
13 which deserve that you take into account.

14 DEBORAH NAGLE: Okay.

15 JIM ELDER: Cara again?

16 CARA LEE: I'd just like to follow-up on that
17 in that in regard to the discussion that happened on
18 compensation. What was going through my mind is
19 parallel to what you've just mentioned, and that is
20 that on the Hudson; and I'm sure on all our other
21 waterways, our resources are under tremendous pressure
22 because of other things: habitat loss, and pollution.

23 In some respects, we have less control over
24 than we have over the control of these intake
25 structures, and it goes back to, I think points that
26 were brought up this morning about, from our
27 perspective, how important it is to have this process
28 be technology driven. We think that's most consistent
29 with the intent of 316.

30 And again, it's an opportunity that we have,
31 and I'm speaking in sort of a societal sense to exert

1 some controls over protection and preservation of the
2 resources we have where some of the other pressures
3 that are out there, perhaps not as much within your
4 control as our control, have to be taken into account.

5 DEBORAH NAGEL: Okay. Thank you.

6 JIM ELDER: Any other contributions?
7 Relatively speaking? From Pennsylvania, I still don't
8 have your name memorized.

9 LEROY YOUNG: Leroy Young.

10 JIM ELDER: Thank you, Mr. Young.

11 LEROY YOUNG: Just like to mention for the
12 record that our Agency has a real philosophical problem
13 with the issue of if -- We're talking about design
14 here. To expect the dischargers, the design, in those
15 cases, is such that the streams are protected under
16 extreme low flow conditions, 7Q10 is used. Ninety-nine
17 percent of the time the flows exceed that.

18 DEBORAH NAGLE: Right.

19 LEROY YOUNG: The facility is designed --.
20 The treatment is to such an extent that the streams
21 will be protected at those levels. We're not talking
22 about dead bodies. We're talking about no impact to
23 those resources.

24 On the other hand, if somebody discharges a
25 pollutant without permit and dead bodies are seen, then
26 they're prosecuted.

27 Now, where that water is being drawn in where
28 we know there's dead fish, that's pretty adverse to
29 those fish that are being killed. Death is adverse.

30 We're up front saying that's okay to this
31 level. We just feel that there's a philosophical

1 problem here that there needs to be compensation. The
2 resource should be made whole, no matter what end of
3 the pipe you're looking at. We've struggled with this,
4 and we continue to struggle with it. That's our
5 position.

6 DEBORAH NAGLE: Okay. Thank you.

7 JIM ELDER: That was simultaneous. I'll go
8 with the lady first. Kristy?

9 KRISTY BULLEIT: I've been mostly trying to
10 just listen, because my training is as a lawyer, not as
11 a scientist, and these seem to involve a fair number of
12 science and public policy issues. I can't help but
13 notice that a lot of the debate seems to center around
14 two questions.

15 One is, what's the language of the statute
16 and how does it drive the decision making? Where does
17 it put the emphasis? From my perspective, this
18 particular provision is unique in the sense that it
19 attempts to combine both technology on the one hand and
20 the environment on the other and to recognize the need
21 for some balancing.

22 Congress didn't use the term entrainment and
23 impingement. It didn't use the term eliminate
24 entrainment or impingement, and it didn't choose a
25 wholly technology-based standard.

26 Instead, it said, use the best technology
27 available to minimize adverse environmental impact.
28 One of the things that the Agency has to grapple with
29 is how to give all of the words in the statute meaning
30 and effect.

1 It's been working on that for many years, and
2 I think in fairness to the industry, you have to say
3 the industry's been working right along with it to try
4 in many, many cases to do studies and deal with these
5 questions.

6 The other question that seems to come up is
7 whether or how we decide what is or isn't adverse.
8 Once we've made that decision, which involves both
9 science and public policy, how we make a determination
10 of how best to control it?

11 Again, from the point of view from a non-
12 scientist, I have to say I don't see how you could
13 decide about technological issues unless you understood
14 whether something from a value perspective was or
15 wasn't adverse, because there will be trade-offs among
16 species in life stages, given technology may affect one
17 species in one life stage in one fashion and a
18 different species in a life stage in a different
19 fashion.

20 You have to look at the environment as a
21 whole. If there's a problem, come up with the best fix
22 for the problem. From the scientists I work with
23 everyday, if you don't know the basis of the problem
24 and you don't understand the trade-offs you're making,
25 you can do more harm than good. It seems to me, if
26 you're going to design a fix for a problem, you first
27 have to define the problem.

28 That's why an approach that starts with the
29 question of "do we have a problem?" Not just "do we
30 have some numbers", but "do we have a problem", and
31 then goes to, "how can we fix it?" is the right

1 approach, because this particular issue, like anything
2 else in the Clear Water Act, involves a variable over
3 which facilities don't have any control, and that's the
4 fix.

5 To the extent that some of the factors, you
6 say we can change them; you can't really. You can't
7 change the nature of the water body. You can't change
8 other unregulated users of the resource. There are
9 things that we cannot control, but that, nevertheless,
10 have to be taken into account and evaluated, both
11 whether there's an impact, whether the intake
12 structures are causing an impact that is adverse and
13 how you deal with it.

14 JIM ELDER: William, still want to comment?

15 WILLIAM SARBELLO: Yeah.

16 JIM ELDER: Okay. Five seconds.

17 WILLIAM SARBELLO: Yeah. I guess it's just a
18 case of a different view of adverse impact. I agree
19 that it doesn't say you shall minimize
20 impingement/entrainment. It does say you will minimize
21 adverse impact. It's just, again, a different view
22 that we agree with the gentleman from Pennsylvania,
23 that an adverse impact is an adverse impact at the
24 organism level, rather than at the population level.

25 But it isn't the only impact. When it says
26 minimize adverse impact, we've interpreted it to
27 include such things as visual impacts, et cetera, so
28 it's broader. But at least at the fisheries or at the
29 aquatic organism level, we're looking to minimize those
30 impacts, and we do our balancing. As I say, later in
31 the process is where the economic and other

1 impracticality and magnitude of the impact on the
2 population and the species and the trade-offs are made
3 later.

4 I had one more thought, but I lost it. I
5 apologize.

6 JIM ELDER: We'll give you another chance
7 later.

8 DEBORAH NAGLE: Give me one more.

9 JIM ELDER: Alexis. Oh, you got it?

10 WILLIAM SARBELLO: Yeah.

11 JIM ELDER: Will the gentlelady yield?

12 WILLIAM SARBELLO: Yeah. The point was,
13 getting back to the intent of the Clean Water Act, it
14 does call for the restoration of the chemical, physical
15 and biological integrity of the waters. We view this
16 as restoring the physical integrity of the waters not
17 to have the fish killed on screens if it can be
18 avoided, or cooked going through condensing water
19 system if it can be avoided, and avoided at reasonable
20 cost in I think the mind of most reasonable people.

21 JIM ELDER: Alexis?

22 ALEXIS STEEN: Well, I have a
23 comment/suggestion for the tiers for both impingement
24 and entrainment, and the suggestion is, in listening to
25 the discussion, about some of the confusion and the
26 order in which certain questions would be posed and
27 answered.

28 If the questions in tier two and tier three
29 were almost swapped in order, so that after you go
30 through your tier one screen to look at your capacity
31 for entrainment and impingement, then you would ask the

1 question about the quantification of your entrainment
2 and the impingement impacts second, rather than, as
3 it's currently posed, to evaluate source water body
4 adverse environmental impacts.

5 So you've done your local site query, and
6 then you go to your broader water body questions as I
7 think you have to do the area or plant facility
8 specific question first. That may help on some of the
9 confusion. Anyway, just a comment.

10 JIM ELDER: Do you want to react to that one?

11 DEBORAH NAGLE: Nope. I will take it as a
12 comment.

13 JIM ELDER: Okay. Yes, sir. Please identify
14 yourself.

15 BART GOOD: Bart Good with Dupont. I think
16 EPA took a good stab at the process that they put
17 together so far. The only comment that I've heard
18 through the discussion is really focusing on power
19 utilities, but I'm sure this is going towards as a
20 screener questionnaire towards other facilities. I
21 think the tier one is very important from that
22 strategy.

23 When I heard some of the panel members here
24 talking about doing all kinds of study for, let's say,
25 a 2 MGD cooling water intake on a Chesapeake Bay or
26 Delaware River, and you want us to do a biological
27 study. I don't fully understand the total points
28 related to that, but I think a tiered approach is the
29 way to go to determine, really, is there truly an
30 impact for smaller facilities. Now, for some smaller
31 facilities, for example, the bio-criteria as some

1 gentleman mentioned, that's probably a good
2 possibility.

3 That's good for a small facilities on small
4 river streams or medium size rivers, so the approach
5 that you have is a good start.

6 JIM ELDER: Other commentors? Earlier we had
7 expressions in the hallway from a Mr. Rant and Mr.
8 Rave. I'm not sure if they're still here, if they want
9 to express themselves.

10 SPEAKER: Rave has already expressed himself.

11 JIM ELDER: Okay.

12 DEBORAH NAGLE: Okay.

13 JIM ELDER: Do you have other questions?

14 DEBORAH NAGLE: Well, I was going to them go
15 on break.

16 JIM ELDER: OK, let's begin our break a
17 couple minutes early and give you a little bit of extra
18 time. Please be back at 3:15.

19 (Recess)

20 JIM ELDER: OK, please take your seats.

21 My task right now is to try to properly
22 capture, with the help of the folks from SAIC, what's
23 already been said today. Hopefully it reflects what you
24 think was said as well, so, we will see. If I end up
25 saying something that you believe is totally off the
26 mark or that we've totally missed the boat in terms of
27 capturing people's intent, I'd ask you to wait until I
28 get through and then raise your hand and we'll change
29 it accordingly again if we have missed it.

30 Also, the staff is working madly about trying
31 to get an updated attendance list that you can pick up

1 before you leave today, rather than have to worry about
2 a separate mail out.

3 Thirdly, please, when you go out the door,
4 lay your name badge on the table out there, so that
5 these can be recycled. Okay?

6 As one of my former colleagues always says,
7 there's no penalty for ending early, so maybe that will
8 be possible as well. Let me talk about topic one, in
9 retrospect, that Jim Pendergast presented, Designing an
10 Approach.

11 Some believe that any taking of fish or
12 aquatic organisms constituted an adverse environmental
13 impact that needs to be minimized through application
14 of best technology.

15 Whereas others defined adversity based on
16 impacts to a population and/or a community. This
17 philosophy implied that some degree of taking of fish
18 is acceptable and does not constitute an adverse
19 environmental impact. We had a lot of discussions
20 about the bucket of fish versus a million fish, or how
21 big somebody wants to make the bucket. I think there
22 is an appreciation that adverse ends up being a value
23 judgment.

24 Third point under topic one, some used the
25 same philosophies in defining adverse environmental
26 impacts to justify the need, or trigger the need for a
27 full blown, tier three type analysis of impacts.

28 Fourth, the draft framework focused on
29 biological assessments and did not emphasize the role
30 of technology assessments or the role of technologies
31 to minimize impacts. To me, speaking not clearly for

1 EPA, that's something that I'm sure they will take
2 under consideration and what additional steps they
3 take, including the workshop that's planned for
4 September. It doesn't mean that they're going to do
5 it. It just means that they will think about it.

6 The next point under this topic, the issue of
7 cost reasonableness raised what is the appropriate
8 amount of money to spend to avoid mortality.

9 An additional point was that the statute does
10 not require a cost test. EPA appears to be equating
11 the concept of minimizing adverse environmental impact
12 with the concept of some wholly disproportionate cost
13 tests. And when they made that point, they were not
14 complimenting EPA.

15 Further, it was stated that it's difficult
16 and controversial to assess the health of water bodies
17 and the appropriate referenced conditions. I think
18 that point was made by several people.

19 A number of participants also noted their
20 support of EPA viewings, site specificity of issues.

21 Some believe that EPA needs to include a
22 broader scale of parameters to be evaluated in tiers
23 one and two. Others believe the tiering criteria are
24 not needed, and that minimization can be accomplished
25 through application of a specific technology.

26 Pardon me if I'm slightly redundant on some
27 of these points. Comments were made that facilities
28 intake structures should be re-evaluated when the
29 conditions affecting those intake structures change.
30 Mention was also made that the facilities should be

1 able to use existing data resources and not have to
2 start from scratch.

3 Further, it was recommended that guidance be
4 provided on the process of evaluating impacts from
5 cooling water intake structures, not just "How do you--
6 What is the bottom line?

7 Next to last issue. Whether or not it is
8 practicable or possible to evaluate cumulative impacts
9 as well.

10 And lastly, under this topic, issues were
11 raised regarding the burden of proof regarding adverse
12 environmental impact.

13 With that, I'll change my own ground rules.
14 Why don't we see if there's any comments about topic
15 one before I go into topic two? EPA included. Most
16 particularly, if you've heard something different than
17 this, it would be good for the audience to know about
18 it.

19 JIM PENDERGAST: I'm checking with my notes,
20 Jim.

21 JIM ELDER: Okay. Thank you.

22 REED JOHNSON: Jim.

23 JIM ELDER: Yes, sir.

24 REED JOHNSON: I'm Reed Johnson, Triangle
25 Economic Research. I have been advising UWAG on some
26 economic aspects of the rule making. With respect to
27 this first matter, I would just like to emphasize a
28 couple points that were made earlier in the discussion
29 regarding the importance of values and the
30 inevitability of making value trade offs.

1 Kit Kennedy acknowledged the importance of
2 identifying benefit values and evaluating our options
3 with respect to differences in benefit values in
4 different environmental settings.

5 Values are relevant for the regulatory
6 framework, that is, any regulatory framework. It's
7 designed to protect the social interest. The value
8 trade-offs that we ultimately have to deal with here
9 are not merely or solely biological ones, but social
10 values as manifested by our social preferences for the
11 very difficult trade-offs that we have to make in this
12 area.

13 I look forward, as I think many other people
14 do, to the September meeting where we're be able to
15 explore some of these issues in more detail.

16 Then finally, I just wanted to note that the
17 reason one dimension of these trade-offs that has
18 changed as a result of the new regulatory or new
19 competitive environment in which utilities are
20 operating, is that in a world where it was relatively
21 easy to pass off some substantial cost increase to the
22 utilities as merely representing a couple of cents per
23 month on the average rate payer's bill. That may no
24 longer be possible to do. The cost and consequences of
25 financing the environmental protections that may be
26 mandated may take very different forms than they took
27 in the past.

28 JIM ELDER: Okay. Kristy?

29 KRISTY BULLEIT: A point on your summary.

30 JIM ELDER: Yes.

1 KRISTY BULLEIT: You noted that comments were
2 made about the statute not requiring a cost test, and I
3 just want to reiterate the opposite side of the coin,
4 which is that the statute does require a cost-test,
5 does incorporate a cost consideration, so that your
6 notes back reflect both sides of the discussion.

7 JIM ELDER: Okay. Well taken. Yes, Ed.

8 ED RADLE: Just one other thought. You said
9 that there was a suggestion that the intake be re-
10 evaluated periodically. I think the Clean Water Act
11 says that the NPDES permit, in the federal case, will
12 be issued for a period not to exceed five years. We've
13 interpreted that to say it's not a suggestion, but it's
14 a requirement to go back every five years and look at
15 the impacts, look at the technology and do the
16 balancing again.

17 I'm not sure if that was said. I may be
18 adding something that wasn't said. I just want to
19 clarify our position.

20 JIM ELDER: I don't recall people talking
21 about the five year intended limitation on the NPDES
22 permits, but I just don't remember that specific point
23 being made. To some people, that's inherent. To other
24 people, the reality may be that that permit may, in
25 effect, be for far longer than five years, and be
26 administratively extended, depending upon the state.

27 Other comments on topic one? Not hearing any
28 further comments, let me move on to the second topic.
29 In fact, I just noticed I overlooked something on an
30 additional page on topic one, so let me get this one
31 out.

1 The "cost benefit" must consider public trust
2 externality, not just the value of individual
3 organisms, and, that again, cost benefit assessments
4 must be driven by societal values. That's similar to a
5 point that I made at the beginning about the
6 philosophical issues regarding value judgments. That
7 one's going to be very difficult for EPA or anybody
8 else to resolve to everyone's satisfaction.

9 So with that, let me move on to the second
10 topic. Again, the topic was Environmental Criteria
11 Defining and Assessing Adverse Environmental Impact.

12 Some stated that the proposed framework
13 allows the chance for degradation of populations on
14 healthy water bodies and were not thrilled at that
15 prospect.

16 Others stated that identifying impacts
17 associated with a single facility gets harder to
18 distinguish as the water body gets larger.

19 Third, others stated that there would be
20 issues associated with defining reference conditions,
21 especially on large estuarine systems.

22 And fourth, some stated that compensatory
23 mechanisms of biological populations should be
24 addressed. Others stated that compensation may not
25 occur everywhere, and there are many commercial
26 fisheries that are currently failing.

27 And last on this topic, some stated that
28 population level impacts should be evaluated, while
29 others stated that impacts should be evaluated at the
30 level of the organism.

1 Did we miss anything notable on topic two?
2 Dr. Rothschild?

3 BRIAN ROTHSCHILD: Yes. I wanted to comment
4 on commercial fisheries to clarify the point. The
5 statistics on over fishing with respect to commercial
6 fisheries around the world have been promulgated by the
7 Food and Agricultural Organization, the United Nations.
8 They have claimed that 70 percent of the fishery stocks
9 in the world are harvested at their maximum level or
10 over fished.

11 The subsequent analysis of that data shows
12 that only 7 percent are over fished, and the fact that
13 stocks are harvested at their maximum level means that
14 they're harvested at the maximum sustainable yield
15 level, which is a provision of our present sustainable
16 fisheries act.

17 That conclusion that has come from FAO, which
18 has since been recanted, is taken as an exaggeration of
19 over fishing. And I think it would be wrong and perhaps
20 not too logical to relate whether commercial stocks are
21 over fished or not to this particular matter, because
22 in many cases, it's independent. This comes back again
23 to the very importance of looking directly at the
24 compensatory mechanism. Because not only may there not
25 be an adverse impact, the fact that larvae and
26 juveniles are taken by a plant (I know you're looking
27 at your watch, so I'll finish) might actually increase
28 the recruitment or the productivity of the stock. Thank
29 you.

1 JIM ELDER: Excuse me. When you talk about
2 this being recanted, you were referencing the first FAO
3 conclusion about seven out of ten?

4 BRIAN ROTHSCHILD: FAO now agrees that only
5 on the order of 10 percent of the stocks in the world
6 are over fished. And that's really not a bad track
7 record, when you consider the nature of fishery
8 management around the world, which is a very complex
9 affair.

10 JIM ELDER: They were talking about salt
11 water as well as fresh water?

12 BRIAN ROTHSCHILD: They were talking about
13 primarily marine fish.

14 JIM ELDER: Any other comments? Kit?

15 KIT KENNEDY: Just to make sure the record is
16 clear, I'm not sure whether we specifically voiced
17 this, but the concern from the environmental groups'
18 point of view is not that, in some cases, compensation
19 acts as an antidote to fish mortality from power
20 plants, and in some cases, it doesn't, but it hasn't
21 not been demonstrated that the compensation is a fact
22 that takes place. It's a broader rejection of the
23 theory than that it sometimes kicks in and sometimes it
24 doesn't.

25 JIM ELDER: OK. I'm sure they got that
26 nuance. Any other comments on topic two?

27 OK. Moving on to the last topic, topic three,
28 Plant Characteristics. Deborah Nagle provided an
29 overview of factors related to location, design and
30 construction that can influence the potential for
31 impact.

1 Then some of the discussants pointed out
2 additional factors, for example, operational parameters
3 that can influence things as well. And as in earlier
4 discussions, the need for a holistic approach was
5 stressed. This was cited as being important, because
6 of the close relationship between technology and
7 biology, which is also reflected in the 316(b)
8 language.

9 Fourth, several people encouraged that there
10 be flexibility in the choice of BTA by the affected
11 party, as long as the proper conditions were satisfied.
12 Others encouraged EPA to consider the effectiveness of
13 technologies, i.e., the survival rate, in making its
14 ultimate decisions.

15 This section was a little more hurriedly put
16 together because of the abbreviated time span, so I'm
17 feeling the most vulnerable about what we did or did
18 not capture on topic three. Again, I'll ask people if
19 they have any additional comments to make sure that EPA
20 heard what you meant.

21 Okay, I'll take that as a compliment to the
22 staff. With that, I turn it back over to Deborah to
23 talk about the next steps in this process.

24 THERESA HANCZOR: I believe this was
25 suggested in part three of Deborah's discussion. The
26 problem when you look at adverse environmental impacts
27 separate and apart from the entrainment and impingement
28 that occurs at the intakes, and as I called it, the
29 slippery slope that we arrive at when we begin to look
30 at BTA and what BTA is necessary only when we use
31 biological criteria.

1 JIM ELDER: All done?

2 THERESA HANCZOR: Yeah.

3 JIM ELDER: Okay. Thank you. Again, back to
4 you.

5 DEBORAH NAGLE: Okay. Next up. First of all,
6 comments on today's format. Did people like the format
7 of today's meeting? If you generally like the format
8 of this meeting, this is what you can expect for the
9 September 10th meeting.

10 The one thing that I will say for the
11 September 10th meeting is that now we know who's
12 interested. For all those who did attend today's
13 meeting, we will make sure that you know what's going
14 to be talked about in the September 10th meeting.

15 It's also noted that EPA has a web site on
16 the OWM home page. That's 316(b). Go into that. We
17 try to keep stuff updated. For the next public meeting,
18 you will find information on that, as well as the
19 *Federal Register* notice that we'll get out, as well as
20 individual letters and information.

21 For the meeting on the 10th of September,
22 what we intend to talk about at this time -- One of the
23 issues came up today, and that's the whole issue of
24 cost and how you take cost into account or how you
25 don't take cost into account. That issue will be
26 discussed.

27 The other issue that we've heard a lot of,
28 not at this meeting but over the last several months,
29 we've heard interest in the whole issue of mitigation.
30 What role does mitigation play in 316(b)? Everybody has
31 different ideas on how that may or may not apply.

1 For today's meeting, I want to thank
2 everybody who came. Your thoughts and ideas and
3 comments have been very helpful to us.

4 What we'll be doing is going back, taking a
5 look at our framework, evaluating the comments that we
6 received today and any written comments that we may
7 receive in the next several weeks. Again, about three
8 weeks, the 20th of July, we would like any written
9 comments that you may have that you would like to
10 present on the framework today. Then we'll be
11 evaluating those and revising our framework for a
12 future time.

13 Does anybody have any closing comments? Yes.

14 LARRY OLMSTEAD: Who are the written comments
15 to be directed to?

16 DEBORAH NAGEL: Direct them to me. The same
17 information should be in the *Federal Register*.

18 JIM ELDER: Larry, or anyone else, if you
19 have the *Federal Register* notice announcing this
20 meeting, it had Deborah's mailing address, as well as
21 e-mail.

22 DEBORAH NAGEL: For the mailing address, if
23 you're mailing them to me, the zip code for Washington,
24 D.C., where we're located is 20460, and my mail code is
25 4203.

26 JIM ELDER: Again, any comments about the
27 format arrangement for today's meeting? Yes. We had
28 simultaneous again. Photo finish. Yes.

1 WINIFRED PERKINS: My name is Winifred
2 Perkins, and I'm with Florida Power and Light Company.
3 I would very much like to commend EPA's effort today.

4 I think for the September 10th meeting, it
5 would be very helpful if, in advance of the meeting,
6 once again EPA was in a position to prepare a draft
7 framework or a series of bullet points outlining some
8 of your current thinking on both the mitigation issue
9 as well as the cost issue. That way we could have a
10 healthy discussion and engage in the specifics and
11 think about some of the subtler issues before the
12 meeting.

13 The draft framework today really helped, at
14 least from our perspective, preparing some thoughts,
15 some ideas, and I encourage you to do the same for
16 September.

17 DEBORAH NAGLE: Okay. Thank you. We will.
18 We'll in fact get out information for broader groups of
19 people for the next meeting.

20 JIM ELDER: Before you leave, I have been
21 signaled that the updated attendance list is available
22 out at the table in the hallway, and again, if you
23 leave before everybody else does, please turn in your
24 name tag.

25 I saw a hand over here go up.

26 SPEAKER: Just as a possible additional
27 agenda item for September, perhaps a discussion of best
28 technology and technology options that are out there
29 and different options for mitigating impacts when
30 they're found.

1 DEBORAH NAGLE: Okay. We'll look at that for
2 the September meeting, and what we think agenda-wise,
3 and if we think it won't fit in time-wise, then we
4 might leave that for an additional date because that's
5 important.

6 JIM ELDER: State of the art type of
7 discussion.

8 SPEAKER: Right.

9 JIM ELDER: William?

10 WILLIAM SARBELLO: Thank you. Just wanted to
11 echo that I think that there will be an opportunity, if
12 maybe not at the next meeting, but at a subsequent
13 meeting, to talk about some of the technology options
14 because there are an awful lot of success stories for
15 how things can be done reasonably and effectively.
16 Some people may not be aware of that. That should be
17 part of the consideration, a part of this process in
18 choosing an approach.

19 The other thing was just a comment to
20 compliment EPA on the opportunity to participate. This
21 is much better to get involved earlier rather than at
22 the rule-making stage. Thank you.

23 JIM ELDER: Okay. Anyone else? If not, I
24 want to thank you for making my job so easy today.
25 Everybody did behave in a very constructive fashion. I
26 thank you very much.

27 (Whereupon, at 3:46 p.m, the PROCEEDINGS were
28 adjourned.)

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