

NUCLEAR REGULATORY COMMISSION

ORIGINAL

COMMISSION MEETING

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1 UNITED STATES OF AMERICA
2 NUCLEAR REGULATORY COMMISSION
3 PUBLIC MEETING -- BUDGET SESSION
4

5 Nuclear Regulatory Commission
6 Commissioner's Conference Room
7 1717 H Street, N.W.
8 Washington, D. C.

9 Wednesday, July 22, 1981

10 The Commission met, pursuant to recess, at 2:15
11 o'clock p.m.

12 BEFORE:

13 NUNZIO PALLADINO, Chairman of the Commission
14 VICTOR GILINSKY, Commissioner
15 PETER A. BRADFORD, Commissioner
16 JOHN F. AHEARNE, Commissioner

17 ALSO PRESENT:

18 SAMUEL J. CHILK, Secretary
19 LEONARD BICKWIT, General Counsel
20 LEN BARRY, Comptroller
21 WILLIAM DIRCKS, Executive Director for Operations
22 K. CORNELL
23 DENNY ROSS
24 ROBERT MINOGUE
25 JOHN DAVIS
DENNIS RATHBUN
VICTOR STELLO
LLOYD DONNELLY
JESS FUNCHER
DARRELL EISENHUT

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P R O C E E D I N G S

1
2 CHAIRMAN PALLADINO: Will the meeting please come
3 to order.

4 This session is a continuation of our earlier
5 discussions on the budget for the NRC. We were in the
6 middle of questioning yesterday afternoon, focusing for the
7 moment on Inspection and Enforcement. I think we had
8 covered the questions of our other Commissioners, but
9 Commissioner Ahearne had not had a chance to ask his
10 questions. So as we proceed, we'll begin with him.

11 COMMISSIONER AHEARNE: First, Vic, would it be
12 possible to get a table of the workload and the number of
13 region-based inspectors? I think I already asked one of
14 your assistants for that.

15 MR. STELLO: Yes, and I don't have copies, but
16 I'll send it down.

17 COMMISSIONER AHEARNE: Thank you. I would if
18 possible like to get it before we get to the markup on
19 that.

20 MR. STELLO: I'll leave you a copy.

21 COMMISSIONER AHEARNE: How many state liaison
22 officers are included in the '83 I&E budget?

23 MR. STELLO: I believe the number now is a total
24 of five.

25 COMMISSIONER AHEARNE: So you essentially by '83

1 would have a liaison officer in each region?

2 MR. STELLO: We do now and they are now going to
3 be part of our budget.

4 COMMISSIONER AHEARNE: They used to be in State
5 programs.

6 MR. STELLO: That is correct. And they will be
7 carried in our budget from here on in.

8 COMMISSIONER AHEARNE: In '81 you assumed some
9 licensing review work as part of the licensing recovery
10 program.

11 MR. STELLO: That is correct.

12 COMMISSIONER AHEARNE: How much of that kind of
13 work will you be doing in '82 and how much in '83?

14 MR. STELLO: I don't know in terms of man-years.
15 The discussion we are having is to pick up 500 action items
16 for operating reactors. How much of that will be an
17 additional workload for those years, I won't know until I
18 know what the items are. But our plan is to pick some of
19 those up.

20 I don't believe it will be a significant addition,
21 because I do believe we can pick those actions which we
22 already have an involvement with, so that the extra effort
23 per action will be minimal.

24 COMMISSIONER AHEARNE: What is the man-year effort
25 that you are now devoting in '81 to these NRR licensing

1 actions where work is transferred over?

2 MR. STELLO: I believe the number that we
3 presented in our projection was about three additional
4 man-years.

5 COMMISSIONER AHEARNE: In '81?

6 MR. STELLO: Yeah. Not counting, for example, the
7 duty officer issue, which is an unsettled issue.

8 COMMISSIONER AHEARNE: Now, in '82 -- are the '82
9 and '83 numbers you're talking about really the same
10 magnitude?

11 MR. STELLO: My expectation is there will be
12 clearly an increase with these actions. I don't know how
13 much over and above those. Those three staff years ought to
14 carry into the next budget year until we finish up those
15 action items.

16 He's telling me we forecast six for '82. But
17 again I'm reminding you that until we have the actions that
18 is uncertain.

19 COMMISSIONER AHEARNE: In the '83 budget?

20 MR. DONNELLY: None.

21 MR. STELLO: Again with the caveat, we have not
22 worked the issue, the 500 action items.

23 COMMISSIONER AHEARNE: On the nondestructive
24 examination papers, you now will have such a van, how many
25 I&E people will you assign to that or do you plan in the '83

1 budget to assign to it?

2 MR. STELLO: One. In terms of positions, one.
3 There is some additional staff dollars that go with that,
4 obviously.

5 COMMISSIONER AHEARNE: Have you reached the
6 conclusion that it's better to have contractors use that van
7 than I&E people?

8 MR. STELLO: I would prefer I&E people. We have
9 some individuals that have an awful lot of expertise that we
10 were on the fringes of getting when the freeze hit us and we
11 lost them. We may have to, until we can get I&E people, use
12 a contractor to supplement. My preference is to rely on I&E
13 people with that particular expertise.

14 COMMISSIONER AHEARNE: So by the '83 budget, which
15 gives at least a year of recruiting. Is the '83 budget
16 predicated upon the assumption that I&E people will be using
17 the van or contractors will be using the van?

18 MR. STELLO: Our, again, preference is we will use
19 our people for it. We have allowed some additional
20 dollars. And in '83, since we have had essentially no
21 experience with it yet, there could be some particular
22 special expertise which we want to hire to supplement.

23 COMMISSIONER AHEARNE: I'm not trying to get the
24 fine details, Vic.

25 MR. STELLO: The overall purpose in '83 is to have

1 it in essence run by I&E people.

2 COMMISSIONER AHEARNE: That was my real concern.

3 MR. STELLO: Yes.

4 COMMISSIONER AHEARNE: You have a program in which
5 you are going to do fire protection inspection, Appendix R
6 fire protection, I believe. And as I understand it, you are
7 going to do a one-time comprehensive review for compliance.

8 MR. STELLO: That is our desire, right.

9 COMMISSIONER AHEARNE: As opposed to the normal
10 audit check.

11 MR. STELLO: We will continue to do inspections.
12 But at some point when the fire protection reviews are
13 finished and equipment installed, at that point do a
14 comprehensive look at each of the facilities.

15 COMMISSIONER AHEARNE: Which is a 100 percent
16 review, is that correct?

17 MR. STELLO: I hate to use that word "100
18 percent." A comprehensive look which will be substantially
19 in excess of the audits we do now.

20 COMMISSIONER AHEARNE: This will be done using
21 contractor support?

22 MR. STELLO: Our desire is, because we expect it
23 to be a very large peak kind of workload, to go out with
24 contract work rather than increase staff for that specific
25 purpose.

1 COMMISSIONER AHEARNE: Now, is this what you see
2 as -- would this be a precedent, then, for each time the
3 Commission establishes a new rule that you would then do
4 this very comprehensive one-time scrub?

5 MR. STELLO: No, not for each new rule. For
6 clearly important, significant issues, such as fire
7 protection, such as emergency preparedness. In contrast, an
8 area where we did do it where there was no new rule passed,
9 in health physics we went around and did a comprehensive
10 look in the health physics area, which incidentally was
11 very, very good and very beneficial in helping us understand
12 what we've been doing right and wrong in the past.

13 COMMISSIONER AHEARNE: Could you say a few words
14 about -- you have approximately a million dollar item for
15 bulletin contract support. As I understand it, you have a
16 backlog of the responses to your bulletins. Could you say a
17 few words about what size that backlog is and the context of
18 having you get contractors to review the responses, as
19 opposed to having, say NRR, Research, or AEOD or somebody?

20 MR. STELLO: For what we have in '83, it is more a
21 projection based on previous experience of what bulletins
22 really mean to us. And let me put it, a very small effort
23 associated with analyzing the results of bulletins in terms
24 of feedback into both our own process and in the licensing
25 process.

1 But let me suggest that that is a small issue.
2 The larger issue is based on previous experience, such as
3 the baseplate bulletin, the snubbers, the seismic issues
4 that have come down. We have issued bulletins for which
5 there was a very large workload.

6 And it is in anticipation of those specialized
7 kinds of things that do happen to us that we want to
8 allocate and plan based on previous experience that '83 that
9 will probably happen some more, so we are not stuck with
10 impacting the staff on a large amount of reactive effort,
11 where we use all of our structural engineers or all of our
12 electrical engineers, relying on that kind of an effort to
13 help with the bulletin problem.

14 COMMISSIONER AHEARNE: I gather that --

15 MR. STELLO: The language in our budget has got a
16 lot of general statements.

17 COMMISSIONER AHEARNE: It sounds like you foresee
18 this would be probably a constant requirement.

19 MR. STELLO: If you only look based on history and
20 you project to the future, it does appear to be a constant.
21 No, I can't tell you what they are because I really don't
22 know. But based on previous experience, we can expect and
23 project that '83 will have similar occurrences. And they
24 are very disruptive, I might add.

25 COMMISSIONER AHEARNE: And the argument for doing

1 this on contract rather than saying that that means a
2 requirement for increased staff is that the particular areas
3 of knowledge that are needed vary from --

4 MR. STELLO: Bulletin to bulletin, yes.

5 COMMISSIONER AHEARNE: You have an area in for
6 aerial radiological surveys, I guess about three-quarters of
7 a million dollars. What exactly is that for?

8 MR. STELLO: The most recent example that pops
9 into mind is up at Stepan Chemical we had a problem where
10 radioactive --

11 COMMISSIONER AHEARNE: It's just transfer funds to
12 DOE to run theirs?

13 MR. STELLO: Yes. It's a reactive kind of a thing
14 where we are looking for material around the site.

15 COMMISSIONER AHEARNE: All right, I understand
16 it.

17 MR. STELLO: An important part is, every single
18 plant before it goes into operation we do a complete area
19 map and do a background survey so we know what the
20 background radiation is prior to the plant going into
21 service, and then periodically we can go back and look at
22 any changes.

23 COMMISSIONER AHEARNE: Do you have the one-time
24 safeguards review budgeted in '83?

25 MR. STELLO: That is the same sort of thing I have

1 been talking about for the bulletins and fire protection.
2 It is to pick up some of those items.

3 COMMISSIONER AHEARNE: The fire protection was, as
4 I understood it, we made a major change. We put on a major
5 new rule and so there are a number of new items that have to
6 be inspected against, and I can understand that one time.

7 The safeguards, I'm a little puzzled. What is
8 new?

9 MR. STELLO: There are several new rules that are
10 forecast for that time period in the safeguards area.

11 COMMISSIONER AHEARNE: So this would not be a
12 question of whether licensees are in compliance with the
13 current rules. It is predicated on a new set of rules
14 coming out.

15 MR. STELLO: That is correct.

16 COMMISSIONER AHEARNE: So that if the new rules
17 don't come out, then you wouldn't need that.

18 MR. STELLO: That is correct.

19 COMMISSIONER AHEARNE: In one of the backup tables
20 you provided the dollars for the nuclear data link. How
21 many people do you have allocated to that?

22 MR. STELLO: Three?

23 MR. DONNELLY: No, it was four. Two plus two for
24 a total of four.

25 COMMISSIONER AHEARNE: A very small number?

1 MR. STELLO: Yes, sir.

2 And incidentally, you remember yesterday a remark
3 that we are looking to that source for some of these
4 resources to help out this duty officer problem in the
5 meantime.

6 COMMISSIONER AHEARNE: I'm not sure, I guess this
7 is probably more a question to the comptroller. I&E had
8 spent a lot of time working out the legislative proposal for
9 additional funds to be allocated for the resident inspectors
10 and moves to alleviate some of the difficulties that we
11 saw. You put forward a proposal, the Commission worked it
12 over and sent it on forward to the Executive Branch. There
13 were costs associated with that.

14 In whose budget would those costs normally show
15 up? Is that travel and movement?

16 MR. BARRY: That was basically administrative
17 support budget.

18 COMMISSIONER AHEARNE: Administrative support
19 budget. Has I&E requested those funds to be included in the
20 administrative support budget? Have you requested those
21 funds be put in the administrative support budget?

22 MR. STELLO: We have not had any discussion at all
23 on projecting the funds in the '83 budget that I am aware
24 of. There was a paper that came to the Commission with a
25 projection. We've had no discussion at all.

1 COMMISSIONER AHEARNE: I guess my question is, do
2 you still support that?

3 MR. STELLO: Absolutely.

4 COMMISSIONER AHEARNE: So you would request that
5 they be included in the administrative support budget?

6 MR. STELLO: Yes.

7 COMMISSIONER AHEARNE: Is it possible to include
8 them in the administrative support budget?

9 MR. BARRY: In what we costed out for a given
10 year, I have put about half that amount in in '83.

11 COMMISSIONER AHEARNE: Could you give me a little
12 paper which would show how much would have to be added, so
13 that when we get into markup I might want to raise that.

14 Those are all my questions.

15 CHAIRMAN PALLADINO: Could I have a follow-up
16 question on the fire protection question. You said there
17 was going to be a comprehensive review, but then you said
18 you didn't go along with the 100 percent. What do you mean
19 by a comprehensive review? Are you going to try to get to
20 most of the plants or --

21 MR. STELLO: Oh, no, we will go to all of the
22 plants. Exactly how much of the review we do and how much
23 detail we go into will vary. I don't believe it is
24 possible, when one enters into the question of reviewing
25 every design calculation, every cable interaction that was

1 done in the plant, that that can be done 100 percent. That
2 will be at best an audit, lest the resources become
3 astronomical.

4 CHAIRMAN PALLADINO: You are going to go to --

5 MR. STELLO: All plants.

6 CHAIRMAN PALLADINO: Is there a follow-up review
7 later or a periodic review?

8 MR. STELLO: Yes. Then we will revert to a
9 routine inspection program for fire protection.

10 CHAIRMAN PALLADINO: May I pick up on a question
11 that I asked yesterday. I still am interested in it. When
12 Commissioner Ahearne was called to testify before, I guess
13 it was, Congressman Bevill's Committee and he was asked how
14 many people we had in licensing, and in order to get a true
15 representation of the number he came up with 180 people
16 shown in IE as being concerned with casework load.

17 This year when I look at the casework crossplot
18 here, it shows that I&E has only, depending on the year, 27
19 or 21 people on casework load. And I am still concerned
20 that if I have to go forward and answer a similar question I
21 will be caught with numbers like 21 to 27 rather than the
22 numbers like the 180 that you had in I&E.

23 And if I use those lower numbers, even though
24 we've made a great deal of effort to expand the NRR numbers,
25 it would look like the total number went down.

1 MR. STELLO: Could I see the crosscut? There's
2 got to be some disconnect.

3 CHAIRMAN PALLADINO: Here are the two documents
4 I'm looking at.

5 MR. DIRCKS: He picked up the emergency planning
6 function.

7 CHAIRMAN PALLADINO: I'm not disagreeing with your
8 180. I don't want to get trapped in there pulling out a
9 document saying there's only 27.

10 MR. DIRCKS: I think we have to modify that.

11 MR. STELLO: Let me explain to you. We have in
12 I&E a licensing function where we do licensing reviews in
13 the emergency preparedness area only. Then we do the
14 inspection and enforcement for those plants that are in the
15 licensing process. That is where the 180 number comes from,
16 the total inspection effort.

17 This number is a number for the licensing activity
18 only.

19 COMMISSIONER GILINSKY: Licensing for which you
20 are directly responsible.

21 MR. STELLO: Yes.

22 MR. DIRCKS: For every plant coming into
23 operation, he has to do preoperational inspection and sign
24 off on that plant before it goes to --

25 CHAIRMAN PALLADINO: Well, I don't want to get

1 caught in the trap of saying, last year you showed 180 and
2 --

3 COMMISSIONER AHEARNE: Where did you get that?

4 CHAIRMAN PALLADINO: I gather it came from your
5 testimony.

6 MR. DIRCKS: We'll modify that.

7 CHAIRMAN PALLADINO: Or at least provide some
8 document or some piece of paper, so that I have that kind of
9 crosscut so that we can respond to questions.

10 MR. DIRCKS: The 180 number.

11 MR. STELLO: The 180 number is the correct
12 number.

13 CHAIRMAN PALLADINO: Okay. Any other questions in
14 this area?

15 (No response.)

16 Well, Bill, suppose we turn to research. And if
17 my colleagues will allow, I thought I'd start out with a
18 couple of general questions on research.

19 Of particular interest to me at the moment is
20 trying to see or get a feel for what research we need to do
21 and what research we should be having others do. And I was
22 wondering if we might get some specific examples of how we
23 are relying on, for example, the Department of Energy's
24 research and development activities in lieu of spending NRC
25 funds for research.

1 Are there examples of research being done on which
2 we rely that is being done by DOE as opposed to spending our
3 own money?

4 MR. DIRCKS: I would like to try to find other
5 examples besides DOE right now. But I'll ask Bob. I don't
6 think we have a good record on DOE supporting our research.
7 I think Bob might want to touch on other areas.

8 MR. MINOGUE: Let me talk separately, if I may,
9 about the LWR area, and then I may ask Denny Ross to talk
10 about the breeder program.

11 In the LWR area, beginning with the passage of
12 some legislation late last year, there has grown a
13 recognition between the two agencies, that's really being
14 implemented now that Mr. Brewer has been confirmed, that we
15 will work with DOE and through DOE with a number of the
16 industry groups to provide some basis for better
17 coordination of planning and research activities, so there's
18 no inadvertent duplication.

19 So it's not quite so much what you were talking
20 about, us getting them to do work that we might otherwise
21 have done, as to be aware of what DOE is doing and what the
22 industry is doing under the umbrella of DOE, so that we
23 don't duplicate, so that if we do have research work that
24 has common elements we could coordinate the program elements
25 in a way that future activities don't duplicate.

1 CHAIRMAN PALLADINO: Are there examples of work
2 where we have told them, we are relying on you for these
3 data?

4 MR. MINOGUE: I was about to go to that. Specific
5 areas where there was a real shift of thinking that DOE
6 should take the lead first is the commercialization of
7 improved instrumentation and improved system concepts,
8 safety concepts, where we have had discussions in the
9 framework that we would rely on our efforts to flag
10 approaches that may make sense, but the assessment of those
11 approaches for practicability in the commercial sector would
12 be done either by DOE or by DOE interfacing with and driving
13 the industry.

14 Another area that would relate to this area, the
15 area of evaluation of operational transients in a broader
16 framework than their safety significance. We've got a lot
17 of work on that, primarily inputs with safety significance.
18 There's a ~~broader~~ context. There's the question of property
19 damage to the facilities, where the end result in terms of
20 factoring that into operator training would eventually be
21 combined.

22 We agreed that that would be an area where we
23 would rely on their broader program and make sure that
24 anything we did on operational transients would be
25 specifically focused on safety questions. Related to that

1 is that we've had some discussions with them about the
2 possibility of building, I'll call it, a simulator. That is
3 not quite the right word. It would be a big combination of
4 computer and software that would enable the study of
5 transients on a computer in a system that would enable you
6 initially to understand the transients better, and events
7 and improved diagnostics and improved response.

8 CHAIRMAN PALLADINO: Is that being done by DOE?

9 MR. MINOGUE: That we are proposing that they
10 would do, that we would be participants in that in some
11 way. At that point, of course, it gets into an arena where
12 they have to start asking for big bucks. And I'm not sure
13 how much of this would pan out. You know, they have the
14 same budgetary constraints that everybody else does.

15 But these are areas that we have identified. I
16 think there's been a significant improvement in the working
17 relationship between the two agencies in the last month,
18 certainly in the last week since the appointments have been
19 made and confirmed. And I am really looking that we will
20 have a good working relationship with them in some of these
21 areas, where we'll have a better coordination of programs.

22 MR. DIRCKS: But the short answer to your first
23 question is we have not had very much research work done for
24 us by DOE in the safety area.

25 CHAIRMAN PALLADINO: I was thinking particularly,

1 looking ahead to the breeder. Here's a whole new area, a
2 whole new thrust, and we could take any one of a variety of
3 postures. But one of them might be, to DOE, we tell DOE:
4 Look, you get all the data you need for those plants; we're
5 going to specifically need this, this and the other thing.
6 And part of your development program, you ought to do
7 research in those areas.

8 Otherwise we are left with having to pick up the
9 pieces and that just adds to our budget. I'm concerned that
10 our budget is roughly about 50 percent on research and I
11 want to make sure that we are getting the most mileage out
12 of it.

13 MR. DIRCKS: When we talked about the breeder
14 earlier, we had a big question mark and we gave a range, 10
15 to 20-something. Now, the low end is based on the hope that
16 DOE will do a considerable amount of work for us. The high
17 end is if they tell us, no, they can't.

18 Denny Ross, as Bob was pointing out, has been
19 involved with some meetings over there. I myself met with
20 Shelby Brewer. We have an agreement in principle, but not
21 an agreement in fact. So I think it might be good if Denny
22 picked up.

23 MR. MINOGUE: I'd like to make a comment, if I
24 may, first. Because Bill is right, the LWR area we're
25 looking at, trying to turn something around where we have

1 got the problems of past actions by others. With the
2 breeder we are starting with a clean sheet of paper.

3 I kind of object to Bill's term "research they do
4 for us." The research they will do will support their
5 application, support their technology. Denny has been
6 taking the lead on this interface, and basically what we are
7 thinking in terms of is that we will establish clear
8 criteria as to what constitutes regulatory research, and
9 that would be things like research that would be developing
10 methodologies of licensing review, research to provide some
11 basis for requirements, or research that would relate to an
12 audit structure, and not research to support the
13 applications.

14 What we intend to do is to lay out in heavy
15 concentration with the other NRC offices and work it
16 together with DOE to really lay out very specific
17 identifications of research requirements that would either
18 support breeder technology or Clinch River applications.
19 Whichever the mode is, we would expect them to do it, but
20 they are not doing our research for us. That's a term that
21 Bill used that I object to.

22 They're doing their own research. It is we who
23 will not do their research for them, not the other way
24 around. Our mission is regulatory research.

25 CHAIRMAN PALLADINO: That is the thrust I was

1 trying to get across. And the question is to make sure we
2 do take advantage and we try to get a start on a better foot
3 with regard to the breeder.

4 Do you want Denny to make --

5 MR. ROSS: Specifically where we are, we reached
6 agreement about a week ago with the two agencies to in
7 effect open marketing sessions where both sides would be
8 represented as to who should do what and when. Our work
9 product would be a memorandum of understanding between the
10 two agencies.

11 We think we need this because of the long-range
12 planning aspect. If we don't start now then the needed
13 research, and in particular if it involves big facilities,
14 it won't be available in the 1990 time frame, when one
15 scenario shows the OL issuance for the first plant.

16 What we have to do in the next two months is to
17 agree on the criteria as to what the regulatory agency and
18 the development agency, so we could classify. We have a
19 list of a couple of dozen items that we think are specific
20 items that are useful for research, and we would test these
21 items against the criteria and try to reach an agreement in
22 principle, you do this and you do that.

23 These include things like primary system
24 integrity, large experiments on the degraded core,
25 containment response to sodium fires, sodium-concrete

1 interaction, complex analytical tools for the core and
2 primary system, natural circulation heat removal, and some
3 other items that could be more Clinch River specifically
4 related.

5 Now, in addition to DOE, the Clinch River project
6 would be a party at these meetings, because DOE keeps money
7 in several pockets, some called base, some called Clinch
8 River. So initially at least the Clinch River project will
9 participate.

10 Eventually we will have to be more formal, more
11 separated, because we are in a licensing posture, and the
12 licensing office in NRR would have a specific list of items
13 that, pursuant to 51.35, that they would want to put in the
14 application, perhaps even make it a condition of licensing.
15 These specific items I don't think will come about until the
16 NRR team has had a few months to become updated on what has
17 been provided in the last four years.

18 So we have a good -- oh, it is about a 75-page
19 draft report that defines these two dozen issues, which DOE,
20 by the way, has already critiqued once. And it is a good
21 basis for discussion.

22 We would like to have this done by early to
23 mid-September. By then we would like to have at least the
24 longer-range items listed. These I think would include the
25 more exotic: sodium fire studies, the scale model

1 containment response studies, and improvements in the core
2 primary system heat transport calculations that have to do
3 with things like sodium streaking or laminar sodium patterns
4 in the upper internals.

5 Once we can get the long-range stuff out of the
6 way, then I think we can pick up the short-range.

7 CHAIRMAN PALLADINO: I am heartened by the efforts
8 to get this agreement and I look forward to seeing what
9 develops out of it. I think it can be beneficial to us and
10 make sure we get the kind of research we need from our
11 efforts and get DOE to do what it should be doing for its
12 own efforts.

13 MR. DIRCKS: We intend to have OMB party to these
14 negotiations, too. I think the timing is important. As
15 Denny pointed out, early September, because by that time our
16 budget will have arrived at OMB, and we hope to talk about
17 fiscal '83 in that context.

18 CHAIRMAN PALLADINO: Can I move on to another
19 question. We spent a lot of money on some rather expensive
20 research programs and I was wondering, what examples do you
21 have showing how the results of some of this expensive NRC
22 research program, how those have been used in the regulatory
23 process?

24 Do we have a direct linkage or a direct enough
25 linkage so that we have some good examples of how that

1 research has helped in the regulatory process, particularly
2 where we spend significant amounts of money?

3 MR. MINOGUE: We have a lot of relatively small
4 examples in the sense of use of some of the codes that have
5 been developed and specific licensing actions, picking up
6 some of the results of research in some of the standards and
7 guides and things of that type.

8 In terms of a big splashy application of these
9 results for some major change in the requirements in some
10 industry, though, they really are none of those. Let me use
11 LOFT as an example. The LOFT can really be seen as having
12 two objectives: One was to confirm the general conservatism
13 of the Appendix K models. Another one might be seen as
14 refining the understanding of the margins and levels where
15 you could really begin to go back and make changes in
16 Appendix K.

17 The first of those objectives was achieved. The
18 second has really not been achieved. So I don't think
19 there's any single thing that you can trot out.

20 If that question is raised by OMB, and I expect
21 it, I am sure they will raise it, what we will do is
22 basically to show them a long laundry list of specific
23 applications in individual licensing areas, because there
24 have been quite a few of those.

25 CHAIRMAN PALLADINO: I am not as much interested

1 -- well, I am interested, of course, in OMB. I have my
2 comment that I am also interested in our own efforts to
3 utilize our research funding to support the regulatory
4 process as much as we can. And it might be a point that we
5 want to focus on more clearly as we develop projects
6 involving significant costs.

7 MR. DIRCKS: I think you put your finger on a
8 troublesome issue that has been persistent. I think what we
9 have planned to do over the past couple of years is to
10 formalize this process in a more stringent way.

11 Bob, you might want to talk about the research
12 information letter, the tracking system, the tracking system
13 at the NRR, the feedback you get from them. It is a fairly
14 new process and I don't think we have a lot of results, big
15 results, as Bob mentioned. We have a series of small ones.
16 But the process itself might be informative.

17 COMMISSIONER GILINSKY: What is the sort of thing
18 you refer to as a small list?

19 MR. MINOGUE: A specific list, a lot of the codes
20 we use are used by the licensing staff in dealing with
21 specific issues. Denny can give some other specific
22 examples.

23 COMMISSIONER GILINSKY: It occurs to me the
24 requirements on environmental qualifications stem from
25 tests.

1 MR. MINOGUE: That comes from research. That's
2 what I would call one of my small areas.

3 COMMISSIONER GILINSKY: Okay.

4 MR. ROSS: I have a comment on one, going back one
5 organization. When I was in Licensing, the first year I saw
6 after TMI a lot of licensing activity in the area of the
7 small break LOCA and what was the right thing to do in
8 regulating both the man and machine, a tremendous amount of
9 research facilities and analysis. In particular Semi-Scale
10 and LOFT were virtually diverted 100 percent to this
11 activity, and only last December when I think the final LOFT
12 test was run on the small break LOCA was the licensing
13 solution considered dispositive, that is the primary coolant
14 pumps.

15 I think the fact that the NRC had these facilities
16 and these analysts available and put them to use shouldn't
17 go ignored. It was very important. They weren't
18 particularly planned for it, but they were sure useful and
19 were used at the time.

20 CHAIRMAN PALLADINO: We proposed to continue LOFT
21 into 1983, and I asked the question earlier, why couldn't we
22 cut it off sooner. Are the tests that are going to be
23 carried out on LOFT, are they related to specific regulatory
24 needs, or would we be saving some worthwhile money by phasing
25 out the LOFT sooner?

1 In other words, are the tests coming up related to
2 the regulatory process?

3 MR. MINOGUE: They are keyed to specific areas.
4 There's a residue of Appendix K questions that some of these
5 tests deal with, and the others deal largely with the use of
6 this integrated facility with a core in it -- it is a
7 nuclear reactor -- the use of it to check out some of the
8 issues of transients and small break LOCA's. So we are
9 using this very unique facility during the remainder of its
10 life to do tests to deal with some of these complex
11 transient issues that could not be done anyplace else.

12 CHAIRMAN PALLADINO: Will that be helpful or
13 useful in NRR?

14 MR. MINOGUE: It will be helpful. I want to make
15 it clear, we are dealing with this from the position of
16 people who have a facility that is bought and paid for,
17 there it sets, and it has certain capabilities. Once it is
18 shut down, we won't have that device any more.

19 In developing this final set of tests it was very
20 definitely a consideration of not, would it be worthwhile
21 building this facility from scratch to do these tests, but
22 are these tests of sufficient value to warrant maintaining
23 that facility on line to run them. And the considered
24 conclusion after a lot of scrubbing was that this final
25 group of relatively short list of tests did have that kind

1 of value.

2 COMMISSIONER GILINSKY: To put it another way, the
3 costs involved in running that program for a year are
4 comparable to the costs of running one of the other large
5 offices in the Commission, for example the NRR. It's a
6 little more, but roughly speaking it is the same order of
7 magnitude.

8 MR. MINOGUE: It is a very high-cost facility, and
9 I think that is really a generic problem, in the sense that
10 in all of the planning of future activities we are putting
11 all -- and you touched earlier on cooperative work for DOE.
12 But we really should broaden that, because you can think in
13 terms of cooperative programs with industry and with other
14 governments.

15 I think we've built our last big facility. The
16 real big message of all of this is that an agency with a
17 relatively narrow regulatory mission should not become the
18 owner and operator of a complex facility. We should try to
19 define our needs in a way that we can piggyback into other
20 people's programs and get our needs met that way. That is
21 the way we're trying to operate in the future.

22 We've had very good success, good feedback from
23 DOE, from the industry in this country and from other
24 countries. But we do have these residual facilities that go
25 back to an earlier era.

1 CHAIRMAN PALLADINO: But is the expenditure on
2 these tests, is that the effective way to use our money, or
3 would it be better if we used our money some other way
4 during this period?

5 MR. MINOGUE: In the considered judgment of the
6 staff, that was reviewed and in fact modified some by the
7 Commission, the answer to that is yes. The ACRS would not
8 agree with that. There are other factions in one direction,
9 other factions that would not agree in the other direction.
10 This is very much of a judgment call as to where you draw
11 the line.

12 CHAIRMAN PALLADINO: Well, I'm trying to get a
13 feel, because if NRR were to say, well, they are very
14 marginally useful, I'd be inclined to say let's phase it out
15 sooner. If NRR or any other division says --

16 MR. MINOGUE: NRR supports this list. In fact,
17 that's what we have on hand right now, is a very carefully
18 scrubbed list. It is less than the list that the special
19 review group proposed. So we've done a scrub even from the
20 special review group.

21 CHAIRMAN PALLADINO: You mentioned the ACRS and
22 that brings me to another question I have. What is your
23 general reaction to ACRS comments regarding the thrust and
24 scope of the research program? And I guess they come in
25 several different forms.

1 MR. MINOGUE: That is the point I was going to
2 make first. There actually is a continuing dialogue between
3 us and the ACRS. So you've got a moving target. At any
4 given time there will be old recommendations that we've
5 incorporated or that we may not have incorporated because
6 they just don't agree, and there will be current
7 recommendations that will have come out right now.

8 I would say, though, when I did review the '83
9 budget with them just a few weeks ago, that I would
10 characterize their judgment of the program as being one that
11 by and large would support the level of spending in the
12 different broad areas. They do have some specific areas
13 where they should shift emphasis somewhat that I think would
14 need further examination by staff, but it doesn't affect the
15 overall level of funding in terms of broad decision units.

16 For example, they flagged in the last review
17 questions of the relative emphasis between code development
18 and code application. In response to earlier feedback, we
19 had made a strong swing toward code application. We're now
20 getting signals that say, hey, you overdid it, you went too
21 far, back off a notch. We're talking here about the total
22 funding being much the same, a shift in emphasis, changed
23 somewhat.

24 They've got some concerns in another area that I
25 think are quite legitimate with the interface between the

1 action evaluation work, which is phenomenological work,
2 studying transients and studying fuel behavior in the
3 various accident sequences and the risk assessment work.
4 They are saying in effect, how are these cross-playing
5 between each other and to what extent is the current work in
6 risk assessment being considered in evaluating the details
7 of the program.

8 They have some concerns with the SSMIP program,
9 which deals with the seismic safety margin. But these are
10 technical comments where we find their input extremely
11 valuable and that we expect to really work out in a way that
12 is mutually satisfactory.

13 The areas where I think there are significant
14 differences are: first, in regard to LOFT, which we have
15 discussed; and then, at least as an organization, they
16 clearly would at the current time, at the present time, put
17 more emphasis on use of risk assessment more broadly in
18 assigning research priorities than we are prepared to do.
19 We just do not feel that the data base would support such a
20 non-qualitative or non-judgmental use of risk assessment.

21 I would say other than that what we are really
22 talking about is detailed issues that we would work out with
23 them. Those are two areas where they clearly have some
24 major problems.

25 CHAIRMAN PALLADINO: I gather, then, you feel you

1 are coping with the ACRS comments and putting them to use,
2 as well as your judgment?.

3 MR. MINOGUE: I feel we got very good -- when they
4 give us advice on the technical content of programs, that
5 advice is almost always worth very serious consideration and
6 worth taking. We do a very thorough job in reviewing it.

7 Occasionally when you get into these issues of
8 broad value judgments among programs, there are factors that
9 weigh on us that they don't deal with and they may not come
10 down with the same answers. The LOFT would be a perfect
11 example. I think both of us see a problem, like it's a very
12 high -- you've raised that -- a very high-cost facility, is
13 the data worth what it costs? The value judgment that comes
14 out of that is an area where we have a real difference.

15 But when you get into the specifics of the
16 program, I find their comments extremely worthwhile and we
17 generally follow their comments. I think you'd find that
18 they would say much the same. In fact I think they did say
19 that in a letter they just sent you.

20 CHAIRMAN PALLADINO: I'll try one more question
21 and then I'll turn the questioning over to my colleagues.

22 What is the general thrust of the degraded core
23 rulemaking activities and the related research?

24 MR. MINOGUE: The main thrusts, there are three
25 major elements in the research program that tie into that:

1 First is a program that is aimed at defining the whole range
2 of complex system transients that the plants will see. The
3 emphasis there is fundamentally on developing codes that one
4 would use as tools to define the transients.

5 The second stage is the conduct of a number of
6 experiments to provide a realistic basis for accident
7 assessment, where you would determine the behavior of fuel
8 under those transients, both in terms of how the fuel
9 behaves in mitigation systems and in terms of what kind of
10 fission products are released, what form their in, how they
11 behave in the environment they see within the pressure
12 vessel, or they may get out into the containment or outside
13 the containment.

14 CHAIRMAN PALLADINO: does that include the
15 experimental work on interaction?

16 MR. MINOGUE: Yes, that would also include work
17 with the core.

18 The last element in the program is the risk
19 assessment work. Where what I have just described in a
20 sense is developing a better data basis, the idea being then
21 with a better data base you would use your risk assessment
22 methodology to determine the probabilities and consequences
23 of accidents. This works particularly well against a safety
24 goal, obviously, and you use that as a basis for revising
25 the regulations.

1 The bottom line of all of this would be a complete
2 restructuring of dealing -- the way the regulations deal
3 with severe accidents, which I would define as accidents
4 involving any kind of fuel damage, from simple clad damage
5 clear through to cores.

6 CHAIRMAN PALLADINO: Do you feel we have an
7 adequate research program on items related to the degraded
8 core rulemaking?

9 MR. MINOGUE: I think the level of effort here is
10 adequate if two expectations prove out not to be faulty:
11 one being that we can get a lot of the information on the
12 transients from the programs of others; second, that we
13 don't require any new facilities to do fuel damage work. I
14 expect both of those expectations to be met. Given that, I
15 think the program is adequate to develop a phenomenological
16 basis to develop risk assessment.

17 Without the phenomenological basis, the risk
18 assessment techniques can't handle the problem; the error
19 band is just too large.

20 CHAIRMAN PALLADINO: What kind of time frame are
21 we working on for this regulation?

22 MR. MINOGUE: The time frame for this regulation
23 -- there have been a number of target dates talked about --
24 I think is measured in years. We are talking about several
25 years before any kind of regulation, at the earliest, might

1 come before the Committee.

2 COMMISSIONER GILINSKY: What about proposed?

3 MR. MINOGUE: Even as a proposed rule.

4 CHAIRMAN PALLADINO: And research is geared on
5 that kind of timetable?

6 MR. MINOGUE: They are on that kind of timetable
7 for the degraded core cooling rulemaking. And there's
8 another one that can't wait that long, and that is the
9 development of a basis for revised siting criteria. But
10 that does not require the same level of solidity of the data
11 because you are not dealing with design changes; you're
12 dealing with a relatively simpler problem, which is the
13 demographic criteria for siting. And that rule change is on
14 a much tighter schedule. We are looking to get to the
15 Commission at the end of December on that, of this year,
16 with every expectation of meeting it. That work is going
17 well.

18 CHAIRMAN PALLADINO: Thank you.

19 I'm going to turn over to Commissioner Gilinsky.
20 Do you want to follow up?

21 COMMISSIONER GILINSKY: You just tell me, how much
22 money are we spending, roughly, in support of this degraded
23 core rulemaking? Do you have that sort of information?

24 MR. MINOGUE: If you read it broadly, you'll
25 recognize it includes questions like the hydrogen issues and

1 some of the points that people have been wrestling with;
2 you're talking something in the range of \$50 million or so.

3 COMMISSIONER GILINSKY: 15?

4 MR. MINOGUE: 50, 5-0.

5 COMMISSIONER AHEARNE: Do you have a line item
6 somewhere in Research that says degraded core cooling?

7 MR. MINOGUE: No, we really don't. It actually is
8 the dominant program element. It shows up in three
9 decisions units. It is the LOCA and transient decision
10 unit, and accident evaluation, and the risk assessment
11 decision unit. It is not a single line item.

12 In fact, we have tried to back out a crosscut and
13 what you run into very quickly is the scope is so broad, a
14 lot of the issues that have been raised in the TMI Lessons
15 Learned and a lot of the activity there, some of which Denny
16 referred to earlier, is in fact related to the rulemaking.

17 Let me turn it around a different way. A lot of
18 the phenomenological work you could justify on other bases
19 and you could read it very narrowly and say it is only a
20 very small part of our program, in that many of the
21 questions being addressed here arise in other contexts as
22 well.

23 COMMISSIONER GILINSKY: I guess I didn't realize
24 there was that much money involved.

25 Let me ask you, to what extent -- we've talked

1 about this before, but to what extent does our contracting
2 process bias the selection of contractors toward the
3 national laboratories, and is there something we need to do
4 about that?

5 MR. MINOGUE: I think the nature of the problems
6 that we are dealing with -- there are two levels of bias.
7 I'd like to answer your question in two parts.

8 The problems we deal with typically are both very
9 broad, with many ramifications and require a lot of
10 specialized expertise or the existence of particular
11 facilities or particular staffs. That tends to skew you
12 heavily toward the national labs.

13 COMMISSIONER GILINSKY: But there you're talking
14 about choosing the national laboratories because they are
15 the best place to do a certain piece of work, which isn't
16 what I'm asking about.

17 MR. MINOGUE: That is why I wanted to answer the
18 question in two parts. There's a second part of this.

19 The staff by and large over the years has found it
20 easier to let a contract with a national lab. The
21 procedural steps are much simpler. And that tends,
22 particularly from the staff, level, tends to push people in
23 that direction. And you find both of these elements
24 present.

25 COMMISSIONER GILINSKY: Easier because it is

1 easier to get through a contracting process or easier
2 because you don't have to be as formal in writing out what
3 it is you want to do?

4 MR. MINOGUE: Both. I hope I'm discussing
5 something that we can turn around. In the past there's been
6 a tendency in dealing with national labs to have a rather
7 fuzzily defined project that you refine as you go forward,
8 the rationale being for this that it's research and in
9 research you learn and as you learn you change program
10 objectives.

11 There's some validity to that. If you go into the
12 contracting process, you've got to define up front in
13 considerable detail what you want. That is the only route
14 with an RFP. And I think by and large the staff of the
15 agency has tended to favor the mode where they go out in
16 very general terms and define the project as they go along.

17 I am trying to change that across the board
18 because I don't think we can afford that luxury any more.

19 COMMISSIONER CILINSKY: In other words, define
20 things more precisely even in the case of the labs?

21 MR. MINOGUE: And I think when then staff begins
22 to realize that the lab definition and the program
23 assumption are going to have to be done in a lot more
24 detail, they'll recognize there's not much difference
25 between going the normal contracting route and going to a

1 lab, as you define the program up front anyway.

2 This is a hard thing to turn around. I've got two
3 major objectives since I took over this office. One was to
4 improve the interrelationship of the program offices, and I
5 think I've succeeded in that extremely well.

6 The other was to do this, what we're talking about
7 now, in a much more business way, and we're just beginning
8 to scratch the surface on that. That's going to take a lot
9 of time to turn that around.

10 COMMISSIONER GILINSKY: Are we getting the
11 performance from contracting officers that we should be
12 getting?

13 MR. MINOGUE: I wouldn't want to criticize them.
14 They are an easy target, but it's an unfair target. If we
15 gave them really super program definitions, solidly thought
16 through RFP's and they took us on as they take us now, I
17 would criticize them. But given the quality of what they're
18 getting, I'm not going to criticize them.

19 MR. DIRCKS: But the problem is, and you have to
20 meet it, Government contracting regulations are very
21 complex, overproceduralized, and there are a lot of checks
22 and balances in it, even small contracts. And if Bob worked
23 out the best writeup possible, we are still going to face a
24 longer route with contracts than we will going to government
25 labs. There's no way around it.

1 And you know, we build in on our own a lot of
2 procedures that take time. There are reviews by the
3 contract review board, the senior contract review board,
4 there are reviews by the Commission over certain dollar
5 amounts.

6 COMMISSIONER AHEARNE: We didn't do that
7 necessarily. Congress put some of that in.

8 MR. DIRCKS: Congress put some of that in. But
9 it's the commercial contract route that takes time. There's
10 no easy solution to that one.

11 MR. CORNELL: Let me give you one example. DOE
12 contracts come down to the Commission only if they're over a
13 million dollars. Commercial contracts come down for
14 Commission approval if they're over 250. So what happens
15 is, given a certain amount of time and sometimes if it's not
16 long enough, the contracts will have to sit before the
17 Commission before they render a decision. That biases the
18 decision in favor of going to DOE labs just in that one
19 narrow piece.

20 I'm not saying it's overwhelming. But it's just
21 one example where our own internal procedures have biased
22 the system in favor of going to the DOE labs.

23 COMMISSIONER BRADFORD: Kevin, do you know offhand
24 what the longest time is that a contract has ever sat before
25 the Commission? I'm not sure that's a really big thing.

1 MR. CORNELL: Offhand, I recall one recently I had
2 to go back down, and it sat there for three or four months.

3 CHAIRMAN PALLADINO: To do what, bid the
4 contract?

5 MR. CORNELL: Waiting for Commission approval.
6 And ultimately I think it ended up being killed.

7 COMMISSIONER BRADFORD: I'd take that one off the
8 list, although that may be going toward the bias.

9 COMMISSIONER GILINSKY: There are some aspects on
10 this we can't do anything about. There are some others
11 about which we can do something. And to the extent possible
12 we oughtn't to build in biases in the way contracts are
13 let. We ought to go to organizations best qualified to do
14 the work or do it at the most reasonable price.

15 MR. MINOGUE: A good example is a lot of this
16 human factors work, a lot of the control system
17 engineering. That is not so specifically nuclear. You've
18 got a much larger universe. Some of the qualification
19 testing issues would be another area where there's a lot of
20 expertise, not just in this business, and there are elements
21 in the program that lend themselves to going out more
22 broadly.

23 There are others -- fuel damage work, it's almost
24 pointless to talk about doing that anywhere other than in a
25 national lab or Battelle Columbus, which is sort of a

1 quasi-national lab, because those are the people with the
2 hot cells and the investment in the facilities. And if you
3 had to put that money out for a new contract, you know,
4 you've got 20 years worth of accumulation of equipment that
5 you wouldn't be able to take advantage of.

6 COMMISSIONER GILINSKY: True.

7 I'm going to raise just three small areas of
8 research which I don't find in the programs and I want to
9 pay a little more attention. One we talked about the other
10 day is the health effects work. Could we involve ourselves
11 a little more in the work of others? I wouldn't suggest
12 that we take the lead or even be a large participant.

13 MR. MINOGUE: Since our discussion I have talked
14 to Mr. Arsenault, and what we will do is both look at work
15 that we might do, although it would be relatively small
16 dollars -- it wouldn't affect your deliberations here -- in
17 the way of some programs specifically in the
18 Nagasaki-Hiroshima data, and certainly in the context of
19 doing that look to the interfaces between ourselves and the
20 DOE and the Defense Nuclear Agency work in that area.

21 COMMISSIONER GILINSKY: It seems to me we've got
22 to participate to some extent in order to be privy to
23 everything.

24 MR. MINOGUE: But it would clearly be small
25 dollars because there is a conscious decision in this budget

1 that we would only do health effects work that was in some
2 way related to some unique NRC mission or some unique
3 activity that only NRC dealt with, and not health effects
4 generally.

5 COMMISSIONER GILINSKY: No, I agree that this is
6 work that ought to be primarily done in other agencies.

7 MR. MINOGUE: But I have worked on the discussion
8 we had the other day.

9 COMMISSIONER GILINSKY: That's good.

10 Another one concerns another interest of mine,
11 which is getting a research reactor shifted over to low
12 enrichment. And one of the concerns seems to me be, at
13 least on the part of operators of these facilities, that
14 they may get themselves involved in safety problems or
15 rewrite safety analysis reports, and that for one reason or
16 another they may get hung up in such a switch.

17 It seems to me that we ought to take a look at any
18 potential safety problems. The fuel is being developed
19 commercially at Argonne. Argonne has a fair program on that
20 for DOE, high-density fuel. General Atomics is developing
21 fuel. But I think that we ought to take a look at any
22 potential safety problems that might crop up so that we can
23 anticipate them and deal with them and ease that
24 transition.

25 MR. MINOGUE: There is nothing on that in the

1 budget at all.

2 COMMISSIONER GILINSKY: I wouldn't think it would
3 be a large item.

4 MR. MINOGUE: The problem, of course, the safety
5 problems with research reactors tend to come about because
6 of the interplay between the reactor and the experimental
7 facilities. They are all pretty unique, so it isn't that
8 clear to me that this kind of issue isn't better dealt with
9 case by case, more as a licensing type issue.

10 I really haven't thought that much about it. This
11 is off the top of my head. But I do know that the safety
12 problems generally relate to the experimental facilities and
13 they are all different.

14 COMMISSIONER GILINSKY: Would that be affected --
15 some people seem to think when you switch from one fuel to
16 another they may get caught up in some sort of --

17 MR. MINOGUE: I think they may well be right.

18 COMMISSIONER GILINSKY: They get caught with
19 either us or --

20 MR. MINOGUE: You design -- you start a research
21 reactor from the ground up and you begin with certain ideas
22 on enrichment, and then you design that research facility to
23 take advantage of the kind of core you've got, and the
24 interaction between these two is where the safety problems
25 arise.

1 So if you change the fuel design and change the
2 core configuration in an already built facility, I would
3 think you would raise questions. I can understand why
4 people are concerned about that. I would have the same
5 reaction.

6 CHAIRMAN PALLADIN⁷: But there have been changes
7 in research reactors that use highly enriched fuel to 220
8 percent rich, and in fact that was done at Penn State.
9 That's why I happen to know that. I'm not sure it is a
10 question of research so much as it is economic motivation or
11 the economics involved in making the changeover.

12 COMMISSIONER GILINSKY: The only reason I raise
13 the point is that some of the operators have said one of the
14 things that concerns them is that in making the switch they
15 will have to redo safety analysis reports and new problems
16 are likely to crop up of one kind or another, and that if
17 there are any such general problems that leap out at you it
18 seems to me it would be useful to take a look at them.

19 Another problem area is another thing I have been
20 interested in for some time. It seems to me it is useful to
21 look at the local meteorology around these reactors in
22 order, in the case of an accident, to be able in some simple
23 way to predict which way radioactive products might go. I
24 wondered, is there anything of this sort?

25 MR. MINOGUE: At one time we considered putting

1 some work into developing improved meteorological models or
2 to consider these local topographical features and thing
3 like that, as possible, and put it into the risk assessment
4 work. It didn't survive through the budget development. We
5 could do work in that area basically within the decision
6 unit with some reprogramming. I don't think --

7 COMMISSIONER GILINSKY: It seems to me it would be
8 a very useful thing.

9 MR. MINOGUE: You could do a lot with a very small
10 amount of money.

11 COMMISSIONER GILINSKY: Because even a very simple
12 model that takes into account local features could give you
13 some additional predictive capabilities that could become
14 very important.

15 MR. MINOGUE: There has been a lot of work done in
16 that area. It would be a matter largely of trying to apply
17 it in the context of reactor accidents.

18 COMMISSIONER GILINSKY: Again, it is a small
19 funding, but potentially important area.

20 MR. MINOGUE: We could support that in the
21 program.

22 COMMISSIONER GILINSKY: Thank you.

23 CHAIRMAN PALLADINO: I think we ought to take
24 advantage of whatever work goes on normally in meteorology.
25 A lot of areas have very good meteorological --

1 MR. MINOGUE: That's true. There's a lot of work
2 that's been done on this in other fields. City canyon
3 problems and air pollution problems represent much the same
4 kind of problems. There has been a lot of work like that
5 done.

6 COMMISSIONER GILINSKY: Thank you.

7 CHAIRMAN PALLADINO: Pete, do you have questions
8 in the research area?

9 COMMISSIONER BRADFORD: Just one here that hasn't
10 been covered already. Your other growth industry seems to
11 be in risk assessment. Can you talk a little about what you
12 expect over the next couple of years by way of concrete uses
13 which will come out of that decision unit?

14 MR. MINOGUE: Yes. The most immediate thing, and
15 in effect the spinoff has already occurred, the risk
16 assessment group has been working very closely with NRR in
17 dealing with some of the specific problems that have arisen
18 in the post-TMI period, particularly the Indian Point-Zion
19 studies where they did a large part of the work and a major
20 part of the program.

21 Now, although by '83 this will have dropped way
22 off, is the development of methodologies that the licensing
23 reviewer might use to deal with specific issues when you are
24 looking at some possible requirement or modification and
25 looking at its significance in terms of risk reduction

1 potential.

2 COMMISSIONER BRADFORD: Can you give me a concrete
3 example or two of how that might work?

4 MR. MINOGUE: Well, a very specific example.
5 Given a site with unfavorable demography, an applicant comes
6 forward or the staff is thinking of modifications, either in
7 operational procedures or plant protective actions or
8 engineering changes that you might make that might be
9 incorporated. Now, which of these will most affect the
10 public risk, given that site and that unfavorable
11 demography?

12 That basically is the question that they have
13 focused on at Indian Point and Zion. Risk assessment played
14 a large role in this. We were looking at -- I used the word
15 "cost effectiveness." That's not quite the right word. The
16 cost effectiveness of specific requirements.

17 Another area that Denton is looking at right now
18 is to go through the whole laundry list of post-TMI
19 requirements using this as a factor, not the sole
20 decisionmaking basis, trying to make an assessment of the
21 risk reduction potential of each of those areas of
22 requirement to try to winnow out which are the really
23 important ones you should try to lay on very quickly, which
24 can be deferred. There's a lot of that kind of usage.

25 COMMISSIONER BRADFORD: Is that being done in

1 NRR?

2 MR. MINOGUE: Our job in this context -- and the
3 long-range planning and the budget both assume this -- is to
4 develop methodologies and perhaps apply them in first of a
5 kind or unique cases. But the ultimate conduct of that kind
6 of operation would be in NRR. We are developing a tool for
7 them to use.

8 Now, similar tools we would develop and apply in
9 the research area in terms of assigning research priorities,
10 which is something the ACRS is really harping on, and using
11 it as a basis for rulemaking. It is the same kind of
12 methodology that in fact, learning from a lot of lessons in
13 the casework that NRR has applied, you can see being applied
14 to rulemaking, the assessment of new regulatory requirements
15 and reassessment of old ones.

16 COMMISSIONER BRADFORD: What kind of overlap is
17 there between the methodological work that you are doing and
18 the safety goal effort that is going on? Or maybe I should
19 ask you and Dennis both, under whose auspices it will be.

20 MR. MINOGUE: The lead in the work is by OPE.
21 They need a lot of staff support and we provided that staff
22 support. They're in charge of that activity.

23 MR. RATHBUN: It's a cooperative effort and we've
24 had a lot of input from Bob Bernaro and his staff, the PRA
25 fellows also; also from Al Langston, NRR.

1 COMMISSIONER BRADFORD: Did I understand you to
2 say that the methodological development work will be falling
3 off by FY '83, or was that something else?

4 MR. MINOGUE: By '83 the methodological
5 development work to support NRR would be falling off, not
6 the total.

7 COMMISSIONER BRADFORD: But I understood the
8 budget in that decision unit continues to grow.

9 MR. MINOGUE: Because there are applications in
10 other areas, applications in research priorities. We have
11 tended, wisely I think to begin with, the use of this tool
12 in the context of licensing decisions. That runs through
13 this whole combined rulemaking.

14 There was a very conscious decision to learn a lot
15 from the Indian Point-Zion studies, which have dealt with
16 many of the issues that you focus on more broadly in the
17 rulemaking. The IREP and INREP programs are in the same
18 category, where we have been concerned about putting tools
19 in the hands of the licensing guy.

20 So in the past the main emphasis of the program
21 has been on NRR support. But as time goes on, you begin to
22 look at using these tools in terms of the prioritization of
23 research work in the rulemaking. That with the combined
24 operation and the coordination and the consolidation of
25 research and rulemaking in one body, which is something that

1 will strengthen the application of research results, which
2 is the point which Mr. Palladino raised earlier, that
3 division, the research division will become the focal point
4 of rulemaking activities as I would see it in the years to
5 come.

6 COMMISSIONER BRADFORD: Who do you look to for the
7 lion's share of the development of the methodologies? That
8 is mostly done under contract?

9 MR. MINOGUE: Yes, most of this work is done under
10 contract.

11 I'm sorry?

12 COMMISSIONER BRADFORD: By whom?

13 MR. MINOGUE: By various national labs again.
14 Sandia, Oak Ridge I think are the principals, and
15 Brookhaven.

16 COMMISSIONER BRADFORD: That's all I have.

17 CHAIRMAN PALLADINO: Commissioner Ahearne?

18 COMMISSIONER AHEARNE: I have a couple of general
19 questions and a few specific ones.

20 The general questions: Dave Okrent in his
21 comments on your long-range research plan had suggested a
22 pair of questions in formulating the plan. I guess let me
23 read the questions -- I'm sure you're familiar with them --
24 and then ask you to what extent have you attempted to apply
25 that to say your '83.

1 The first question was: Which problems represent
2 the greatest potential contributors to risk? And then:
3 Which problems, if resolved, have the greatest potential for
4 reducing risk by the research pprogram that was planned?

5 Have you attempted to go through your research
6 program with that as the basis?

7 MR. MINOGUE: I touched on that earlier. I think
8 there is a basic difference of opinion here that is
9 strongest between us and Dave. Others on the ACRS share his
10 views partly.

11 I really don't feel that the quality of the data
12 base that exists today is good enough to turn to the risk
13 assessment gurus as being the sole deciding factor in
14 assessing --

15 COMMISSIONER AHEARNE: Let me stop you there. I
16 asked the question. It started out -- I know Dave's
17 background and interests, but I don't think the questions
18 necessarily apply to using probabilistic assessment. They
19 are asked -- they are judgment, they are essentially basic
20 judgment questions.

21 You look at where your dollar is going, and you
22 apply the philosophy that you want to put your money where
23 you get the greatest return for something.

24 MR. MINOGUE: The area of disagreement is how much
25 you rely on risk assessment in doing that. If you put the

1 question broadly, if you allow me to make that as a judgment
2 and a judgment which through the process of review in the
3 long-range plan involves pulling the expertise of the
4 program offices, particularly of NRR, the answer is, to the
5 extent we can, given the nature of the program that we have,
6 this is the guiding factor.

7 COMMISSIONER AHEARNE: So those are criteria that
8 you would expect the research program would be able to --
9 obviously in this large a program with so many small pieces,
10 there are some that aren't going to quite fit there. But by
11 and large you're satisfied that that is --

12 MR. MINOGUE: By and large, through the vehicle of
13 the long-range plan -- I could not attach too much
14 importance to the input from NRR and NMNS, because by
15 reviewing the long-range plan, by looking at overall program
16 directions, and looking at levels of emphasis in different
17 areas in a consultive way, we have gotten an engineering
18 assessment of the relative risk reduction significance.
19 It's a principal factor.

20 Now, that judgment should also take into account
21 current risk assessment analysis and current techniques. I
22 think the issue between us and Dave is how much emphasis.

23 I want to add one further point, because there are
24 two other axes to this problem. One is the question of
25 perceived risk cannot be ignored. If I sit down and say,

1 I'm going to do everything in terms of the risk associated
2 with what the research is on, then the program should be
3 heavily skewed toward material applications and medical
4 applications. But it isn't, because in fact there's a
5 public perception of acceptability there, there is a level
6 of public concern that has to be taken into account.

7 The last thing we cannot ignore is that there are
8 pork barrel aspects to this program that must be taken into
9 account. Now, to the extent that we do not become owners
10 and operators of facilities, we can divorce ourselves from
11 some of that. But it is not realistic to assume that my
12 successor would set it straight if I just arbitrarily went
13 ahead and did this or that based on solely a risk reduction
14 potential, and we all know what would happen.

15 COMMISSIONER AHEARNE: The second, more general
16 question is, putting aside the issue of resources, do you
17 think it would be appropriate or possible for research to
18 assume responsibility for unresolved safety issues, generic
19 issues, and then there are also some in the TMI action plan
20 that NRR currently has assignment for which are in the areas
21 of semi-research developmental work? Would it be feasible
22 for research to be the principal office for those areas?

23 MR. MINOGUE: Well, certainly we've already taken
24 responsibility for some of these issues. I would say if you
25 let me underline the words the "principal office," I would

1 say not really. I think that many of these issues are best
2 dealt with by the guys that are in the trenches and
3 understand the plants in detail.

4 I think there are pieces of these programs,
5 particularly since Standards and Research have been
6 consolidated, that could also be handled in Research. But I
7 would not go along with the principal office. I don't think
8 that would be very workable.

9 COMMISSIONER AHEARNE: Now, a few detailed
10 questions. In the '83 budget you have cut almost all of the
11 material control and accounting research for the LWR fuel
12 cycle.

13 MR. MINOGUE: Yes, that is correct.

14 COMMISSIONER AHEARNE: What is the rationale?

15 MR. MINOGUE: The rationale is that the number of
16 licensees is going down. I think there are three as of
17 today. It is an area that has been emphasized by the
18 Commission and the PPPG, but I think it is a matter that is
19 better handled in the licensing context, and our assessment
20 agrees with that.

21 COMMISSIONER GILINSKY: Which are the three
22 licensees?

23 MR. MINOGUE: I have to turn to Mr. Davis for
24 that. I don't remember offhand. They deal with highly
25 enriched fuel.

1 MR. DAVIS: The obvious one is NSF Erwin. I don't
2 recall the others.

3 COMMISSIONER GILINSKY: There are only three?

4 MR. MINOGUE: Yes. We're down from something like
5 seven a couple of years ago to only three now. It doesn't
6 seem to warrant a research program. I think we can deal
7 with things like that as a licensing activity.

8 I'm sure the figure is three. We can furnish you
9 the names.

10 COMMISSIONER AHEARNE: I guess the only
11 disagreement I would have with your statement is it is not
12 clear to me the number of places at which a problem has to
13 be solved is necessarily the criteria to use on whether it
14 is a licensing problem or a research problem. It's
15 something that probably has more to do with the character.

16 MR. MINOGUE: These people were dealing in very
17 complex, elaborate models. MCEA is all we're talking
18 about. The safeguards work is not going to get cut, just
19 MCEA.

20 COMMISSIONER AHEARNE: Well, it's just a general
21 fear that I have.

22 MR. MINOGUE: Now if there were a breeder program
23 tomorrow, the same program would be reactivated, but I think
24 it would look different and that is the important point to
25 me. If it is a surrogate for a breeder program, let's call

1 it what it is and deal with it in that context.

2 COMMISSIONER GILINSKY: Let me ask you, are there
3 only three facilities that have more than formula
4 quantities, more than five kilograms?

5 MR. DAVIS: I'll have to get that information.

6 MR. MINOGUE: I did not mean to put it that way.
7 That have processes. Material control and accounting
8 assumes an active fuel fabrication process.

9 COMMISSIONER GILINSKY: Is that as opposed to
10 piece counts?

11 MR. MINOGUE: The key to material control and
12 accounting is you have an active, ongoing process. You are
13 making fuel. It is not a possession license. There are a
14 lot of them, I think.

15 COMMISSIONER AHEARNE: A question that had earlier
16 been asked, if I can be more specific on it: Do you have
17 any kind of an estimate of the sort of resource amount that
18 you're going to be relying on industry or DOE and foreign
19 governments, say in '83?

20 MR. MINOGUE: Yes, we've got a figure for the
21 foreign work, that I think won't change much, and it runs
22 around \$75 million. We might get that up by \$10 million,
23 but the, will be small breakthroughs. I don't see any big
24 breakthroughs per year.

25 In the industry area, if you recognize it in terms

1 of our not preempting or coopting their program, but we are
2 consolidating our program planning, improving our awareness
3 or improving our ability to influence their program
4 objectives, I think we could be talking some substantial
5 increases. Right now we have -- do you know what the EPRI
6 budget is? It's 40 to \$50 million in EPRI, of which a large
7 amount is spent in dealing with issues that have regulatory
8 significance.

9 Let me pull the number out. That's approximately
10 correct, and if it turns out really sour, well, I'll get an
11 improvement to you tomorrow some time.

12 Say 65 or \$70 million total. This is dollar value
13 of work that would be of interest to us. It is not
14 dedicated work. It is stuff that would speak to regulatory
15 objectives.

16 COMMISSIONER AHEARNE: How about DOE?

17 MR. MINOGUE: That is relatively small. We're
18 probably only talking \$5 million or \$10 million.

19 COMMISSIONER AHEARNE: At the present point, then,
20 roughly about \$150 million foreign country, industry, DOE?

21 MR. MINOGUE: Yeah, yeah.

22 COMMISSIONER AHEARNE: So we are still in the mode
23 of for all areas of interest the bulk of the work is funded
24 by us.

25 MR. MINOGUE: But the change that is important is

1 that the ownership of the big facilities is shifting, and
2 that way we get what we want and walk away.

3 COMMISSIONER AHEARNE: I understand that. But
4 it's still a question of leverage. We're still doing the
5 bulk of it.

6 MR. MINOGUE: Oh, we're doing the bulk of it. We
7 have discussed this before. We are all in a web that was
8 woven many, many years ago, and there was a long period when
9 there was a presumption that NRC did all of the work, and
10 that is slowly changing, but it's not overnight.

11 I should say, to end this question on a positive
12 note, I have been really pleased with the response that
13 we've gotten, a very responsible response from the industry
14 people, a recognition that they've got to pull more of a
15 load and a willingness to coordinate their program planning
16 and to recognize that there are safeguards that we need if
17 we're going to operate in that mode.

18 They have been pretty responsive. It has been a
19 pleasant experience. I think it is an idea whose time has
20 come.

21 COMMISSIONER AHEARNE: Over the last couple of
22 days, we've heard that Research may have to take potential
23 additional cuts in order to perform breeder work. Has
24 Research done -- have you been having an exercise to
25 tentatively identify where those cuts might come in '82 and

1 '83?

2 MR. MINOGUE: Yes, we've done such an exercise in
3 both '82 and '83. I'd rather speak to '83 if I may and
4 concentrate on that. But we've got it down to the level
5 where there are no more sacred cows to slaughter. It would
6 be across the board cuts, where you would go through each
7 program area in some detail.

8 Ron has made up a list, and when I look at it
9 there's nothing that stands out as a big area to whack back,
10 like eliminating MC&A work.

11 COMMISSIONER AHEARNE: So for example, then, you
12 do not -- if I were to look at your budget or EDO's budget
13 with respect to these recommendations to the ACRS
14 recommendations, I can conclude that what the ACRS has
15 essentially done is said that they expect our research
16 number to be somewhere in that 235-\$240 million area, and in
17 order to fund the breeder they have cancelled LOFT?

18 MR. MINOGUE: That wouldn't quite be correct.

19 COMMISSIONER AHEARNE: No. It would be correct if
20 that's the way I looked at it.

21 MR. MINOGUE: No, they didn't tie it to the
22 breeder. They looked at the research program needs.

23 COMMISSIONER AHEARNE: I understand that.

24 MR. MINOGUE: And when they made that list up,
25 that was more money than they thought we could get. Given

1 that, they began to draw priority lines, and LOFT didn't
2 make the cut. But they didn't tie that to the breeder. If
3 there were no breeder they would still take the same
4 position.

5 COMMISSIONER AHEARNE: But they've got \$20 million
6 for the breeder within that \$230 million. Bill has \$20
7 million for the breeder above the \$235 million. You're
8 worse. You are saying that in order to make the '83, at
9 least, number, it would be a lot of small slices.

10 MR. MINOGUE: Yes, a lot of small business. I
11 don't think that's a good way to run a program.

12 COMMISSIONER AHEARNE: Is that similarly true for
13 '82?

14 MR. MINOGUE: The problem for '82 is we have
15 Congressional action still pending and I don't know how that
16 will come out. It is really hard for me to answer that
17 question. There are commitments that have been made to
18 support the licensing activity, details of people from 15
19 positions on detail and some that have already been
20 transferred and are not in our base --

21 COMMISSIONER AHEARNE: You have 15 people being
22 transferred in '82?

23 MR. MINOGUE: No, they have already been. When
24 the consolidation occurred, we were reduced some 30-odd
25 positions, of which NRR got 15-plus. At the same time we

1 detailed 15 people, all but one of them with the
2 understanding that it was for 18 months, which would take
3 you through '82.

4 COMMISSIONER AHEARNE: So those 13 positions are
5 already gone.

6 MR. MINOGUE: They are already gone. But the
7 details -- if you look at your tables, they are shown as
8 research people, even though they are assigned to
9 Licensing.

10 Now, there is also the problem of financial
11 support. There was -- in developing the '83 budget,
12 beginning with the long-range plan, we had cut back
13 substantially from previous plans. The budget you are
14 looking at is some \$26 million below what was sent to
15 Congress last year by this agency for research. Some of
16 those same cuts could be picked up in '82, have not yet been
17 picked up. But the point is they might be used to support
18 licensing needs and things like that. I don't think there
19 is a presumption that they go for the breeder.

20 Now, in '83 we have scrubbed this thing down to
21 rock bottom, I think.

22

23

24

25

1 COMMISSIONER AHEARNE: Are you saying that in '82,
2 if you have to eat some substantial amount of dollars for
3 breeder, at the moment you have no specific set of places it
4 would have to go?

5 MR. MINOGUE: In '82, if I have to eat a cut from
6 Congress and a cut to support licensing activity and the
7 breeder, I do not have specific places to go for that kind
8 of a cut.

9 If the only thing we had to eat is the breeder,
10 then we have got some places to go. It is the same areas
11 that were reduced in the '83 budget, and they are reductions
12 that ought to be made. I would expect reprogramming of '82
13 money in any event. I am sure Mr. Cornell will be glad to
14 help us find a way to reprogram the stuff into other areas
15 in the agency.

16 I am not trying to evade your question. I think
17 the problem is there are just too many imponderables here.

18 COMMISSIONER AHEARNE: Could you give me an
19 estimate of the '83 research effort for evaluation of
20 reactor operator duties, training, evaluation of education
21 requirements, that sort of thing?

22 MR. MINOGUE: This is a major block of our
23 program. I characterized it the other day as the softest
24 area. It is in the early stages of planning. It was not
25 being handled well until a few months ago.

1 We have sat down with Steve Hanauer and Kramer and
2 between us we have worked. I have a breakdown right here.
3 We have worked up a program plan that is not as detailed as
4 most of our program plans. It is basically just a list of
5 problem areas.

6 COMMISSIONER AHEARNE: With dollars?

7 MR. MINOGUE: Yes, I have got the dollars, if we
8 can just put our hands on it.

9 COMMISSIONER AHEARNE: Well, if you could just
10 give it to me later then, as long as I get it then.

11 MR. MINOGUE: Yes, let me do that. I do have
12 them; they were pulled together a couple of days ago. And
13 we will give them to you later.

14 COMMISSIONER AHEARNE: Fine.

15 MR. MINOGUE: I have got them with me. I just
16 cannot put my hand right on them.

17 COMMISSIONER AHEARNE: In talking about the Clinch
18 River licensing, what is the timetable you have for your
19 results to be provided? And, in particular, does it mesh
20 with NRR's requirements?

21 MR. MINOGUE: Well, we have been working -- well,
22 actually, it is not we; the problem is so complex within the
23 agency that EDO has actually set up a special group to deal
24 with it under Denny Ross. Let me turn the question to
25 Denny, if I may. I think it would be better if he answered

1 it.

2 MR. ROSS: I think the question was of timeliness
3 of research?

4 COMMISSIONER AHEARNE: The timetable. Research
5 has got, if the set-asides are taken and put in the budget
6 and the '82 switch is put in, Research will be doing some
7 work to support the Clinch River licensing.

8 MR. ROSS: That is correct.

9 COMMISSIONER AHEARNE: What is the timetable for
10 completion of those?

11 MR. ROSS: Well, we will have to cut in two
12 pieces. If you have to make a model assumption as to when
13 the licensing would start and when the Staff's SER would be
14 complete and when you go to hearing. And I will go as far
15 as I can in this area. I think you will have to recognize
16 that this is a matter that is active, at least a few years
17 ago the Board was active, and there may be an Ex Parte line
18 we will have to be sensitive to.

19 COMMISSIONER AHEARNE: I do not know that that is
20 true.

21 MR. ROSS: This is a contested matter. Clinch
22 River is a contested matter. So I will go as far as I can,
23 and somebody will have to stop if --

24 COMMISSIONER AHEARNE: Who is contesting it?

25 MR. ROSS: There is a number of intervenors.

1 There is a number of intervenors.

2 COMMISSIONER AHEARNE: Is there an active
3 licensing?

4 MR. ROSS: The application was never withdrawn.
5 So I will go on, and if you feel like we are approaching --
6 now, I just wanted to make you aware of that or remind you.

7 We are assuming a three-year --

8 COMMISSIONER AHEARNE: Now, that was an old
9 application?

10 MR. ROSS: The old application is still there.

11 CHAIRMAN PALLADINO: It is still valid?

12 COMMISSIONER AHEARNE: Many, many years ago.

13 MR. ROSS: It is sitting there in the docket room,
14 and the Applicant has been making regular amendments. And
15 they have been putting it in the mailroom, and when the NRR
16 staff gets around to it, they will resume the review. But
17 it is still there. It is the same application. And I do
18 not know if the board is still sitting; you know, they may
19 be gathering dust somewhere.

20 But we are assuming a three-year schedule. And
21 what I mean by "three-year," by the time that the lightning
22 bolt says, "Start the review," three years from then a CP
23 would issue, if it issues at all. About 15 months of this
24 is for NRR to -- this is the model schedule -- to do its
25 work and produce an SER. And, in essence, they are ready to

1 go to hearing.

2 That would mean -- and if you assume, say, for
3 discussion, that starts 1 October, at the fiscal year, that
4 our research would have to produce results roughly by the
5 end of calendar '82 if they are going to be taken into
6 account in the NRR decision process.

7 But quite obviously, that does not include
8 anything that would start in '83. By the time you start a
9 project in the fall of '82, which is fiscal '83, according
10 to this model schedule, the NRR team is essentially
11 finished, they are ready to go to hearing.

12 A lot of the work that we are talking about is
13 work that is in motion now. And these are the core and
14 primary system thermohydraulic codes. That work would be
15 continued to let the licensing staff audit certain severe
16 disruptive accidents. The work at Sandia on sodium-concrete
17 interactions and related hydrogen work would be continued.
18 Some of the work that would be regarded as necessary for OL
19 -- in other words, the kind of research that you would
20 typically say can be -- there is a reasonable assurance that
21 you can get -- would come later on.

22 COMMISSIONER AHEARNE: My main concern was it was
23 not clear to me how you could really get much additional
24 major research started in order to get it completed.

25 MR. ROSS: The answer is: You would not. And

1 this is one of the three theories on why NRC should do
2 research is, and one of the litmus-paper tests it would
3 apply with DOE is, in an area where the agency is dealing
4 with unfamiliar technology -- and I would say regulating a
5 breeder would fall into this area -- it is an area that is
6 ripe for NRC research.

7 And I think a lot of the research that would be on
8 our list, logically on the NRC list, would be for the
9 decade, for the 1980s decade, to acquire expertise so that
10 when you issue the OL you are competent to regulate it.

11 A lot of the work will fall in that category.
12 Very little of it, in my opinion, would be started and find
13 its way into the Clinch River SER. That work is ongoing now.

14 COMMISSIONER AHEARNE: Bob, could you give me a
15 table to show the resources that you plan for NREP and IREP?

16 MR. MINOGUE: I would have to furnish them. I do
17 not have that kind of detail with me, unless Ron does.

18 MR. SCROGGINS: I can give you the raw numbers now.

19 COMMISSIONER AHEARNE: I gathered from your answer
20 previously on the degraded core, I gather from what you can
21 see at the moment, so many of the programs intertwine to
22 support that that it does not make too much sense to say do
23 you have enough resources on degraded core, because that way
24 is almost suggesting do you have enough resources in the
25 research program?

1 MR. MINOGUE: It is certainly a major part of our
2 research program. It is an area where any cuts that we
3 would look to make would be a result of operating
4 efficiencies and more attention. I feel, you know, it has
5 not suffered.

6 COMMISSIONER AHEARNE: Let me try to grope with
7 the question a little bit different.

8 MR. MINOGUE: Yes?

9 COMMISSIONER AHEARNE: You had mentioned your
10 timetable was several years to get a proposed rule.

11 MR. MINOGUE: Yes.

12 COMMISSIONER AHEARNE: Are we limited by the
13 number of or amount of resources that you have to apply to
14 the problem, or are we limited just by the complexity and
15 difficulty of the problems in order to get good people to
16 work on them?

17 MR. MINOGUE: I think we are limited by both. I
18 should have made clearer there is a basic planning assumption
19 in that. We are not going to build any new facilities. So
20 up front, we were dealing with a certain list of facilities
21 with certain capabilities. We very early on -- and this
22 has, I believe, been essentially completed -- made an
23 assessment of whether we could get all of the information
24 that we needed with those facilities, and the answer appears
25 to be coming out affirmative.

1 That is a resource limitation, but, of course,
2 there is a time limitation, too, just because of the
3 complexity of the problem, if you were going to build new
4 facilities, it takes time to design and plan them. So the
5 answer to your question is: Both, we are limited by both.

6 COMMISSIONER AHEARNE: But it sounds like you are
7 saying that if we were to ask you if you got another \$10
8 million to put into the degraded-core efforts, would that
9 shorten the time by a period of a year? I gather the answer
10 is "No"?

11 MR. MINOGUE: It really would not. The problem we
12 have got here -- and it is pretty basic -- is that we just
13 do not have a good enough data base to support the use of
14 risk assessment methodology. And I think that is the only
15 way to come to grips with the degraded-core rulemaking.
16 Many of these other issues can be dealt with more simply,
17 but if we do not really improve the data base and base the
18 degraded-core rulemaking on risk assessment, then I think we
19 ought not to be doing it.

20 So to me the absolute prerequisite is a better
21 data base. I think some of the problem in the past with the
22 Rasmussen report and all that grew out of the same kind of
23 issue. People just did not come to grips with the fact that
24 you have got to improve the data base.

25 I saw a quote the other day in one of the trade

1 rags quoting someone from UCS to the effect that, "That is
2 the big unfaced question." But I do not agree with that
3 that is the question we are facing, that we have got to
4 improve the data base if we are going to really use this tool
5 effectively.

6 COMMISSIONER AHEARNE: Okay. Let me ask you a
7 couple of questions on the ACRS review of the budget that
8 came in.

9 They point out on the 3D program a problem with
10 respect to the upper plenum test facility, the German
11 program. They say that here is a program that has the
12 estimate of costs of between \$50 million and \$100 million;
13 that is, the cost to the U.S. And it can stretch over many
14 years. And they raise the question, "Is it really something
15 that makes sense for us to be committing into that large a
16 program over that period of time?" Would you care to
17 comment?

18 MR. MINOGUE: Yes. They are raising a good
19 question there. I will speak to it reasonably directly. We
20 are going to get into areas of negotiation with foreign
21 powers here fairly quickly, so we may have to --

22 COMMISSIONER AHEARNE: Well, is that a question we
23 might want to --

24 MR. MINOGUE: It was one of the exemptions that
25 the General Counsel cited the other day.

1 Let me try to discuss it in terms that you may
2 find adequate, and, if not, we may need to go into some
3 other arena.

4 That is a three-way program between the United
5 States, Japan, and Germany. It involves the erection of
6 expensive facilities in both Japan and Germany. The U.S.
7 participation consists in furnishing instrumentation and
8 furnishing certain computer analyses. This is a device that
9 was developed by --

10 COMMISSIONER AHEARNE: Yes, I am familiar with the
11 program.

12 MR. MINOGUE: Yes. Okay. Fine. The problem that
13 we have here is that the Japanese part of it is both clearly
14 of value and on schedule and within costs. The German part
15 has been delayed. The delays are partly because of the U.S.
16 -- we have changed program directions in the early stage --
17 and partly because of concern on their part about the
18 commitment of funding.

19 We have ended up with a program with a very high
20 potential for overruns, very high. We have advised them --
21 we met with the steering group in June -- it was the last
22 estimate that you gentleman saw; I believe it is something
23 like \$74 million -- represented the total of what the U.S.
24 was willing to contribute to this program. In a sense, it
25 is the measure. That includes the Japanese part, too; that

1 is the whole program.

2 I should digress for a bit. The total dollar cost
3 of the program is over \$300 million, of which our part is
4 \$75 million. So we are not a majority partner, by any means.

5 Now, they have been advised that we intend to hold
6 our contribution to \$74 million and that we believe that
7 that cannot be done, given the high potential for overruns,
8 without a serious relook at the whole project in terms of
9 what you do and what you do not do, that we have got to
10 scrub it down, we have got to improve the predictability.
11 Of course, we have got to look at costs now and say we know
12 where we are going to end up.

13 After some considerable debate, there was an
14 agreement reached that that issue would be explored during
15 the rest of this year by a series of progressive reviews.
16 Each of the parties was to go away and identify candidates
17 to consider. That has been done. We would then meet on
18 that, with an eye toward trying to improve the program
19 definition before this year is out.

20 But the attitude -- and I will not call it a
21 position -- is that we are not prepared to go beyond the
22 latest estimate that we gave you. Now, of course, we have a
23 contractual obligation here.

24 COMMISSIONER AHEARNE: Yes.

25 MR. MINOGUE: The agreement between the countries

1 is a contract. And we, in fact, have made certain
2 commitments under that contract. And what is happening is
3 that our costs have gone what we are prepared to spend. So
4 termination of the agreement would be difficult.

5 COMMISSIONER AHEARNE: I recognize that. But the
6 point the ACRS seemed to be raising was here is one
7 particular aspect of it which bears claiming could have
8 impacts of \$5 million to \$10 million a year for the U.S.

9 MR. MINOGUE: Yes.

10 COMMISSIONER AHEARNE: And they say that the
11 information from it really is not worth that much.

12 MR. MINOGUE: Yes.

13 COMMISSIONER AHEARNE: And if you agree with that
14 judgment, I guess the question is should we continue?

15 MR. MINOGUE: Yes. I think when you get to the
16 point -- and I think we are at that point; I think we see
17 eye to eye on this -- that we say this is as far as we will
18 go and no further. And I would not necessarily draw the
19 line at \$5 million or \$10 million additional, but we are
20 very close to the point where any additional costs would
21 make that part of the project simply not worth it.

22 COMMISSIONER AHEARNE: I guess what I am trying to
23 get at is as I read the ACRS, they are saying they are not
24 questioning the total costs of the 3D project, they are
25 questioning one major piece of it.

1 MR. MINOGUE: Yes. So am I.

2 COMMISSICNER AHEARNE: That it just does not seem
3 to be worthwhile. Now, are you questioning the piece of the
4 project or the total cost?

5 MR. MINOGUE: Well, there is only one project, you
6 know. We are part of a tripartite agreement to deliver a
7 very complex array of experimental facilities.

8 COMMISSIONER AHEARNE: Yes.

9 MR. MINOGUE: I cannot talk about it in pieces. I
10 cannot block out a part of it and not the rest, you know; it
11 is an all-or-nothing deal. We are in the position of a
12 company that contracted to deliver a product at a fixed
13 price, and we now find we cannot make it and we have got to
14 decide what to do. And it is not an easy thing to walk away
15 from. It involves some very delicate negotiations, which
16 are in progress.

17 COMMISSIONER AHEARNE: Could you comment --

18 MR. MINOGUE: And which may not come out favorably.

19 COMMISSIONER AHEARNE: Could you comment on the
20 point the ACRS makes with respect to the degraded-core
21 effort? They say that they have looked at the product of
22 the EDO's task force and have concluded that it did not
23 respond to the need; namely, the need of defining what
24 research was necessary?

25 MR. MINOGUE: And that is a fair statement. I am

1 not quite sure that was part of their objective. But that
2 effort did not adequately define the matrix of research
3 needs. It must be defined. It helped.

4 COMMISSIONER AHEARNE: But at the moment then, I
5 guess, then you would agree with their statement that that
6 matrix of research needs has not yet been well defined?

7 MR. MINOGUE: That matrix, the matrix of the
8 research needs, as it exists today, has been defined with a
9 bit too much emphasis on availability of facilities and
10 availability of capabilities, and it badly needs an
11 additional dimension of feedback from the ultimate
12 rulemaking, from the risk assessment people, as to which
13 elements of the research needs --

14 COMMISSIONER AHEARNE: When do you expect to --

15 MR. MINOGUE: Oh, within the next few weeks. This
16 is a very important comment that they have made. We
17 actually have a preliminary draft report that would, in
18 effect, lay out the matrix of research needs. And Bassett
19 has, in a sense, put this on hold until this matter gets
20 resolved.

21 COMMISSIONER AHEARNE: Do you perceive then that
22 that might lead to substantial change in your dollar
23 requests in research.

24 MR. MINOGUE: No. What we are trying to do here
25 -- and I think it is a goal we all share -- we cannot afford

1 a lot of program changes here; we have got to know where we
2 are going before we start putting this kind of money out.

3 Earlier, when I said I thought we had enough to
4 deal with it, it is based on the assumption that we do not
5 have a lot of program redirection midstream. So I think it
6 is critically important to define these research needs so we
7 can make sure we run the right tests. I do not think it
8 will affect the number of tests or the costs so much as
9 which parameters you control and which you do not control.

10 COMMISSIONER AHEARNE: So you believe that the
11 envelope that you have funded in '83, or proposed funding
12 for '83, will be adequate independent of how this definition
13 comes out?

14 MR. MINOGUE: The total envelope; that's right.
15 The relative expenditure between the risk assessment
16 decision unit and the action evaluation decision unit might
17 shift slightly, but the total, I think, is okay. This was
18 one of their comments that I thought was particularly
19 helpful.

20 COMMISSIONER AHEARNE: The ACRS recommended two
21 programs for deletion: deformed-core coolability program,
22 and the LWR debris coolability program.

23 MR. MINOGUE: I just cannot respond to that. I
24 don't know. You have to realize we just got some of these
25 comments in the last couple of days.

1 MR. SCROGGINS: The staff has seen those
2 comments. Additional reactions from the staff is they
3 disagree with the ACRS comments, the specific ones, but they
4 are working up the response on that now.

5 CHAIRMAN PALLADINO: I was interested in that.

6 MR. MINOGUE: I cannot respond to that question.
7 This particular topic was not discussed in the meeting by
8 the ACRS, so I have been caught flatfooted.

9 COMMISSIONER AHEARNE: Your programs for these
10 areas would be aimed at doing what?

11 MR. MINOGUE: I am concerned -- would you repeat
12 the topics? I did not even get the topics. I am sorry.

13 COMMISSIONER AHEARNE: Deformed-core coolability
14 program and the LWR debris coolability program.

15 MR. MINOGUE: Okay. The first one I can speak
16 to. We certainly do not want to address the whole program
17 with a puddle of molten fuel on the bottom the pressure
18 vessel.

19 I think there are a lot of sequences where you may
20 have some local degradation of geometry, where there is an
21 issue, if you are going to talk about a solid handle on the
22 coolability of the damaged core, which is an important
23 element in the probabilities of different kinds of releases
24 to do a better probabilistic assessment, we have to have a
25 handle on how well you can cool bunnies with various

1 configurations that have been locally, by ballooning or
2 other phenomena, where you have local flow blockage. And
3 that is an element in this fuel damage program.

4 What was the next one?

5 COMMISSIONER AHEARNE: The debris coolability.

6 MR. MINOGUE: Well, I do not understand how they
7 could say "eliminate that." In another part of the forest
8 they say we should do more work on mitigation.

9 COMMISSIONER AHEARNE: Well, what they say is, "It
10 is of questionable relevance to damaged-core behavior, is an
11 expensive way to do heat transfer work, and tends to
12 duplicate work being done on fuel melt behavior."

13 MR. MINOGUE: Well, I am at a loss to explain that
14 comment, because that is the one end of the spectrum where
15 you have got the fuel on the floor, and I was under the
16 impression they felt we should do more on mitigation. And
17 now I find they want us to do less, so --

18 COMMISSIONER AHEARNE: Could you give me a rough
19 estimate of how much money is involved?

20 MR. MINOGUE: I can sure give it to you. It is
21 not very large. We can give it to you before we leave. It
22 is not much. Ron says \$1 million to \$2 million. And I
23 would have no reason not to take that. It is not a big part
24 of the program.

25 CHAIRMAN PALLADINO: Can I ask a related technical

1 question? If you get melted fuel, presumably you lose a lot
2 of fission products. Is this considered in the coolability
3 questions?

4 MR. MINOGUE: Yes. The behavior of the fission
5 products from both ends: what gets out, what form is it in,
6 what is likely to happen to it, and how much heat is left
7 there to pull out. It would part of it.

8 We are really trying to develop a data base.

9 CHAIRMAN PALLADINO: You do take those factors
10 into account?

11 MR. MINOGUE: Yes. The idea is a realistic
12 appraisal of the whole spectrum of accidents. There has
13 been a tendency -- and that may be what they are reacting
14 to, particularly people with past breeder orientation -- to
15 think only about one end of the spectrum where you have got
16 a molten core. When I talk about core-damage work, I am
17 talking about the whole range from clad damage and hydrogen
18 evolution clear through and including molten core on one end.

19 CHAIRMAN PALLADINO: I appreciated that, yes.

20 MR. MINOGUE: But all of it with an effort to do a
21 realistic treatment with the fission products, whether they
22 stay, if they get out, what form they are in, and where they
23 end up. And that is an important part of this.

24 CHAIRMAN PALLADINO: Go ahead.

25 COMMISSIONER AHEARNE: You had a fairly

1 comprehensive review of fission product behavior in the
2 NUREG-0772.

3 MR. MINOGUE: Yes.

4 COMMISSIONER AHEARNE: That identified a number of
5 areas where further work was necessary. Have you taken
6 those recommendations and incorporated them in the '83
7 program?

8 MR. MINOGUE: Yes. That is what the ACRS was
9 critiquing. Basically, we took the group that the EDO set
10 up to lay out the rulemaking, their report, and the iodine
11 report, I will call it that, if I may. And then Passadeg
12 did a parallel study that, in effect, looked at the
13 significance of this in the regulatory context.

14 COMMISSIONER AHEARNE: Right.

15 MR. MINOGUE: And then we set up a task group of
16 people from NRC and from the various laboratories, including
17 some people outside of the community with expertise, to look
18 at the facilities that we had and to look at that data base
19 as it had been laid out and to try to lay out a matrix of
20 information needs and facility utilization.

21 COMMISSIONER AHEARNE: So that, for example, if
22 one were to go through the fission product behavior report
23 and there are areas of chemistry, for example, which it is
24 indicated that there just is not that much known about some
25 of the coefficients, if you looked at that, you would then

1 be able to track to work that is identified somewhere in the
2 research program to answer or to explore those areas.

3 MR. MINOGUE: Yes. That is what we were
4 discussing earlier, because it is that report, which
5 actually exists only in draft -- and Bassett has put a hold
6 on it -- that the ACRS was criticizing, because they said,
7 "This is all well and good, but it does not include the
8 element of the end use, as the risk assessment people would
9 see it, adequately."

10 COMMISSIONER AHEARNE: No; I was just trying -- I
11 am trying to track that the fission product behavior report
12 did identify a number of areas where work had to be done.

13 MR. MINOGUE: Yes.

14 COMMISSIONER AHEARNE: And I am trying to get
15 assurance that you have at least weighed carefully doing
16 that work.

17 MR. MINOGUE: Well, because I have not reviewed
18 this draft report myself, I can give you assurance that I
19 instructed staff to use that iodine report as a planning
20 basis, and that is also what the ACRS recommended in the
21 report that they are just now completing. I have not
22 reviewed it to make sure that the chemistry point was picked
23 up. I can certainly do that. But they were instructed to
24 use that as a basis.

25 COMMISSIONER AHEARNE: I raise the chemistry issue

1 because historically, with my short familiarity with the
2 history, has been that chemistry has not been a major effort.

3 MR. MINOGUE: I would be glad to check that out.
4 It certainly would have been my assumption it is picked up.
5 I just cannot speak to it with firsthand --

6 COMMISSIONER AHEARNE: If you could.

7 MR. MINOGUE: Yes.

8 COMMISSIONER AHEARNE: The ACRS, in another
9 comment they made, said in the piping area Research should
10 work with NRR to define programs to provide an acceptable
11 basis for reducing the number of constraints for supports on
12 piping systems, especially in the primary loop.

13 MR. MINOGUE: Yes.

14 COMMISSIONER AHEARNE: Do you have --

15 MR. MINOGUE: Basically, it is the SSRMP program,
16 and let me answer the question more broadly --

17 COMMISSIONER AHEARNE: I thought that was focused
18 more on earthquake.

19 MR. MINOGUE: All the constraints are put in there
20 because of the way the earthquake design practice is carried
21 out. They had a number of very specific criticisms of
22 SSRMP, and that program needs reexamination. That is clear
23 to me.

24 And the reason it needs reexamination is some of
25 the original motivations have been lost, and one of them was

1 to look at the question of the significance of the design
2 practices in the piping constraints and the impact that had
3 on the piping's ability to withstand other transients or the
4 effect it had on end reactions and system loads.

5 It was problem they had kind of lost -- the
6 program -- had lost sight of its original objective. When I
7 first came on board in this office, I had sensed that
8 something was wrong, and I really did not understand what
9 was wrong until the last meeting with the ACRS. It kind of
10 came out of the dialogue; suddenly, all the pieces fell
11 together.

12 So Arlotto has pulled together a special plan of
13 action. He has talked to the people at Livermore. We plan
14 to visit out there within the next few weeks to try to
15 redirect that program to deal more specifically with these
16 issues.

17 COMMISSIONER AHEARNE: So that particular issue,
18 you believe, will be addressed in this review of SSMRP?

19 MR. MINOGUE: Very much so, yes. They had a
20 number of criticisms that I thought were very valid.

21 COMMISSIONER AHEARNE: Okay. The question on the
22 Surry generator, and the issue that they raise, is that
23 perhaps the NRC, after spending about two years having
24 worked on, I guess it is at Hanford, ought to consider
25 transfer of that perhaps to DOE or to industry and then let

1 them do the rest of the funding.

2 MR. MINOGUE: Yes. I did not see that particular
3 comment, but that is a well-taken point. That steam
4 generator is basically a test bed for methodologies of
5 in-service inspection and for interpretation of results.

6 COMMISSIONER AHEARNE: Right.

7 MR. MINOGUE: EPRI has a lot of interest in that.
8 We just recently -- one of the staff -- talked the French
9 into paying \$200,000 as a contribution toward it. There is
10 broad interest in that program, and we ought to be able to
11 broaden the base of funding.

12 COMMISSIONER AHEARNE: In our '83 budget, do we
13 assume that we will still be funding for the --

14 MR. MINOGUE: Yes. In the '83 budget, we have
15 opened a number of lines with EPRI of joint planning or
16 closer coordination of program, none of which is reflected
17 in this budget, because I do not know how much to bet on the
18 come.

19 COMMISSIONER AHEARNE: I see. But it is possible
20 then that you would be going in that direction?

21 MR. MINOGUE: Yes. Specifically, the answer to
22 that question is "Yes." That is a natural. That is a
23 product you can peddle because it has broad applicability.

24 COMMISSIONER AHEARNE: A final question.

25 MR. MINOGUE: Yes.

1 COMMISSIONER AHEARNE: In talking about the
2 emergency preparedness funding, ACRS makes the comment that
3 they agree with the proposed reduction, with the
4 understanding that much of the research previously conducted
5 by NRC will now be handled by FEMA.

6 MR. MINOGUE: That is when they make technical
7 comments.

8 COMMISSIONER AHEARNE: Do we have some confidence
9 that FEMA is going to be doing that?

10 MR. MINOGUE: Mr. Ahearne, during the budget
11 hearings just ended, I hope I got some strong messages from
12 various congressional staffers that research in these
13 off-site areas that are in FEMA's jurisdiction is not
14 something NRC should submit. And we chopped that out of our
15 budget.

16 COMMISSIONER AHEARNE: I see. Okay. So it is
17 more because --

18 MR. MINOGUE: And they read that as they chose to.

19 COMMISSIONER AHEARNE: Okay.

20 MR. MINOGUE: Whether that will be done or not, I
21 prefer to pass that question. I will leave that to your
22 judgment.

23 COMMISSIONER AHEARNE: Okay. We have taken it out
24 of o budget because of congressional expressions that it
25 is inappropriate for us to be doing it.

1 MR. MINOGUE: I got that message loud and clear.

2 COMMISSIONER BRADFORD: What are the consequences
3 of not doing it?

4 MR. MINOGUE: I think in terms of our
5 decisionmaking, not serious, because if you need to deal
6 with the emergency planning capabilities in the context of
7 risk assessment, that we could do. But we do that in a
8 different decision unit.

9 So it would really be things that related more to
10 what local jurisdictions ought to do or, you know, what
11 state governments should do. And I did not feel the way the
12 caveats were presented to us that anybody precluded our
13 doing work that was important to judge regulatory actions
14 that we might have to take.

15 Now, I cannot answer those on research off the top
16 of my head. It was related to off-site response by local
17 jurisdictions. It is not licensee stuff.

18 MR. SCROGGINS: There have been some studies
19 planned that I just discussed with EMA about assessing the
20 interrelations between the licensee and the various local
21 and state governments, things of this sort. There is some
22 other stuff that was looked into as far as radiological
23 monitoring to support somebody.

24 MR. MINOGUE: Mrs. Boggs raised that question to
25 me, and when I pointed out that it had been coordinated with

1 FEMA, that did not seem to cut much ice. We did coordinate
2 with FEMA. It is in FEMA's area.

3 COMMISSIONER BRADFORD: Does FEMA have money in
4 this budget to do this kind of work?

5 MR. MINOGUE: Not to my knowledge.

6 MR. SCROGGINS: FEMA's whole research budget was
7 zero in the FY '82 appropriations process.

8 COMMISSIONER AHEARNE: Is it work that we in our
9 emergency preparedness review can see as being required in
10 order to have the plant meet the emergency preparedness
11 rule? I guess that is more of a question of Harold than you.

12 MR. DENTON: I am not familiar with that research
13 either.

14 MR. MINOGUE: The answer to that question is
15 clearly "No," in the sense that this is work that would
16 really be aimed at augmenting FEMA's capabilities and any
17 problem the agency has in dealing with FEMA and what FEMA
18 does and does not do is not going to be resolved by research.

19 COMMISSIONER AHEARNE: Yes, but I am asking a
20 different question, though, Bob. We have a rule in place
21 which says certain things have to be done. One of those is
22 that FEMA has to say "Yes, the off-site emergency plans are
23 adequate." My question really is do we see that in order
24 for FEMA to make that judgment, this is work that has to be
25 done? And I am not comfortable with the answer that, "Well,

1 it is FEMA's responsibility." It may well be FEMA's
2 responsibility.

3 And I am not saying we ought to have it in our
4 budget. But if we see it is work that has to be done for
5 FEMA to answer that question, then I think we have to look
6 ahead and see downstream someplace there will be some
7 licenses in which we will not be able to go ahead on because
8 the work has not been done.

9 And we ought to be either doing it, requesting
10 FEMA do it explicitly, or going to the Congress and saying
11 here is work that has to be done and FEMA needs to the money
12 to do it.

13 MR. MINOGUE: I am confident it is not in that
14 category. And I might add I think the problems of FEMA are a
15 lot more basic than the kind of thing we are talking about
16 here.

17 COMMISSIONER AHEARNE: Yes. Well, I guess if it
18 is not in that category, then it would have been a real
19 question why would we have ever been doing it?

20 MR. MINOGUE: We did not. They are talking about
21 something that we redlined. I did not propose to do it. It
22 got redlined very early.

23 COMMISSIONER AHEARNE: That is all my questions.
24 You will get back to me with a couple of tables, I believe.

25 MR. SCROGGINS: Yes.

1 MR. MINOGUE: I have one now. It is the total
2 human factors work, and I could just give it to you, or
3 should I make copies for the other Commissioners here? It
4 is a pretty snappy list. I want to emphasize that this is a
5 program we are right now developing with Hanauer.

6 COMMISSIONER AHEARNE: Well, I would be delighted
7 if you would give everybody a copy. I would like a copy,
8 because I suspect I will ask you some other more detailed
9 questions on them.

10 MR. MINOGUE: Okay. Fair enough. We will take
11 care of that.

12 COMMISSIONER AHEARNE: And you owe me the
13 resources for INREP and IREP.

14 MR. MINOGUE: Yes, sir.

15 CHAIRMAN PALLADINO: Okay. Thank you, John.

16 Looking ahead to other areas, I find I have fewer
17 questions for NMSS than I have for NRR. And perhaps that
18 might be true of the other Commissioners. I thought maybe
19 we might turn next to NMSS and then pick up NRR after we
20 have covered these questions.

21 COMMISSIONER BRADFORD: That is fine. In fact, I
22 have no questions for NMSS.

23 CHAIRMAN PALLADINO: Well, I only have two basic
24 ones. There may be other followup. Well, let me read it as
25 it is stated here, and I will expand if we need to.

1 What are the plans for coping with the time frame
2 between the mid-1980s when spent-fuel storage capacity is
3 presumed to have run out in the year 2000, when a repository
4 will be completed and ready to accept waste?

5 I am making some assumptions that in a time frame
6 '86-'87, we are going to fill up the spent-fuel RERAC
7 facilities and that we will have some place, some
8 repository, in the year 2000, and in between there is a
9 considerable gap. And I was wondering what you foresee that
10 we have to do?

11 MR. DAVIS: From the standpoint of what NRC must
12 do as opposed to what the industry must do, we have in place
13 approximately two, which is for fuel stored away from the
14 reactor coolants. And we are scheduled, in the budget which
15 you have before you, we do have resources in anticipation of
16 applications for such storage.

17 In addition, we have before us now or will soon
18 have, we have indications from at least two firms to come in
19 for topical reports for dry storage, casks which could be
20 placed on site.

21 But in general, we have our regulation in place,
22 and I am staffed in the forecast of this budget, to handle
23 AFR applications. The first that we would probably see, as
24 we understand, would probably be for TVA.

25 CHAIRMAN PALLADINO: For what?

1 MR. DAVIS: For TVA. But from the regulatory
2 standpoint, we believe we are ready. Now, from the
3 industry's standpoint, we are as uncertain about what the
4 industry will do as everyone else is, whether the DOE will
5 move forward or whether Congress will direct DOE to move
6 forward or whether it will not, and whether the private
7 industry will have to react to this.

8 As I believe we discussed, we foresee the first
9 needs about the term '86. But that includes some
10 assumptions, which, if the industry reacts to could be
11 extended somewhat. For example, the '86 need does not
12 assume PIN compaction. The '86 need does assume full core
13 reserve. So there are two areas: The '86 need does not
14 assume transfer between reactors or transfer between site
15 facilities.

16 So we believe that from the regulatory position
17 that we are able to handle whatever industry may decide.

18 COMMISSIONER BRADFORD: Do we require full core
19 reserve, John?

20 MR. DAVIS: That is really NRR's position, and I
21 think it is not a requirement, but I believe it is believed
22 to be advisable, as I understand it, for operational
23 flexibility..

24 COMMISSIONER AHEARNE: It is not a license
25 condition.

1 MR. DAVIS: No, it is not a requirement, as such,
2 but is for flexibility of operation of plant, as I
3 understand it.

4 CHAIRMAN PALLADINO: Well, while we say that is
5 what you have described is our regulatory responsibility,
6 yet we are the ones who are going to be faced in 1986 or
7 thereabouts with a plant coming along and saying, "I don't
8 have any place to put my spent fuel," and we are going to be
9 faced with, "Well," we say, "shut down."

10 And I have gotten into discussions and informal
11 talks with Congressmen, and they do not quite let me want to
12 be off the hook by saying, "Well, you have done your
13 regulatory job."

14 What more should we be doing?

15 MR. DAVIS: Well, Mr. Chairman, I guess the
16 agency, if it desired to take an advocacy position of some
17 type, which we have not yet formulated, and say, "Industry,
18 you had better be well aware that on such and such a day
19 such and such a plant is going to shut down unless you do
20 something about it about four years ahead of that plant
21 shutting down."

22 But I do not see how we as regulators could make
23 industry solve their problems. We can point out that there
24 are problems. We can point out that we do have the
25 regulatory framework ready to accept whatever decision they

1 make. But I do not know how we force them to react to the
2 problems.

3 COMMISSIONER AHEARNE: The two underlying
4 real-life problems are if it is going to be an
5 industry-developed AFR, it runs into exactly the kinds of
6 problems that the waste repositories are running into, what
7 state is going to be willing to allow an AFR to be built?

8 If it is not industry-developed and
9 government-developed, then it brings back into the problem
10 which it has just run into, and that is a sizeable
11 government investment. And the administration projects just
12 does not seem willing to put up that kind of money. Those
13 are the two underlying key problems.

14 MR. DAVIS: I might say there is a great deal of
15 interest, as we understand it, on the dry storage, which
16 perhaps could be accommodated on the reactor site and might
17 avoid some of the institutional pressures.

18 COMMISSIONER AHEARNE: Can I ask a question on
19 that? Do you have, does the NRC have, confidence in our
20 Part 70, Part 72, that if a utility came in with a dry
21 storage cask, say, the German cask or the one that DOE has
22 built, that we have enough information and understanding of
23 its behavior and we have whatever is the appropriate
24 environmental review, impact statement on it, that we could
25 take a life-of-plant storage proposal?

1 MR. DAVIS: We are in the process right now of
2 developing a reg guide that will expand some issues in this
3 particular area. We believe Part 72 has the proper
4 framework. From the standpoint of the technical review, we
5 see these as similar to casks to move.

6 COMMISSIONER AHEARNE: What I am concerned about
7 is that if the picture that the chairman has just painted
8 and which many people see as being a real possibility comes
9 true, a number of plants are going to be, I think, thinking
10 very seriously about proposing 10-, 20-year storage in casks
11 on site, which is not much different than a life-of-plant
12 storage proposal.

13 And it was not clear to me that we were prepared
14 from our technical review position to accept that.

15 MR. DAVIS: Part 72 envisions a 20-year license,
16 as you know, subject to renewal, which takes it to 40 years,
17 which takes it to --

18 COMMISSIONER AHEARNE: Yes, but we have just seen
19 all of the difficulty we had in addressing a proposal to do
20 life-of-plant to do more than a few-years' storage of
21 low-level waste.

22 MR. DAVIS: That is right.

23 COMMISSIONER AHEARNE: And it was not clear to me
24 that we were, therefore, in really good shape to do
25 long-term high-level waste storage.

1 MR. DAVIS: Well, we think we are in shape for 20
2 years, anyway.

3 COMMISSIONER AHEARNE: I see. So you do not
4 believe that there are additional resources that have to be
5 applied either from NMSS contractual support or NMSS tasking
6 and research to get us prepared for the technical review of
7 a life-of-plant proposal for dry-surface service storage of
8 spent fuel?

9 MR. DAVIS: Well, I will have to check. My
10 impression is that we believe that in the budget that you
11 are considering now that we have resources for that.

12 CHAIRMAN PALLADINO: What could compaction do for
13 us if it were implemented at the plants where they have the
14 most limited? How much time would that add?

15 MR. DAVIS: As I understand it, for BWR fuels, it
16 about doubles the capacity.

17 CHAIRMAN PALLADINO: Which ones?

18 MR. DAVIS: BWR.

19 CHAIRMAN PALLADINO: "B" as in "boy"?

20 MR. DAVIS: That's right. With regard to
21 pressurized, it is somewhat more than doubling. However,
22 this is not a simple matter. Also, I understand there are
23 frequent structural questions with regard to reracking, for
24 protection. So what I am saying is we really do not know
25 the amount of years that you would get, nor do we know which

1 reactor would choose to do it.

2 COMMISSIONER AHEARNE: We at the present time only
3 have one request in for that?

4 MR. DAVIS: Yes.

5 CHAIRMAN PALLADINO: Do you think that is likely
6 to prove a popular way of going?

7 MR. DENTON: Many licensees have exhausted the
8 first three ways of trying to rack one on top of the others
9 or put the racks closer together or forcing the system in
10 compacting racks. And this is about the last step that can
11 be chosen. And so I think a lot of people are watching this
12 one application that is before us and are moving and will be
13 going that way if no movement occurs on the AFR route.

14 MR. DAVIS: I think that route and dry storage on
15 site and costing them out will perhaps be the way the
16 industry will go.

17 COMMISSIONER AHEARNE: You do not see the need for
18 some kind of additional generic environmental impact
19 statement to cover life-of-plant dry storage?

20 MR. DAVIS: I will check that out, Mr. Ahearne.

21 CHAIRMAN PALLADINO: I have got another question.
22 If the administration makes a decision to strongly support
23 reprocessing and the use of plutonium-bearing fuels, what
24 impact do you see that having on the NRC?

25 COMMISSIONER AHEARNE: You mean recycling

1 light-water reactors?

2 CHAIRMAN PALLADINO: Either way. Let us take it
3 in two steps: recycling of light-water reactors, and if we
4 go toward the breeder for commercial.

5 MR. DAVIS: We would see first, as we understand
6 it, a gas mode or some form of gas mode would have to be
7 completed. And then beyond that, of course, once that is
8 out of the way, we would have to move into whatever
9 resources are necessary to license such a plant, a
10 reprocessing plant.

11 COMMISSIONER AHEARNE: Would you have to complete
12 GESMO if the decision were only to go to breeder?

13 MR. DAVIS: Only to go to breeder? Somebody would
14 have to do an impact statement on it.

15 MR. DIRCKS: Well, if you go to the breeder and
16 you go to a breeder program -- I mean more than Clinch
17 River; you go to a large-scale breeder -- you are going to
18 have to find fuel for that breeder somewhere.

19 If it is a single plant to provide fuel for that
20 breeder and is not tied to the widescale use of breeders or
21 widescale commercial processing, it might be that you could
22 just do the impact statement on a single plan. Or you could
23 wrap it into that question of the breeder itself.

24 CHAIRMAN PALLADINO: I was not familiar with what
25 happened on the last GESMO hearings.

1 MR. DIRCKS: That was a resource-eater.

2 CHAIRMAN PALLADINO: What was that?

3 MR. DIRCKS: That was a resource-eater of
4 unimaginalle proportion, and it just sucked up resources,
5 and it came to an inconsequential end. We did not get too
6 far.

7 COMMISSIONER BRADFORD: Is what you are asking
8 what end did it come to?

9 CHAIRMAN PALLADINO: What were we trying to do?
10 How far did we get?

11 MR. DIRCKS: We know that.

12 CHAIRMAN PALLADINO: what does it portend for
13 any action for us and any action that the administration
14 might take?

15 MR. DIRCKS: Well, maybe Len can explain the
16 realities of where we stood on the GESMO.

17 MR. BICKWIT: There was a rulemaking action, a
18 hybrid rulemaking action, in which first comments were
19 submitted and after the comment stage it was proposed that
20 there would be some kind of board examination of the matter,
21 questions being put by the board to the various parties.

22 CHAIRMAN PALLADINO: Did it start off with a
23 proposed rule?

24 MR. BICKWIT: That is right.

25 COMMISSIONER AHEARNE: It was for the use in

1 light-water reactors.

2 MR. BICKWIT: The first stage was completed. By
3 the time things got to the second stage, as I understand it,
4 we had a request from the administration to stop the
5 proceeding, and the Commission abided by that request.

6 COMMISSIONER AHEARNE: That was some document,
7 though.

8 MR. BICKWIT: No final rules.

9 CHAIRMAN PALLADINO: But what was the second
10 step? The hearings?

11 MR. BICKWIT: The second step was to have the
12 hearings and to put questions to the parties, and that
13 either never started at all or was cut off right at the
14 beginning.

15 MR. RATHBUN: There was a draft environmental
16 impact statement which was published by the Atomic Energy
17 Commission around 1974. And as I recall, around 1975, the
18 beginning of 1975, the CEQ wrote the agency and said they
19 thought we should look at the safeguards questions.

20 Subsequently, the new Commission published a final
21 environmental impact statement on health and safety matters,
22 and the Commission brought together a five-person panel
23 which conducted hearings on this final environmental impact
24 statement on health and safety matters, not on safeguards.

25 On a separate track, the staff was working on a

1 draft, so-called, safeguards supplement. The proceedings
2 stopped before, as I recall, the safeguards supplement was
3 actually published. And that was taken up by the GESMO
4 panel.

5 CHAIRMAN PALLADINO: If we have to get involved in
6 that kind of activity, would our present budget --

7 MR. DIRCKS: It is not included at all. We made
8 an estimate of it.

9 MR. DAVIS: If we did just what we call
10 light-water, the first year we estimate six staff-years,
11 second year 20, third year 20, fourth year 17.

12 CHAIRMAN PALLADINO: This is just to?

13 MR. DAVIS: Update the light-water. To go breeder
14 first year, 48 --

15 CHAIRMAN PALLADINO: Could I get that light-water
16 set of numbers again?

17 MR. DAVIS: I would be glad to give you a copy of
18 this.

19 COMMISSIONER AHEARNE: But with the breeder
20 included?

21 MR. DAVIS: The breeder included: The first year
22 -- these have been banged around a bit -- 48, second year
23 56, third year 53. And the contractual support varies from
24 \$14 million through about \$23 million.

25 We can get that from Research.

1 CHAIRMAN PALLADINO: You seem to go more years
2 with the light-water than with your breeders.

3 MR. DAVIS: We did not extend it.

4 COMMISSIONER BRADFORD: John, what is that breeder
5 number? That is just for the impact statement only?

6 MR. DAVIS: That is for the equivalent of GESMO.

7 Now, you know, GESMO --

8 COMMISSIONER BRADFORD: Generic breeder
9 environmental impact statement?

10 MR. CORNELL: The last time around, the Commission
11 decided to limit the scope of GESMO to the fuel and
12 light-water reactors and in the analyses to specifically
13 write out the breeder. And there was a concern at the time
14 that in the NEPA-style cost-benefit analysis, that somehow
15 the breeder might wind up subsidizing initiation of use of
16 mixed oxidized fuel.

17 MR. DAVIS: Let me add that the numbers are
18 somewhat soft.

19 CHAIRMAN PALLADINO: I appreciate that.
20 Those are the only questions I have for NMSS.

21 COMMISSIONER BRADFORD: I do not have any.

22 COMMISSIONER AHEARNE: I just have a couple. I
23 had asked previously in the Department of Transportation
24 regulations. In a July 20th answer from John Evans, which
25 the other Commission offices got copies, he said that DOT

1 has recently expressed to DOE an intention to require NRC
2 certification of all DOE containers.

3 MR. DAVIS: Let me say that DOE and DOT are
4 talking about this.

5 COMMISSIONER AHEARNE: And he went on to say that
6 if this were to happen, it would severely impact the
7 casework backlog in the transportation safety decision unit.

8 Now, does "severely impact" mean that if that were
9 to happen, you would need some sizeable number of additional
10 people?

11 MR. DAVIS: What it would mean is that we would
12 have to either -- what we would be concerned about is that
13 DOE at the present time is doing most of the moves of
14 material. So consequently, rather than delay their
15 movement, then those DOE applications which we have -- which
16 are really not applications; they are sent in for our
17 advisory review -- we would have to move those up in our
18 prioritization, which means other things would slide.

19 Now, we could adjust around, but it is about six
20 man-years of backlog is what it would mean.

21 COMMISSIONER AHEARNE: And when do you expect the
22 decision will be made by DOT whether or not they are going
23 to require -- I gather that is something that is entirely up
24 to DOT to decide?

25 MR. DAVIS: As far as I know now, DOT will

1 ultimately have to decide, but it is in negotiation right
2 now with DOE. I do not know when those negotiations would
3 be over.

4 COMMISSIONER AHEARNE: Okay. I gather that you do
5 not at the moment believe we should include staff-years in
6 the budget to cover that contingency?

7 MR. DAVIS: No, sir. If this comes very soon, we
8 are, in the budget, particularly in the radioactive area,
9 we have some, we hope, efficiency things underway in where
10 we hope to gain some efficiencies in years -- maybe not six
11 -- but absorb those and then readjust out into the '84-'85
12 time schedule, not to need the total of six.

13 COMMISSIONER AHEARNE: In the fuel cycle decision
14 unit, in '81 you had 1.5 staff-years devoted to technical
15 support for development of NUREG guides.

16 MR. DAVIS: Right, sir.

17 COMMISSIONER AHEARNE: That is zeroed out in '82,
18 '83, and '84. Is that because all of those guides will have
19 been developed or it is of lower priority?

20 MR. DAVIS: It is because of priorities. What we
21 would do instead -- of course, that is our view of the
22 guides which was developed by Research -- and so we will cut
23 back, in essence, zero our review of those guides and ride
24 on their technical review.

25 COMMISSIONER AHEARNE: Okay. The final question:

1 In the MC&A area there was an increase of six staff-years in
2 '80 and '81 as a result of congressional requirement. It
3 was eliminated in FY '82 and is not in the FY '82 or the FY
4 '83 or '84 budget.

5 Has this been done with interaction with the
6 appropriate congressional committee that had put it in? In
7 other wordd, when we eliminate those six in '82, is that
8 going to be something that the congressional committee that
9 put it in knows about and understands we are doing it? Or
10 will they be very surprised?

11 MR. DAVIS: The six were an add-on to our budget,
12 as you are aware.

13 COMMISSIONER AHEARNE: Yes.

14 MR. DAVIS: And we were directed to use them for
15 very specific things.

16 COMMISSIONER AHEARNE: Right.

17 MR. DAVIS: We used them for those very specific
18 things. The two areas in which they were to be used are
19 transportation and MC&A, which has been an association of
20 reformed amendments are well along the way. So we believe
21 that the resources we have to do that now, we can fulfill
22 what our commitments are.

23 COMMISSIONER AHEARNE: I guess that I think your
24 caveat that we really ought to talk to OCA just to make sure
25 that the congressional committee that put them in knows what

1 we are doing. I am not saying that we need their approval,
2 but I think it would just be a smoother way of operating
3 than for them to suddenly find out about it.

4 MR. DAVIS: Dr. Gilinsky.

5 COMMISSIONER GILINSKY: Unless you have questions
6 for me.

7 CHAIRMAN PALLADINO: Well, we come next to NRR,
8 and I am not sure we are going to get done this evening, as
9 a matter of fact. I have already made tentative conclusions
10 that we will go over tomorrow on discussions and questions
11 rather than try to rush it, because I think this is an
12 important area, and we will defer our closed session, or
13 whatever; the closed or open has to be determined. But we
14 are planning to go into a closed session, if it looks legal
15 on mark-up, and that would probably come next week.

16 COMMISSIONER GILINSKY: Could I ask one thing of
17 NMSS? I think it is of NMSS. Where do we stand with ISIS?

18 MR. DAVIS: Where do we stand on ISIS? We have
19 back now relooking at the concept of ISIS, starting back at
20 the front end and looking at it, reexamining the information
21 needs which have shifted somewhat, but most particularly
22 reexamining our cost estimate for the software and hardware
23 associated with this. The money basis comes out of the
24 controller's shop, but we have manpower associated with it.

25 COMMISSIONER GILINSKY: The money is in the

1 controller's budget?

2 MR. CORNELL: It is in Admin.

3 COMMISSIONER GILINSKY: Is that in the ADP column?

4 MR. DAVIS: Yes.

5 COMMISSIONER GILINSKY: While we are on that, why
6 is the ADP money in there? I thought that had been moved
7 over to MPA?

8 MR. BARRY: The ADP money is actually
9 redistributed to all of the offices. In other words, we put
10 together an Admin support budget in total, \$46 million this
11 year, \$50 million in '83, by line-item such as ADP and so on.

12 But then when we actually submit the budget to the
13 Congress, we redistribute the Admin support budget to
14 everybody. We make, on the people distribution, you know,
15 the same discussion we had the other day about the admin
16 support assigned to the Commission office, with some
17 exceptions. In the case of ISIS and NIMIS, I then assign
18 that Admin support cost to NIMIS in their budget, because it
19 is in support of their safeguards system.

20 COMMISSIONER GILINSKY: But the dollars are still
21 in the Admin budget?

22 MR. CORNELL: In terms of the budget that you have
23 in front of you right now, there is a line for ADP, which is
24 nine.

25 COMMISSIONER GILINSKY: 9.8 or 9.6?

1 MR. CORNELL: ISIS and NIMIS are in there.

2 COMMISSIONER GILINSKY: What is NIMIS?

3 MR. DAVIS: The cost?

4 COMMISSIONER GILINSKY: What is it?

5 MR. DAVIS: It is the current information system
6 that DOE runs that we use for safeguards information.

7 COMMISSIONER GILINSKY: This is the Oak Ridge
8 system?

9 MR. DAVIS: Right.

10 MR. CORNELL: Yes. Oak Ridge system is NIMIS.

11 COMMISSIONER GILINSKY: And ISIS is supposed to
12 replace NIMIS?

13 MR. DAVIS: Yes.

14 COMMISSIONER AHEARNE: What is the amount of money
15 you have in your '82 budget and in your '83 budget for ISIS?

16 MR. BARRY: In the '82 budget currently for ISIS
17 we have \$1.5 million. In the '83 budget we have \$800,000.

18 COMMISSIONER GILINSKY: Is this contingency money
19 or what?

20 MR. BARRY: This is to develop ISIS. We had \$1.5
21 million in '81, of which we have used about \$300,000. And
22 \$1.2 million went to reprogramming recently for Mr. Denton.
23 And in '82 we had another \$1.5 million because the original
24 scheme on ISIS was to make ISIS operational about '84 and
25 then do away with NIMIS. That has been changed.

1 COMMISSIONER GILINSKY: I thought John said you
2 were taking another look at the whole question?

3 MR. BARRY: That is correct. That is the reason
4 the '83 budget is no longer \$1.5 million, it is \$800,000.

5 COMMISSIONER GILINSKY: The assumption there is
6 what? That you will have developed the system?

7 MR. BARRY: That we will be developing the system
8 in '82 and '83.

9 COMMISSIONER GILINSKY: What is it going to cost
10 to develop the system altogether?

11 MR. BARRY: We really do not know yet.

12 COMMISSIONER GILINSKY: Round numbers?

13 MR. BARRY: At one time it was going to cost about
14 \$6.5 million under the original scope to develop it. But
15 now he is taking another look at it.

16 COMMISSIONER GILINSKY: What does this do that the
17 other system does not do?

18 MR. DAVIS: Which one? ISIS?

19 COMMISSIONER GILINSKY: We are using NIMIS; right?

20 MR. DAVIS: We are using NIMIS.

21 MR. BARRY: In '81 it is \$1.2 million; in '82 it
22 will be \$1.5 million; '83, \$1.6 million; '84, \$1.6 million.

23 MR. DURCKS: NIMIS, we have to keep paying anyway
24 because that is supplying data into the system. ISIS goes
25 back so many years now, 1975, when the Commission indicated

1 that it was dissatisfied with the production of information
2 on materials in inventory and in transit, and we tried to
3 then establish a system that would give us more
4 instantaneous data and more complete data and track the
5 material more closely.

6 Of course, that was based on the assumption that
7 there would be a growing industry and also a possibility
8 that plutonium recycle would come along and we would have a
9 much more elaborate need for a system.

10 What we are finding now is the amount of material
11 in transit is steady, if declining; we have fewer
12 facilities; it is possible to live with the NIMIS system and
13 not move into the ISIS.

14 I think if you talk about a growth industry and if
15 plutonium recycle came into -- reprocessing came in to
16 business, if you got a breeder economy going, we would have
17 to go back and look at something like ISIS. But right now,
18 it just would not pay us to go into it; we will bear with
19 the problems in the NIMIS system. NIMIS has its problems
20 and had its problems when I was over there.

21 MR. DAVIS: NIMIS has its problems. It is slow.

22 MR. DIRCKS: It is slow. We have to tie into the
23 system. We were on the waiting line for data. We did not
24 get it when we wanted to. We discussed all of these
25 problems with DOE. They have tried to upgrade it. But

1 still, it is not designed for our needs. It is designed for
2 their needs. We are a user of their system and not a
3 predominant user.

4 MR. BARRY: One of the major problems is its
5 primary user is the military applications systems and it is
6 very highly classified, and we are simply a little piece of
7 it.

8 COMMISSIONER GILINSKY: What fixes the amount of
9 our contribution?

10 COMMISSIONER AHEARNE: DOE fixes it.

11 COMMISSIONER GILINSKY: Is it the amount of time?

12 COMMISSIONER AHEARNE: The cost keeps going up. A
13 couple of years ago there was a decision that all government
14 agency users would be charged a so-called fair share of the
15 overhead.

16 MR. BARRY: That really pushed it up.

17 MR. DAVIS: One thing we are really looking at now
18 is there is a cheaper -- we would prefer using the word
19 "ISIS" since the concept has changed so much -- so that it
20 will be cheaper for us to back out of DOE.

21 COMMISSIONER GILINSKY: If you did go to another
22 system, would that completely replace NIMIS?

23 MR. DAVIS: That is what we are looking at: Can
24 we replace it and back out of that \$1.5 million or whatever
25 it might be, to find it cheaper and something developed for

1 our needs. But we are still negotiating with DOE.

2 COMMISSIONER GILINSKY: But you are looking at the
3 question?

4 MR. DAVIS: Yes.

5 COMMISSIONER GILINSKY: I might return to this
6 question of operators we talked about a little bit and
7 understand better just what it is we are going to be doing
8 once a year and what can be done less often and what makes
9 sense.

10 And also, I have to say I saw a story in one of
11 the weeklies, I think it was written by Joan Danner, that
12 quotes Steve Hanauer saying, "Yeah, the Commission said that
13 we ought to go out other government agencies and get some
14 expertise on operator qualifications. But that is not going
15 to work; that is not going to happen." I hope that is not
16 right.

17 COMMISSIONER AHEARNE: That it is not right or
18 that he said that?

19 COMMISSIONER GILINSKY: If, in fact, we cannot get
20 the expertise from those agencies, we ought to quickly do
21 something else.

22 MR. DENTON: I do not remember the context. We
23 are setting up a peer review panel to review all of the
24 alternatives that are before the Commission on operator
25 qualifications. And that will include representatives from

1 the Navy and aviation industry and so forth. So I expect
2 that will work. I have forgotten the context in which you
3 were referring to.

4 COMMISSIONER GILINSKY: Well, anyway, if that is
5 on track --

6 MR. DIRCKS: Well, you remember the last time we
7 met on that and you were told to go back and form up this
8 peer panel, get some proposals from the industry to see what
9 they had to say, and that panel was -- at least I guess that
10 it is on my desk back there to send down to the Commission
11 -- includes Navy, NASA, Air Force, FAA, a whole range of
12 people, including representatives of the various unions that
13 may be called on, the Airlines Pilots Association.

14 MR. DENTON: They may have been trying to prejudge
15 the outcome or something.

16 COMMISSIONER GILINSKY: Well, he said something
17 like, "These people were busy." They may have been.

18 MR. DENTON: Well, we will do our best to get
19 people on.

20 MR. DIRCKS: Well, he might have been busy. I
21 think what he was saying is that if we really want these
22 topflight people, it is going to be difficult to get them to
23 come to meetings at such a schedule as to meet the target
24 date as I think the Commission might have given us, that
25 what he might be trying to soften us all up for is can we

1 give him a bit of an extension on the time that they want to
2 report. And we will include that little bit in the paper
3 coming down.

4 COMMISSIONER GILINSKY: Can you just return to the
5 business of what we do in one year and what we do or plan to
6 do in five years and once every five years and does that
7 make sense or should we be looking for alternatives?

8 MR. DENTON: We originally were looking at what
9 would the resources be to fully meet the Commission's
10 previous preference that was expressed in connection, I
11 think it was, with SECY-330.

12 COMMISSIONER AHEARNE: Preference is a weaker word.

13 MR. DENTON: A decision in 330. That was a large
14 amount of resources for us to give the written, oral, and
15 simulator requalifications to every operator every year or
16 every two years -- I have forgotten the interim -- every
17 year. And I think our projections showed there were 3400
18 licensed operators inspected in, say, '83-'84 time frame.
19 So if you multiply that by the amount of time that someone
20 would have to spend giving these exams, you have got quite a
21 large group of people, either contract people or in-house
22 people.

23 I think a large part of our exams are already
24 being done by contracts, and as we try to pump more money
25 into this area, we end up having our best people be contract

1 officers rather than examiners.

2 So, after thinking about it, we propose just to
3 give the simulator exams every year. We would conduct
4 those. We would not conduct a written and oral but on 20
5 percent of the population.

6 COMMISSIONER GILINSKY: Let me ask you, was the
7 onece-a-year your recommendation that we approved, or was
8 that something we dreamed up ourselves?

9 MR. DENTON: I do not remember the origin. I
10 think at the time we were interested in not relying on their
11 requalification. We wanted to do it ourselves. And I do
12 not remember who proposed it first.

13 COMMISSIONER AHEARNE: I think the time period was
14 from NRR. And the 100 percent was from us. I think it was
15 Victor and I.

16 MR. DENTON: I think staff's present view on the
17 value of the written, oral, and simulator, they are coming
18 to see the simulator as being the area that they are more
19 interested in as opposed to going back and retesting the
20 knowledge, you know, the formula, year after year after year.

21 There is a certain part of the new learning
22 experience that goes on in the industry that these people
23 should be tested on. But the staff is more inclined to only
24 test a sample of the population, like the 20 percent, or you
25 can go to 10 percent or some other number. We have no magic

1 number on the 20.

2 But we thought that the simulator one is something
3 that could be accommodated within our budget restraints.
4 There are about 700 shifts of operators we envision in the
5 '83-'84 time frame. And apparently, it takes us about two
6 examiner-days to examine a shift. So there are some 1400
7 examiner-days required, and there would be a certain number
8 of simulators. So we would have to spend a month or two at
9 each simulator, spread out over some interval, giving these
10 exams on the simulators, and you give it to a shift at a
11 time and make sure they understand how to cope with events.

12 COMMISSIONER AHEARNE: What is the people swing
13 between 20 percent that I gather your budget is based on,
14 and 100 percent? How many more people would it have
15 required?

16 MR. DENTON: Let me ask Jesse, who may have that
17 handy.

18 MR. FUNCHES: When we put the budget together, we
19 required \$1.6 million in FY '83. We did not anticipate we
20 could recruit additional people. If you and I recruit that
21 number into additional people, it would be on the order of
22 17 professional staff plus overhead, so you are talking
23 about on the order of 25 additional people.

24 COMMISSIONER AHEARNE: \$1.6 million, \$1.7 million?

25 MR. DENTON: At the moment, we have been trying to

1 get people in this area. I think we are shooting for about
2 15 in headquarters in the way of examiners. We have got
3 about two offers in our Chicago regional office that are due
4 to report in. We have got 25 part-time license examiners.
5 We have got about seven or nine or six at Oak Ridge. We
6 have got P&L trying to qualify a group, and we have got I&L
7 trying to qualify a group.

8. So we are having to go out to other examiners to
9 conduct even a large part of today's program, which is for
10 new licensees. And as we have been trying to staff up to do
11 the requals, we are looking for more innovative ways to do
12 this.

13 MR. DIRCKS: Like the check pilot approach. But I
14 think it is interesting, and I just heard about this the
15 other day. We got applications in from something like 200
16 people for the examiner jobs. 100 interviewed. Offers were
17 sent out to 50. And we got two acceptances.

18 COMMISSIONER AHEARNE: How long a time lapse
19 between their applying and the offers going out?

20 MR. DIRCKS: No, you can't hang this one on
21 Personnel.

22 COMMISSIONER AHEARNE: I am not hanging this one
23 on Personnel. Roughly how long a time lag?

24 MR. DENTON: All of these interviews, I think,
25 were done in Chicago, and I think it was in a couple-months'

1 time frame from the time we tried to get people there to
2 interview and get off. It was not one of these six-months'
3 things.

4 MR. DIRCKS: They were not left out on a limb with
5 uncertainty, and they just would not take the job. And the
6 basic reason they required travel 30 or 40 percent of the
7 time, and no one of that caliber is going to put up with
8 that sort of situation.

9 COMMISSIONER AHEARNE: But they applied for jobs.

10 MR. DIRCKS: I think it became evident -- I do not
11 think it was quite clear in their minds until the job was
12 explained to that person how much travel would be required.
13 I do not think any of us realizes what the job entails until
14 you get pretty close to it, and then you want to turn around
15 and walk off.

16 CHAIRMAN PALLADINO: Can I ask a follow-up
17 question? When you talked about \$1.6 million to, I presume,
18 do contract, is that money for contracts? Is this contracts
19 to organizations or to individuals?

20 MR. DENTON: Both. At the moment, we have, I
21 think, 25 individual part-time examiners. A lot of those
22 are individual service contracts. Then recently, we have
23 gone to contracts with Oak Ridge Lab and P&L and I&L, which
24 are with those DOF institutions.

25 CHAIRMAN PALLADINO: But then do you approve if it

1 is with an organization, do you approve the examiners?

2 MR. DENTON: Oh, yes. And we send them to a
3 training school, and we know their scores on exams and
4 simulators.

5 CHAIRMAN PALLADINO: That is what I was wondering
6 about, if there is an organization, how do you control the
7 examiners?

8 MR. DENTON: We have good controls on that.

9 COMMISSIONER AHEARNE: So whoever is an examiner
10 is individually approved by the NRC independent of the
11 routes they came?

12 MR. DENTON: That is exactly right. I think we
13 are getting at the moment the equivalent of 41 professional
14 staff-years for the amount that we are involved in. As new
15 plants are coming in, they have the whole crews to be
16 examined. So at the moment we are having to run at top
17 speed just to keep up with the new licensing and replacement
18 of people who are dropping out of the program, and then the
19 requal program is an additional increment on top of that.

20 CHAIRMAN PALLADINO: I gather you have confidence,
21 though, or you must have some confidence in the training
22 programs and the inspections that the licensees do on their
23 own, which I gather is every year?

24 MR. DENTON: As we talked the other day, you find
25 some examples where the licensee's program fell down. I

1 have had a chance to look into that case that you mentioned
2 of Diablo. Apparently, there were a couple of facets of
3 that, they did much better on those areas that I called
4 "pre-TMI areas" than they did on the new areas that we
5 examined, where some people who flunked flunked because of
6 the new TMI areas that we examined.

7 So that showed some lack of emphasis in their
8 training program on areas that we have emphasized since
9 TMI. You may recall that we used to grade people on the
10 average of across the board in which we take all of the
11 areas that we tested them and if they made a certain score,
12 they passed. Now, they have to make at least 70 in each
13 area, and if in any area they fall below 70, they do not
14 pass regardless of what they may do in some other areas.

15 So the failings were in the new TMI areas. It has
16 gone from about a 10 percent failure rate pre-TMI to about a
17 30 percent failure rate since TMI.

18 CHAIRMAN PALLADINO: Across the board?

19 MR. DENTON: Across the board.

20 COMMISSIONER AHEARNE: Is that, to a large extent,
21 driven by going to he must pass every area?

22 MR. DENTON: At least in this case I looked at. I
23 do not know about the others.

24 And I guess in order to answer your question
25 specifically, I think this 100 percent training of

1 simulators, the staff recommendation would be that is the
2 most valuable part of observing the operators under actual
3 conditions, and that the 20 percent audit for written and
4 orals would be a satisfactory check on that part of the
5 requal program.

6 COMMISSIONER GILINSKY: What is the result of a
7 simulator exam? Does the entire team qualify, or could some
8 of the members be requalified and others not?

9 MR. DENTON: We take everyone that is on that
10 shift, and we have two examiners who watch different
11 individuals' performance. So it qualifies that shift, but
12 it is also qualifying those individuals on the shift.

13 COMMISSIONER AHEARNE: Have you gone through those
14 simulator reviews already?

15 MR. DENTON: On some new license applications.

16 COMMISSIONER AHEARNE: Has any shift failed?

17 MR. DENTON: I do not know. I just do not happen
18 to know that data.

19 COMMISSIONER GILINSKY: I did not fully understand
20 whether a shift fails or an individual fails.

21 MR. DENTON: I think either could happen. But one
22 of the reasons for having two observers watch that shift is
23 so that the observers split up the workload to watch the
24 individuals' performance as well as watching the shift.

25 The licenses are really based on the individual.

1 So you want to watch them do their part of the total. We
2 are licensing individuals, not shifts.

3 COMMISSIONER GILINSKY: If someone were to fail,
4 would he be identified? I guess it is not clear to me.

5 MR. DENTON: I went to shift only to describe the
6 logistics.

7 COMMISSIONER GILINSKY: No; I understand that.
8 But then what is the outcome? Do you write a report and you
9 say --

10 MR. DENTON: Well, he does not get a license. In
11 other words, he has to pass and he has to --

12 COMMISSIONER GILINSKY: I see.

13 COMMISSIONER AHEARNE: But you have said about 30
14 percent of the people have failed, at least so far.

15 MR. DENTON: Since TMI.

16 COMMISSIONER AHEARNE: Has any failure been
17 attributed to failure on simulator?

18 MR. DENTON: I do not know; I will have to check.

19 COMMISSIONER AHEARNE: Because that gets back -- I
20 am just puzzled about it.

21 COMMISSIONER GILINSKY: And then what do we do if
22 we decide an individual has not performed satisfactorily?
23 Does he go back into another group or what?

24 MR. DENTON: No different than if he fails now. I
25 will have to get down to the branch to go into specifics.

1 He is allowed a certain amount of time; we would retest him
2 and then if he fails that I think he automatically has to
3 recycle the program again.

4 CHAIRMAN PALLADINO: Suppose he passed all the
5 others and we are just talking about the simulator.

6 MR. DENTON: I think he is given a certain amount
7 of time to prepare for a second test.

8 CHAIRMAN PALLADINO: On the simulator?

9 MR. DENTON: Yes. But I do not really know that
10 detail today, and I will have to answer that later.

11 COMMISSIONER AHEARNE: Because conceivably that
12 would then mean that if an individual failed, would that
13 whole shift have to come back?

14 MR. DENTON: No, no, no. It is just the
15 individual

16 CHAIRMAN PALLADINO: Well, I wonder if you could
17 ever get to the whole shift fails and all the individuals
18 pass?

19 COMMISSIONER GILINSKY: I do not know if it is
20 worth pursuing in this context, but it seems to me it raises
21 questions, among other things, of just fairness. It depends
22 a great deal on what group.

23 MR. DENTON: But in the simulator the operators
24 have specific functions. The SROs have jobs; the ROs do
25 have. You need a shift to run a simulator. They are judged

1 on how well they do their part of the procedure and if they
2 know what they are doing.

3 COMMISSIONER AHEARNE: It sounds like the old test
4 for SAC crews where the whole crew passed or failed.

5 CHAIRMAN PALLADINO: But here we are licensing
6 individuals.

7 Well, I see our appointed hour has arrived.
8 Tomorrow I think we ought to continue with NRR, because I
9 know each of the Commissioners has a number of questions,
10 and we will put off our mark-up session.

11 COMMISSIONER AHEARNE: And to alert you tomorrow,
12 Bill, I will also have just a few questions to ask you in
13 the area of the controller's office and Admin and PA, state
14 programs.

15 CHAIRMAN PALLADINO: Thank you all for coming. We
16 will stand adjourned.

17 (Whereupon, at 4:59 p.m. the Commission
18 adjourns, to reconvene on Thursday, July 23, 1981.)

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NUCLEAR REGULATORY COMMISSION

This is to certify that the attached proceedings before the
COMMISSION MEETING

in the matter of: PUBLIC MEETING - BUDGET SESSION

Date of Proceeding: July 22, 1981

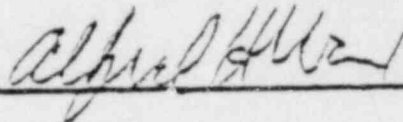
Docket Number: _____

Place of Proceeding: Washington, D. C.

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Alfred H. Ward

Official Reporter (Typed)



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- 1. Transcript of: Budget Session, July 22, 1981. (1 copy)


 Jake Brown
 Office of the Secretary

