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NUCLEAR REGULATORY COMMISSION

IN THE MATTER OF:

SUBCOMMITTEE MEETING

on

REACTOR SAFETY RESEARCH

Place - Washington, D. C.

Date - Tuesday, July 10, 1979

Pages 1 - 72

Telephone:
(202) 347-3700

ACE - FEDERAL REPORTERS, INC.

Official Reporters

444 North Capitol Street
Washington, D.C. 20001

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PUBLIC NOTICE BY THE
UNITED STATES NUCLEAR REGULATORY COMMISSION'S
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS

Tuesday, July 10, 1979

The contents of this stenographic transcript of the proceedings of the United States Nuclear Regulatory Commission's Advisory Committee on Reactor Safeguards (ACRS), as reported herein, is an uncorrected record of the discussions recorded at the meeting held on the above date.

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ADVISORY COMMITTEE ON REACTOR SAFEGUARDS

SUBCOMMITTEE MEETING

on

REACTOR SAFETY RESEARCH

Room 1130
1717 H Street, N. W.
Washington, D. C.

Tuesday, 10 July 1979

The ACRS Subcommittee on Reactor Safety Research met, pursuant to notice, at 9:00 a.m., Dr. David Okrent, chairman of the subcommittee, presiding.

PRESENT:

DR. DAVID OKRENT, Chairman of the Subcommittee

PROF. WILLIAM KERR, Member

DR. J. CARSON MARK, Member

MR. WILLIAM M. MATHIS, Member

DR. MILTON S. PLESSET, Member

DR. CHESTER P. SIESS, Member

P R O C E E D I N G S

MR. GOSSICK: When it created the NRC, Congress recognized the need for an independent capability to develop and analyze technical information on nuclear safety, safeguards and environmental protection as a basis for regulatory decisions. Thus, the Office of Nuclear Regulatory Research was established to perform what was characterized as "confirmatory assessment." Congress took great pains to distinguish between the kind of confirmatory research NRC would perform and the traditional "research and development" functions assigned to the Energy Research and Development Administration. NRC would have access to all data required to assess the areas under its regulatory purview, and ERDA and other Federal agencies were tasked to cooperate and make facilities and support available to NRC on a reimbursable basis. The bulk of NRC research would be performed at ERDA, now DOE, facilities, with NRC not assigned any laboratories of its own.

We have made considerable progress, and also encountered problems, in implementing these statutory concepts during the past four years -- for example, we have developed appropriate working arrangements with DOE and determined the proper levels and kinds of research work to be performed at DOE laboratories. As you know, this matter has been a subject of criticism by the GAO. NRC has also recently developed tentative criteria for placing work at labs versus commercial

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1 firms. Congress' concept of confirmatory research also has
2 expanded somewhat with enactment of 1978 Authorization Act,
3 P.L. 95-209, which directed NRC to develop a long-term plan
4 for projects for the development of new or improved safety
5 systems for nuclear power plants.

6 Under the Energy Reorganization Act, RES is
7 responsible for (1) developing recommendations for research
8 deemed necessary for performance by the Commission, and
9 (2) engaging in or contracting for research which the Commission
10 deems necessary. Also, NMSS and NRR were made responsible for
11 recommending research to enable the Commission to effectively
12 perform its functions. In practice, of course, RES accepts
13 recommendations from all major NRC offices. The ACRS, while
14 not a programmatic office of the NRC, influences the direction
15 of, and in some cases the performance of specific research;
16 hence, can also be considered a "user."

17 DR. MARK: It has been thought in the past that RES
18 is capable of initiating a proposal and having it accepted,
19 except for some rather special mechanisms. This seems to me
20 questionable, in the sense that it seems to me that they
21 might have an idea and it might be impossible to implement it.

22 MR. GOSSICK: I will get into that in a little bit,
23 here. That's a point I want to discuss with the Committee.

24 In a broad sense, of course, the NRC research program
25 can be responsive to the public as requestors for research,

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1 most notable the Congress and the scientific community. NRC
2 must also be cognizant of relevant research performed by
3 industry and the foreign community.

4 As you know, we have a number of interchange
5 agreements with foreign countries, where we are exchanging
6 research information as well as operational experience with
7 reactors that are actually in operation.

8 At the outset, there was a large set of internal
9 NRC and ACRS user requirements addressing light water reactor
10 safety research needs which were fairly well defined. User
11 requirements for these older programs were stated formally,
12 but for new programs were sometimes presented informally.

13 In 1975, as a part of developing a "5-Year Plan,"
14 the Controller set up two panels of the Program Review
15 Committee -- which is our counterpart to the Budget Review
16 Committee which exists now. One of these panels was on
17 research, and the other was on Workload and Forecasts.

18 The Research Panel report of May 1976 found several
19 instances where user requirements from NRC offices were not
20 documented, or not current, or not specific, or did not contain
21 priority information. It recommended establishment of
22 additional formal procedures for all user offices to develop
23 a clearly documented and well organized set of user requirements
24 for the entire RES program. From this, and with Congressional
25 and OMB influences, evolved the procedures now in effect as

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1 described in SECY 77-130B, issued on December 6, 1977. In
2 general, they provide that Research will consider requests and
3 obtain concurrences from sponsoring offices including SD, NMSS,
4 NRR, and I&E. Where Research itself proposes to sponsor a
5 research project, it must first seek concurrence from
6 appropriate user offices, or alternatively obtain EDO approval
7 if no other office could be considered the "user."

8 Up to that point, Dr. Mark, as you know, that I'll
9 cover here a little later, Research has proposed a modification
10 to this procedure which is spelled out in the second paper
11 that I referred to, and proposes that it be given authority
12 to approve on its own projects up to, I believe the number
13 is \$500,000, and up to 15 percent of its budget.

14 I personally think that Research does need the
15 flexibility to do some work more or less on its own. I think
16 the issue here is a matter of degree of flexibility. In
17 other words, what the dollar limits are. 15 percent is a
18 very sizable part of the overall budget.

19 DR. MARK: Yes.

20 MR. GOSSICK: But I do feel very strongly that we
21 shouldn't rest entirely with perception of need, as seen by
22 NRR, or NMSS, or any of the other offices. That there may well
23 be good reason for work that Research perceives as needed or
24 useful, and it should be supported.

25 I'd like to point out also, of course, that that

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1 77-130B spells out that in the area of probabilistic analysis,
2 that RES is the user office. So, in effect, they don't have
3 to get any user requirement from one or the other offices,
4 although much of the work is perfect by stated requirements.
5 But NRR and others have provided that they have approval
6 authority for all the projects in that particular area.

7 DR. MARK: That, of course, does not quite meet the
8 feeling that I have.

9 MR. GOSSICK: That's only just a small part of the
10 program.

11 DR. MARK: I appreciate your comments there.
12 Probabilistic analysis is a great buzz-word; and it meets that
13 buzz-word, rather than the real point.

14 MR. GOSSICK: No, the real point, as I said before,
15 I think that in any area -- that we should properly be doing
16 work in it all, as in any field. But there is a need for some
17 flexibility there. As it now stands, it can be done. I
18 have to approve it for anything up to \$500,000. Beyond that
19 it must go to the Commission for approval. And we have
20 handled a few projects like that.

21 Let me talk just a little bit about the nature of
22 the coordination of the review that goes on. I think it will
23 perhaps be helpful if you are not familiar with it.

24 In November '77 I asked the director of the NMSS,
25 with the assistance of the Safeguards Technical Assistance and

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1 Research Coordinating Group, we call it the STAR group, to take
2 the lead in providing agency-wide coordination of all safeguards
3 contractual projects.

4 The STAR Group, consisting of representatives from
5 each of the five program offices and from the Controller's
6 office, meets regularly, about once every two weeks, to review
7 proposed projects. These reviews provide in-depth evaluations
8 to (1) eliminate any unnecessary duplication or overlap and
9 (2) assess programmatic relevancy. Starting with FY 80 projects,
10 the STAR Group will also assess justifications for contractor
11 source selection. The Group conducts its review at the project
12 summary level for the coming fiscal year, then at the detailed
13 work statement level just prior to obligation of funds.

14 Dr. Baker, Paul Baker, who is behind me, chairs that
15 STAR Group. You might want to ask questions about its
16 operations of him.

17 With respect to research projects, the Group also
18 ascertains that the provisions of SECY 77-130B on user
19 requirements have been complied with.

20 Another review group, patterned after the STAR Group,
21 has recently been established to perform the same interoffice
22 coordination and review functions for all projects in the
23 waste management area.

24 This means all work in DOE laboratories, or contracts
25 with outside sources.

ros 7

1 DR. MARK: This is not the STAR Group? It's a
2 similar relationship to the program.

3 MR. GOSSICK: The same kind of charter.

4 DR. MARK: What is it then called?

5 MR. GOSSICK: We haven't come up with a good
6 acronym, but anyway, it's a STAR-like group to handle all
7 waste projects. We came out with some perfectly dreadful
8 acronyms.

9 DR. BAKER: Waste Management Coordination Review
10 Group is the title.

11 MR. GOSSICK: Since 1977, a Contract Review Board,
12 with members from the program offices and the EDO staff, has
13 reviewed all proposed commercial contracts for potential
14 overlap or duplications prior to obligation. The functions of
15 this board will be expanded to include review of the relevancy,
16 need, benefits of work, source selection placement, level of
17 funding, and other determinations that the present Safeguards
18 Group and Waste Management Group make. This will cover all
19 other program areas except Safeguards and Waste Management and
20 will be expanded to cover interagency work, such as DOE tasks,
21 as well as commercial placements over \$100,000 in amount.

22 DR. MARK: Excuse me again, Lee.

23 When you use the word "safeguards" it is possible
24 to wonder about the distinction between safeguards and
25 security. You are using the word to cover both?

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1 MR. GOSSICK: Right. Material control and accounting
2 and physical security, both the research work by RES and the
3 technical assistance work that's being done within NMSS, and
4 to a lesser degree, in NRR.

5 DR. MARK: So to some degree, we're getting away
6 from the SS -- Safeguards and Security, and just using the
7 word "Safeguard"?

8 MR. GOSSICK: It has become an extremely common
9 term for both.

10 DR. MARK: I find myself troubled by that problem.

11 DR. SEISS: My chapter title was "Safeguards and
12 Security."

13 DR. MARK: Exactly. That's why I asked the question,
14 because they are distinguishable, sometimes. But you are
15 using the word "safeguards" to include security?

16 MR. GOSSICK: That's correct. We had a rather long,
17 I would say almost a philosophical discussion of this recently
18 when we took up the up-grade rule on reactors as well as on
19 fuel cycle facilities. But yes, whenever I use the word
20 "safeguards" in this kind of a discussion, it's both the
21 physical security, protection against sabotage of either a
22 reactor or a fuel cycle, and material control and accounting
23 as it applies primarily.

24 DR. MARK: They have been separated sometimes. That
25 is why I am raising the question, because you propose now to

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1 use the word "safeguards" to cover the field.

2 MR. GOSSICK: That's it.

3 Let me just mention one other matter, as far as
4 review of contracts. We have been looking at the matter of
5 a senior contract review board which would be made up of
6 senior management people in the staff, to sort of review the
7 results and resolve any differences of the coordination and
8 review process of these other bodies that I just mentioned.

9 This is actually spelled out in our Senate
10 authorization. And I believe, in its present configuration
11 as it stands in the legislation, that group would report
12 directly to the Commissioner.

13 Let me talk just a little bit about the financial
14 constraints that apply to the program.

15 As you know, aside from the requirements for
16 initiating research projects set forth in SECY 77-130B, there
17 are a number of financial constraints. There is a requirement
18 for prior Controller/EDO coordination, and in certain cases
19 Congressional approval, for any new program start not
20 previously approved during the budget process. Transfer of
21 funds of \$250,000 or more from a budget and reporting element
22 to another within RES must also be coordinated with the
23 Controller/EDO. Congress must be notified of any construction
24 projects of \$1 million or more. Any changes exceeding
25 \$500,000 in any of the seven major budget categories must be

ros 10

1 cleared with appropriate Congressional committees. And, based
2 on authorization or appropriation acts, a floor or ceiling
3 designated for particular items must be observed, and any
4 exceptions that occur cleared with the appropriate committees.
5 Also, as directed by the Commission, any new project not
6 previously identified in an approved budget with total projected
7 costs of \$2 million or more, or \$500,000 in any one year, must
8 be reviewed by EDO, and in fact, by the PRG, before inclusion
9 in the RES budget.

10 DR. MARK: We've mentioned the STAR Group, and then
11 you also mentioned the Senior something or other.

12 DR. KERR: Review Board?

13 MR. GOSSICK: Senior Contract Review Board.

14 DR. MARK: That body reports to the Commission. The
15 others report to you?

16 MR. GOSSICK: Actually, the STAR Group is chaired
17 by a member from the material safety division, but they
18 actually are working on behalf of the entire staff.

19 DR. MARK: Their reports, their suggestions, reach
20 you -- not the Commissioner?

21 MR. GOSSICK: Well, with one exception.

22 In the case of all safeguards projects we have a
23 requirement by law that any contract of over \$20,000 must
24 be reviewed by the Commission. And the Waste Group and the
25 Star Group provide all the review, the documentation, and

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1 putting the material for each of these kinds of contracts in
2 shape so that it can be brought up and approved by, or acted
3 on, by the Commission. That's a requirement in the law that
4 must take place.

5 DR. MARK: But the waste management is your office?

6 MR. GOSSICK: Yes. It does not have a similar kind
7 of constraint on it.

8 DR. MARK: So the directory of the Commission, apart
9 from the statutory limit on safeguards, is reserved to the
10 Senior Review Board?

11 MR. GOSSICK: Right.

12 DR. MARK: Thank you.

13 MR. GOSSICK: Okay. Perhaps just a little bit more
14 on whether research should be done by NRC or others.

15 As was pointed out earlier, Congress was rather
16 explicit in characterizing the confirmatory nature of NRC's
17 research. The conference report of the Energy Reorganization
18 Act, 1974, stressed that "it is not intended that the Commission
19 build its own laboratories and facilities for research and
20 development or try to duplicate the research and development
21 responsibilities of ERDA. The Commission will draw upon ERDA
22 and other Federal agencies for research findings and such
23 assistance as may be needed in developing capabilities for
24 confirmatory assessment, and as may be otherwise needed in
25 performing its functions. It would be a serious mistake to

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1 make a regulatory agency responsible for the performance of
2 research that goes beyond the need for confirmatory assessment.
3 Indeed, to exceed these bounds creates a conflict of interest.
4 The regulatory agency should never be placed in a position to
5 generate, and then have to defend, basic design data of its
6 own."

7 DR. SIESS: What is that from, please?

8 MR. GOSSICK: This is from the Conference Report
9 associated with the Energy Reorganization Act of 1974.

10 DR. SIESS: That refers only to research, and not
11 the licensing act. Some of those words sound a little strange
12 if I apply them to the licensing act.

13 MR. GOSSICK: Perhaps. This was purely in the
14 context of discussing the kind of research work that NRC was
15 to undertake, or not to undertake.

16 "The regulatory agency must insist on the submission
17 of all of the data required to demonstrate the adequacy of the
18 design contained in a license application or amendments thereto.
19 The regulatory agency should not assume any part of the burden
20 of the applicant to prove the adequacy of a license
21 application."

22 DR. OKRENT: Excuse me. Do you think that that's
23 followed, the last quote?

24 MR. GOSSICK: Dave, I can't cite you any example
25 of an exception to it.

ros 13

1 DR. LEVINE: I can. I'll tell you, in all my
2 years of experience, it has never been followed. The
3 regulatory people always had to drum up and find some basis
4 for some of their decisions outside of all other sources. And
5 I think that is still true today.

6 DR. OKRENT: I think you're reading something which
7 can be used to back up differing points of view. And that
8 particular one, for example, in my opinion, is frequently not
9 followed by the NRC or by the AEC before. If they had been
10 obliged to follow it, many things would be different. So I
11 want to get back to this question of how restrictive you
12 consider what you are reading, as we go on.

13 MR. GOSSICK: Well, there are, of course, other
14 avenues of cooperation in addition to contractual arrangements
15 with industry for certain kinds of research work. In response
16 to a Commission request, the staff in June of 1975 sent to
17 the Commission a set of guidelines to be used in determining
18 NRC involvement in cooperative research arrangements with
19 industry at a time when extension of such a program with ERPI
20 and General Electric was being considered. Five criteria
21 were described for such involvement.

22 One: information to be obtained is directly
23 necessary to the NRC mission.

24 Two: alternative means of acquiring the necessary
25 information are not reasonable available.

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1 Three: a legal or substantial appearance of conflict
2 of interest does not exist, and all applicable laws and
3 procedures are honored.

4 Four: Government funds are not being used as a
5 substitute or replacement for private funds.

6 Five: appropriate arrangements can be established
7 to protect the NRC's interests.

8 I'm sure Saul Levine can elaborate on that, on the
9 capabilities of the various groups that perform needed
10 research, and the constraints or impediments involved.

11 I might add, that perhaps I mentioned before that
12 we have developed tentative criteria to be used by the STAR
13 Group and this Waste Management Group, as well as the Contract
14 Review Board, for determining whether work should be done in
15 the DOE laboratories or by contract with other sources. And
16 how that decision should be documented and made a matter of
17 record.

18 DR. MARK: No, on exactly this point, was an
19 extension of the contract with EPRI and GE, which was done in the
20 context of the boiling water, to which the industry took strong exception --
21 how has that been resolved?

22 MR. GOSSICK: I just recently asked the same question.

23 MR. LEVINE: What was the question?

24 MR. GOSSICK: On the extension of the

25 MR. LEVINE: It was down by a 4 to 1 vote. It was

ros 15 1 resolved by a 4 to 1 vote.

2 MR. GOSSICK: On proceeding with the extension of
3 the contract. Was that approved by the Commission?

4 VOICE: About a week and a half ago, by the
5 Commission.

6 DR. PLESSET: What about CLTA?

7 MR. LEVINE: I'll have to reserve judgment on that.

8 DR. MARK: But it is resolved. The work will
9 proceed. And that's about a \$5 million undertaking for the
10 next three years.

11 MR. GOSSICK: I think that's about right.

12 You asked about priorities, how priorities are
13 established. This is a fairly complex subject; and I guess
14 one fact, I might say, is that the entire process of our
15 budget formulation, the preparation of proposals for programs
16 that research puts together the stated requirements from the
17 so-called user offices, go in that budget formulation
18 process. In fact, there's a couple of charts, I believe,
19 attached to the handout which sort of show the sequence of
20 events on budget formulation.

21 And, in putting that budget together, research
22 spells out its priority ranking of its so-called decision
23 units. In other words, the particular areas within which
24 work projects are included.

25 At the end, of course, we have to end up with an

ros 16

1 overall ranking of all of these decision units, not just
2 within research but within every work decision unit in the
3 entire budget has to be ranked, ordered and finally approved
4 by the Commission and sent over to OMB. Of course, that is made
5 up of decision packages. There is no one unit that stands well
6 ahead of everything else.

7 But, depending of the level of effort, there is this
8 attempt to rank order every decision package that is addressed
9 in our budget. I think more generally, however, the matter of
10 priority is generally established by research in working with
11 the user offices, as far as the relation of internal importance.
12 But certain of these priorities change as we go through the
13 budget year, let alone through year to year.

14 .I think certainly one can look at the events at
15 Three Mile Island and see that perhaps we'll see some things in
16 a couple of years that we hadn't anticipated before.

17 I think at that, I have just one other comment with
18 regard to long-range planning. We did have a 5-Year Plan,
19 which I think I referred to earlier and I think you have seen,
20 that came out in 1978, that was chaired by Mr. Levine and
21 other members of this staff.

22 We, of course, include in the budget submission a
23 five-year projection of the funding levels. This tends to be,
24 however, fairly gross as far as any detail is concerned, that
25 we are now looking at the need and the possibility of going

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1 back and refurbishing, if you will, this 5-Year Plan to get
2 as good a picture as we can, of where we think we're going.

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1 I think that with that, let me address any questions
2 that you have. Some I can't answer, but I'll see if there's
3 someone behind me who can help.

4 DR. SIESS: On this chart, where are we as of this
5 week?

6 MR. GOSSICK: As of this week in terms of the
7 budget, you will find the budget at the top part of the BRG
8 bubble. It has not yet reached me. It will be coming to
9 me next week beginning, I guess, actually at the end of this
10 week to start resolving some of the differences as a result
11 of the BRG's scrubbing of the various programs.

12 In other words, it will be handled -- let's see.
13 What is my date to get to the commission with the thing?

14 DR. BAKER: I don't remember.

15 MR. SMITH: The middle of next week. It's very
16 close.

17 DR. SIESS: When the commission asks the ACRS to get
18 some comments to them in order to consider them in relation
19 to the budget, they were assuming that those comments would
20 relate to that area just on the commission, and we are not
21 yet at that stage.

22 The latest information that we have is what's come
23 out of BRG. Is that right?

24 MR. GOSSICK: If you have the latest out of the BRG,
25 that's of last week.

gsh

1 DR. SIESS: As of July 5th, I think.

2 MR. MC CRELESS: It is anticipated, I believe, that
3 BRG will have their report in the next day or two.

4 MR. SMITH: It goes to Lee tomorrow.

5 DR. SIESS: Of course, we're trying to get a report
6 by Saturday. If we don't get a report by Saturday, it becomes
7 sometime in August.

8 MR. GOSSICK: You are trying to finalize your report
9 to the commission, right.

10 DR. SIESS: It will be this Saturday or a month from
11 Saturday.

12 MR. GOSSICK: Well, a month from Saturday the
13 commission had better have the budget all tied up and ready
14 to go to OMB.

15 DR. SIESS: What is the status of the FY '80
16 supplement request?

17 MR. GOSSICK: That is also being handled by the BRG
18 in parallel with the meeting on budget side by side. We see
19 that at the same time.

20 DR. OKRENT: Will we see the BRG decisions tomorrow
21 also, or are you going to send them by mail so that we get
22 them next Monday?

23 They're still reviewing, I think. This is a set of
24 numbers, as I understand it, and they're reconsidering.

25 DR. SIESS: We're looking at a table marked July 5,

gsh

1 1979 with the BRG column in it.

2 MR. MC CRELESS: That is not the final BRG number.
3 Last Friday afternoon, RES met with BRG and they reclaimed
4 them. The BRG is considering the information that was
5 presented at that time and that's the report that's due
6 tomorrow.

7 MR. SMITH: BRG has in fact marked that up again.
8 We now have a revised table like that. That's going to be
9 the final mark that's going to Lee tomorrow.

10 MR. GOSSICK: Why can't they have it right now?

11 MR. SMITH: They can have what I have right now.

12 MR. GOSSICK: I'll give you a copy of mine.

13 DR. SIESS: Every little bit helps. We don't want
14 to confuse the commissioners any more than we can help.

15 Obviously, if we write our report based on a budget
16 that's not the one that they're looking at, they're going to
17 be confused.

18 MR. SMITH: You have to realize that the EBO may
19 change these marks before it goes to the committee. But with
20 that proviso, you're welcome to it.

21 DR. SIESS: EBO will get a copy of our report. I
22 guess he could explain the differences between what we
23 reported on and what he sent to the commissioners.

24 DR. OKRENT: Excuse me, but could we get that right
25 now and get it Xeroxed so we could have it?

gsh 1 MR. SMITH: I have a copy here.

2 MR. GOSSICK: All right.

3 DR. SIESS: This I think we definitely want. Is
4 this all research?

5 MR. GOSSICK: Yes, all research.

6 MR. SMITH: Some of the words and rationale may
7 change before it goes to Lee, but the numbers are going to
8 change.

9 DR. OKRENT: Could you get this Xeroxed quickly?
10 Did you have your hand up, Carson?

11 DR. MARK: Well, a while ago, but I think it's been
12 covered, I wanted to ask about the interaction between the
13 \$130 million supplemental and the budget as we have previously
14 seen it.

15 Some of that will be, I think, I hope, made clear
16 here. Some of the early versions of this struck me as
17 errant nonsense, and i'm anxious to see how the supplementals
18 look.

19 MR. GOSSICK: The supplemental request, you mean?

20 DR. MARK: And the possible effect on the other
21 programs.

22 DR. SIESS: That's on this sheet, Carson.

23 DR. MARK: Like wiping out the advanced research
24 reactors to take \$13 million out of there and put it over
25 here.

gsh 1 DR. SIESS: That's on the sheet we'll be getting.

2 DR. MARK: I am aware, and that's why I'm sort of
3 withdrawing my question. I think we'll want to look at that.
4 But it's silly to go ahead and comment before looking at it.

5 DR. OKRENT: I have sort of a very broad question.
6 I think we're seeing in the country now a rather major
7 rethinking concerning what the national program on energy
8 should be.

9 I wonder if there has been a major rethinking about
10 the NRC research program following Three Mile Island or
11 whether one has continued along previous paths, saying how
12 should we augment this or augment that?

13 I can put it this way: Had I gone to DOE and asked
14 to be introduced to the director and said, what do you
15 recommend, I would have gotten one kind of recommendation
16 just thinking along this line and it might have been a good
17 recommendation. But they would not necessarily be the same
18 as if you sat back and took a broader look.

19 It's not clear to me whether or not we think that
20 has occurred or whether EDO has tried to do this. And I don't
21 really know what role EDO plays, but they certainly do play
22 an important role in the sense that they act on the money.
23 And in the end, that has some effect.

24 MR. GOSSICK: Well, I want to make clear that I don't
25 sit and decide where the money goes here or there just on the

gsh

1 basis of some insight that I personally have into the need.

2 The thing is it's a little bit different kind of
3 process. First of all, when we start to put together a new
4 budget, or for that matter, make change to an existing one
5 like a supplemental, there has to be some sort of basis for,
6 you know, such an action. And we attempted to put together --
7 well, we've done this each year and it's been in differing
8 forms. And I'd say some degree, different value.

9 But we've tried to put together a thing called our
10 budget assumptions for planning guidance which the staff
11 uses to formulate its budget. And we've put one out this
12 year. It was I guess, prior to Three Mile Island by the
13 time we put this document together and sent it out to the
14 commission.

15 We have had only one response from the commission,
16 one commissioner with regard to the content of that. Have
17 you seen it, by the way, the document that went out that said,
18 this is the planning guidance which you will use in
19 formulating your '81 budget?

20 Did we get a copy of that? I think you might be
21 interested in seeing what was said about the kind of future
22 that we're looking at or the assumptions to be made. They're
23 not very profound or anything like that. But it's a collection
24 of views and thoughts and the processing of these kinds of
25 considerations, again, in the context of our budget review

gsh 1 group.

2 And I have approved it and sent it down to the
3 commission. The basic guidance, however, that will end up,
4 I guess, most directly affecting what we really sent to OMB
5 this year in our budget request will be, of course, the most
6 current kind of insight one can have based on things like
7 Three Mile Island, the future of the nuclear option, the
8 views of your committee to the commission, and whatever else
9 influence that we get directly from Congress.

10 As we do, there are certainly some rather high
11 interest items that we recognize Congress supports. But I
12 think that -- I mentioned in the long-range plan a moment
13 ago that we need to update. I think we've got, you know, a
14 lot to do here with regard to planning ahead, particularly
15 in light of the rather uncertain nature of where we're going
16 in the nuclear business.

17 Right now, for example, the current budget for, I
18 believe, '81, assumes no new applications.

19 Is that right? No new applications for construction
20 permits in the '81 budget. The resources provided for it.

21 So you could say that we're looking presently at
22 a total lightwater reactor population of something like
23 190 reactors and that's it, with no more to come, since this
24 year, who knows that will happen in the future.

25 Where this leads us with regard to gas and advanced

gsh 1 reactors, breeders at the present is very difficult to say.
2 But this is, I think, certainly where you can be extremely
3 helpful in giving your advice and thoughts and views to the
4 commission as they try to struggle over this and decide what
5 they're going to do.

6 DR. MARK: Can I make a point here?

7 No new applications — does this relate specifically
8 to the research activity or the licensing?

9 MR. GOSSICK: That example that I cited had to do
10 with licensing.

11 DR. MARK: So if someone should come in and say, I
12 want to build a reactor in Albuquerque, you couldn't take it
13 up.

14 MR. GOSSICK: What we're saying is that the forecast
15 of new licensing workloads in lightwater reactors, or for
16 that matter, any kind of power reactors, we do not base any
17 justification for people or dollars in the '81 budget on the
18 fact that there will be new additional licensing workload.

19 DR. MARK: And if there were, you couldn't take it
20 up.

21 MR. GOSSICK: If there were and it came on as a
22 surprise, we'd have to program and do something about it, I'm
23 sure, and not do something else that we'd planned on. This is
24 not unusual and can be handled as long as it's light water,
25 too. But if there's suddenly a surge of 50 that came in the

gsh 1 door, that would be difficult.

2 DR. MARK: Especially if one was in California.

3 DR. OKRENT: Could I ask something that relates to
4 the definition of confirmatory research?

5 I guess I've expressed my opinion in the past and
6 I didn't mean to have you take that definition and use it to
7 not do things he doesn't want to do or to interpret it in a
8 way to include almost anything he wants to do.

9 I think if you were to look right now at your
10 current program on different reactor types, you would find
11 very differing applications of the word.

12 I'm trying to understand, in fact, the zero which
13 I see from the budget review group under, includes reactor
14 safety, zero/6 is the number shown for 1981 and 1/1.7 for
15 1980.

16 . Is it felt that this is not confirmatory research?
17 And also, is there some thinking that this is a low priority
18 item?

19 MR. GOSSICK: Let me just remark generally on it.
20 First of all, we're in a real debate with OMB on who should
21 be doing this. They have maintained stoutly that this sort
22 of work should be done by DOE. They point to the fact that
23 Congress specifically included in the language of our
24 authorization bill that they wanted us to do this kind of work.

25 RES put together a comprehensive plan for about

gsh 1 \$15 million over a three-year program. That's been sent to
2 Congress. And I think I'll let them speak for themselves. But
3 I suspect that the BRG recommendation in this area more or
4 less recognizes the fact that OMB is very strongly against us
5 doing this and had promised us that they will see that the DOE
6 does it.

7 DR. SIESS: The letter we saw from OMB simply said
8 that you were not to do physical experimentation. Last year,
9 when they cut your request from \$4.3 million to \$1.0 million,
10 it didn't have \$3.3 million of the physical experimentation
11 in it.

12 So they must have something more than they said in
13 that letter from McIntire to Hendrie. Even the \$6 million
14 doesn't have more than about a million that's related to
15 testing.

16 MR. SMITH: This last, it's just a set-aside that
17 the commission should make a decision on.

18 MR. GOSSICK: Do you want to explain the set-aside
19 business?

20 MR. SMITH: The set-aside doesn't necessarily mean
21 that the BRG thinks that the program is not worthwhile; it
22 means that the BRG thinks the commission ought to be the one
23 to decide that.

24 DR. OKRENT: Since you're standing, Ray, could you
25 tell me why you think the priority for that or the amount of

gsh 1 money shown in 1980 -- let's take 1980, for example, where
2 it's proposed to increase systems engineering.

3 In the latest sheet from BRG, I guess, \$8 million
4 left, \$2 million code development, \$3-1/2 million. But the
5 item called improved reactor safety hardly at all --

6 Now what is it that the BRG thinks is important
7 about systems engineering, LOFT and code development, and not
8 about improved reactor safety? I'm rather curious.

9 MR. SMITH: I'm not sure we have a good rationale.
10 This was beaten out in the heat of discussion in the BRG
11 panel.

12 DR. OKRENT: You're the ones who make recommendations
13 to EDO. And it seems to me if you're going to exercise that
14 responsibility, you should be willing to state why you're
15 making the recommendation.

16 I could have seen the recommendation from you going
17 quite the other way, saying research hasn't looked hard
18 enough at approved reactor safety. They ought to have \$20
19 million there and take it out of LOCA.

20 I mean it's a possible recommendation. In fact, not
21 a far fetched one, in my opinion.

22 MR. SMITH: You will find a rationale for what we
23 did in that piece of paper which I gave to Tom. I don't have
24 it now so I can't read it.

25 Is there anything in there that sheds light on why

gsh 1 we did this, Tom?

2 MR. MC CRELESS: I sent it down to be Xeroxed.

3 MR. SMITH: In a thick sheet of paper, there is some
4 rationale for whatever we did to this item. I don't remember
5 what it is.

6 DR. SIESS: On that sheet that was just given us.

7 DR. BUDNITZ: We were asked to rank all of our
8 requests from one to two, three, four, five, six, and so on.
9 We ranked improved safety number one. You ought to be aware
10 of that. That was our ranking.

11 DR. SIESS: We know that.

12 DR. BUDNITZ: All around.

13 DR. SIESS: MCR.

14 DR. BUDNITZ: All around. We're number one.
15 Ray?

16 PROF. KERR: Excuse me. Who is "we"?

17 DR. SIESS: Research. Could you please translate
18 that top line. 3.8 plus 11.8.

19 MR. SMITH: The 11.8 is the set-aside.

20 DR. SIESS: Okay. In waste management, three
21 supplements. Does that belong over in the FY '80 column?

22 MR. SMITH: The BRG had a problem with that kind of
23 a growth. We're wondering why the research people didn't.
24 start their growth earlier in Fiscal '80, and we suggested
25 they do that. That's why we're suggesting that they put the

gsh 1 \$3 million back there.

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Handwritten marks: a curved line and a dash with a squiggle below it.

sis 1 PROF. KERR: Mr. Chairman, could I ask -- you
2 mentioned that you set aside items on which the Commission
3 should make a decision. In my naivete I would have thought
4 that the Commission made a decision about each item. What
5 is peculiar about the items on which the Commission should
6 make a decision in contrast to those items on which BRG
7 feels it could make a recommendation?

8 MR. GOSSICK: Let me just say a word and then ask
9 Ray, perhaps, to expand on it. This is, I believe, the
10 third year now that we've used this set aside technique in
11 putting together the budget. Primarily it started out as a
12 means to call to the Commission's attention a new program,
13 something that had been included in the research budget
14 which was above a certain dollar amount, about \$100,000 a
15 year or \$2 million in total or some item on which there was
16 perhaps Congressional or OMB controversy over.

17 To make sure that they specifically addressed that
18 project in some detail as opposed to sort of just including
19 it in a bigger effort that maybe they didn't look at in any
20 great detail. Isn't that generally the ground rule you used
21 this year?

22 MR. SMITH: We just basically think that these are
23 things the Commission should focus on and perhaps we don't
24 feel the Commission has expressed a policy in certain areas,
25 and that fast breeder reactors is a highly political

sis 1 question as to whether we should continue this kind of
2 research. We think the Commission should be the basic ones
3 to make that decision.

4 PROF. KERR: Does the set aside imply that there
5 is no consensus in my people who would normally make the
6 recommendation.

7 MR. LEVINE: The recommendation from RES is very
8 clear. I can give you the basis for that recommendation.

9 MR. GOSSICK: I think I got to your point and I
10 think every case last year -- well, I won't say every case,
11 but ERG will specifically say whether the BRG supports this,
12 even though it is called a set aside. I am ...ding my
13 recommendations down.

14 If I have a disagreement with one of the set
15 asides saying, you know, I think it ought to be changed,
16 that will be laid out in the recommendations going to the
17 Commission, for the most part.

18 PROF. KERR: Those comments are helpful; thank you.

19 DR. OKRENT: Could I ask with regards to the user
20 requirement, the first question is does anybody review the
21 user request to see whether it makes sense, either in a
22 narrow or broad sense?

23 MR. GOSSICK: I think the first place that occurs
24 is probably when the research people engage in discussing
25 the requirements of the originating office.

sls 1 Do you want to address that?

2 MR. LEVINE: My people have the responsibility for
3 assessing the technical merit of these requests and the
4 ability to respond to them in a technical way. Very often
5 in the process of this response the definition of this
6 requirement changes to some extent as the understanding of
7 both offices increases regarding the issue. Then, of
8 course, we have to be able to do what is needed someplace.

9 DR. OKRENT: But that's a different question in
10 effect, your answer -- What I'm interested in knowing is
11 whether within in fact NRR, EDO or somewhere somebody looks
12 at the user requests and sees whether in fact they are high
13 priority or whether there is too much emphasis in one area
14 when you put all these user requests together, and not
15 sufficient in another area with regard to user requests. Is
16 there any such system?

17 MR. LEVINE: That's done with an NRR.

18 MR. GOSSICK: Each office has a central
19 coordination responsibility within NRR?

20 MR. LEVINE: That's Les Rubinstein.

21 MR. GOSSICK: And -- Paul, you handle this
22 primarily?

23 DR. OKRENT: Could I comment? I have a reason for
24 asking the question. I've heard people from NRR come in
25 prior to Three Mile Island and explain how their needs or

sis 1 for getting questions answered that they had to face very
2 soon in the licensing process. They couldn't afford to put
3 out user requests that were long-term because they had
4 immediate problems in hand. And I think I'm not misstating
5 this insofar as what we were told. After Three Mile Island
6 I've heard them say, "Well, maybe some other things that
7 last year we weren't so keen on to us this year or this
8 month and so forth."

9 In fact, I had the feeling then -- that is before
10 Three Mile Island -- that they were taking much too short a
11 view. In fact, they had little interest in, for example, a
12 program on research to improve reactor safety. That was too
13 far down the line. They had operating reactors and reactors
14 under construction. In their opinion, this had no
15 application. Again they changed their point of view there.

16 I still would like to know whether, within NRR
17 there is a mechanism for taking a broad look and not a look
18 just at existing technical sets, because the way you've got
19 it set up NRR exerts very strong influence on what research
20 can do.

21 Even if research says, "Well, we'll look at this
22 and try to shape this request into something new," that's
23 not the point I'm looking at. I am trying to look at the
24 general priority. I hope that Research and NRR always get
25 together and do a useful thing. That's a different issue

sls 1 and not one that we can get involved with.

2 DR. SIESS: Can I go back to the statement on the
3 set asides where you said advanced reactor research was
4 political, and therefore, it was a decision left to the
5 Commission.

6 I'll admit that the Commission, I guess, is so
7 constituted that it should make the political type
8 decisions, but it assumes that the converse of that is that
9 the staff is not politically involved, and if there is a
10 recommendation, it will be made on a technical basis that
11 potentially affects the health and safety of the public.

12 Doesn't the staff have an obligation to make that
13 recommendation outside the political arena and give the
14 Commission its best advice on it?

15 MR. LEVINE: I think we also have to include the
16 political considerations in our own thinking.

17 DR. SIESS: Well, if everyone starts worrying
18 about political considerations, we are not going to get
19 anywhere.

20 MR. LEVINE Just a minute. It is very important
21 in the breeder, because we know that NPC is coming to a
22 close and we know that NPC is going to support the
23 development of breeder reactors. That is why there is a big
24 increase in our budget between '80 and '81. That is part of
25 it. So, we do have to take into account where factors:

sls 1 outside our agencies are leading us, and that's why we
2 considered it. I don't know why the BRG didn't consider it.

3 DR. SIESS: It seems to me that waste management is
4 at much at limbo as fast breeders, one by fiat and the other
5 by inaction. But you still have a lot in there for waste
6 management.

7 DR. OKRENT: Dr. Budnitz.

8 DR. BUDNITZ: I think the question is very well
9 phrased. It goes to the heart of how we put this together.
10 Of course, we have to base our budget request and our
11 formulation and our program on technical issues, but of
12 course we'd be less than completely responsible if we
13 weren't cognizant of what's going on. We don't have a \$20
14 million program in gas reactors because General Atomics did
15 not succeed in selling any of them. And that's an
16 externality which of course drives everything.

17 DR. SIESS: And if they do succeed in selling them
18 you've got a fairly good headstart.

19 DR. BUTNITZ: You bet. Now, in the LMFBR area
20 there is no doubt that that question transcends purely
21 technical issues. So, of course what we did, Levine and I
22 and Tom Murley and Charlie Kelper and our staff, what we
23 tried to do is put together our best judgment, taking into
24 account technical and nontechnical issues, and we have
25 written that down.

sls 1 We expect that ultimately the Commission will view
2 these arguments and come to its own decision. That's what
3 it has got to do, too. But I don't think it would have been
4 responsible for us to have ducked it, so we didn't duck it.
5 We wrote it down.

6 DR. SIESS: I'm not really talking to research, I
7 am talking to budget review. They're the ones that put the
8 set asides.

9 DR. BUDNITZ: Okay. I think I can state my
10 personal view. But I sure wish they hadn't ducked it.

11 MR. GOSSICK: Let me just mention something that's
12 a reality here. It would be very easy for us to put the
13 budget together if we could recognize everything that we
14 think needs to be done and include it. Unfortunately, we've
15 got very strong guidance. Whether it can be overcome or not
16 I don't know, but there is an automatic and natural task
17 that the BRG has to address. Not what more should be in
18 here, but how do we get this budget down to a manageable
19 size? If one argues that our budget should be doubled, or
20 50 percent more than what it is, and can make that case,
21 that's one thing. But unfortunately, OMB and Congress has
22 not generally gone along with that. It's a slow and gradual
23 growth and it's a matter of trying to establish priorities
24 of what we can accommodate.

25 DR. SIESS: Would it be inappropriate to ask who

sls 1 constitutes the BRG? It's not a star chamber I am sure.

2 MR. GOSSICK: Certainly. Normally, it's chaired
3 by the Deputy Executive EDO. This year it would have been
4 Kevin Cornell. He's been pulled off under the Three Mile
5 Island inquiry. Tom Inglehart, who is the Deputy to Howard
6 Shapar has been chairing it. On it are people like Ray
7 Smith from Standard, Norm Hallack, who is not here this
8 morning, Len Barry, the controller, Dan Donahue, Director of
9 Administration. There are then panel directors who are made
10 up from all of the appropriate offices who have assisted
11 with the process.

12 MR. SMITH: You've got the full BRG. Each member
13 of the BRG has a subgroup consisting of a number of various
14 people pulled from the staff who do this review.

15 DR. OKRENT: That's not a highly technical group.
16 It's administratively oriented.

17 MR. GOSSICK: That's right.

18 DR. OKRENT: Could I ask a slightly different
19 question? I've heard it said that it's becoming
20 increasingly difficult for research, the research office, to
21 provide. I guess you might say flexibility for research
22 contracts with university groups, in part because the RFP
23 group is more atuned, I guess, to the national labs or
24 private companies and so forth. I am not sure this is the
25 case. I have the impression that it is.

sls 1 MR. GOSSICK: What kind of flexibility?

2 DR. OKRENT: I don't deal with the NRC research
3 people directly, so this is what I hear in discussions
4 around; okay? I wonder if you have yourself looked at all
5 to any relationships between the NRC research program and
6 the potential contribution versus the actual contribution of
7 various university sources.

8 MR. GOSSICK: Well, no, I personally have not
9 gotten too deeply involved in this, other than one or two
10 contracts where some rather specific problems were
11 involved. The general feeling I think, not only in research,
12 but in some of our other offices that work on what we call
13 technical assistance has been to encourage and to do
14 additional work in the universities and other than field lab
15 agencies.

16 I thought perhaps you might have been hearing
17 about the problem we've been having in cutting down on the
18 number of sole source contracts which we've been heavily
19 criticized for, perhaps doing too much of that. Putting
20 work out for bids. That isn't, I think, so much in the
21 research areas.

22 MR. LEVINE: It's a problem. Our contracts do not
23 differentiate always carefully between sole source and
24 unsolicited proposals. There's a growing tendency to treat
25 unsolicited proposals as sole source contracts. And that

sls 1 makes life very difficult in regard to universities.

2 MR. GOSSICK: We've got on the one hand a GAO who
3 are being very critical on the matter of unsolicited
4 proposals. There is another -- what was it -- an OMB
5 circular that called everybody to task for not using
6 unsolicited proposals to the extent that they should
7 be. That's probably the area.

8 DR. OKRENT: It would seem to me that if one wants
9 to try to broaden the base of which ideas are generated, if
10 he wants to do some exploratory research which, in fact,
11 might point out things that the NRC has forgotten about and
12 the industry has forgotten about, that you would want to
13 have a contractual mechanism that enables unsolicited
14 proposals -- I guess that's probably a good word -- enables
15 them to receive a proper technical review and enables them
16 to be supported if there is technical merit and in fact that
17 they need not then go back out on some RFP and they need not
18 necessarily get a user from NRR.

19 My own experience with unsolicited proposals is
20 from universities. They are usually looking quite a bit
21 ahead and somebody is trying to solve tomorrow's problems.
22 He's not likely to be interested, but I can think of a lot
23 of things that have been developed in the safety area that
24 weren't part of the prescribed task in the old AEC or the
25 NRC now.

sls 1 I would myself suggest that we look sort of
2 seriously to see if the legal people will provide
3 flexibility. One doesn't want to have a thing like this if
4 it isn't used. I recognize the need to have some checks and
5 balances.

6 MR. GOSSICK: That's always the fine line that you
7 have to search for. It is complete flexibility versus
8 abuse, and we do have the mechanism to do what you've
9 indicated except perhaps in the exploratory development
10 category. I am not sure that's not in anybody's bill yet, to
11 take on exploratory development?

12 DR. OKRENT: Exploratory research. So, you've
13 used this term confirmatory.

14 MR. GOSSICK: It's not my term.

15 DR. OKRENT: I know it's not yours, but I'm saying
16 that I can take those same words, and if I wanted to I could
17 go through your program and say half of it doesn't fit under
18 these terms. Or I could take many things that people say,
19 "Oh, that's not confirmatory," and say, "Look, it's no
20 different than what you are already approving. You need it
21 to develop standards." The standards people can't really
22 develop standards without having more information than they
23 currently have. If they want a standard on something that
24 doesn't exist, then how in the hell are they going to do it?
25 You have to have some research.

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There's a problem area in which they might be interested in a new diagnostic instrument that hasn't been worked out. You want to know can it be developed? Whatever it is, there are many different ways in which this term exploratory fits in the NRC role.

gsh

1 MR. LEVINE: At the time Congress was considering
2 legislation to change our charter from the purely
3 confirmatory to improve safety research, there was considerable
4 discussion in the AEC and the then general counsel of the
5 AEC generated an opinion saying that under the then-existing
6 charter of the NRC, that he would have said exploratory could
7 be done.

8 That's my own opinion.

9 DR. SIESS: Do you consider improved safety research
10 different from confirmatory?

11 MR. LEVINE: I think the Congress considers it
12 different. I find it hard to differentiate.

13 DR. SIESS: I noticed in Lee's written statement he
14 said Congress' concept of confirmatory research also has
15 expanded. And that it mentioned the improved safety system.

16 I don't think it expanded; I think it changed. I
17 consider the improved safety systems in addition to
18 confirmatory.

19 MR. GOSSICK: yes.

20 DR. SIESS: And not just an expansion of the
21 definition of confirmatory.

22 MR. LEVINE: No, no. It's an expansion of the
23 charter.

24 MR. GOSSICK: They're adding in there an additional
25 category of work for us to do. Let me ask Saul, does the

gsh 1 definition of confirmatory really mean very much?

2 I don't think it's all that much of a problem.

3 DR. SIESS: I'm not sure it tells you what you can
4 do.

5 MR. LEVINE: I think that the major problem that we
6 have really is the difference between the shorter term view
7 of the licensing view and the longer term view of the research
8 people.

9 That's the principal problem. The words really
10 aren't in the way very much.

11 DR. SIESS: Saul, I've heard two quite different --
12 I think they're quite different -- definitions of what is meant
13 by confirmatory research. One says it's research to confirm
14 that reactors are safe. The other says it's to confirm what
15 the applicant claims, or what the applicant's research, the
16 applicant's tests have shown.

17 MR. LEVINE: It's easier to state it in the negative.

18 DR. SIESS: If you do both kinds --

19 MR. LEVINE: I think it's easier to state this in the
20 negative. And in terms of my impression of what the Congress
21 meant when they coined that term, they really did not want us
22 to go out and to design reactors, is what they really meant.

23 DR. OKRENT: A new reactor.

24 MR. LEVINE: Right. They want us to build
25 laboratories. They didn't want us to build big facilities.

gsh 1 They didn't want us to design reactors. They felt that it was
2 at that time ERDA's job.

3 DR. SIESS: The staff in the licensing process
4 does an awful lot of designing.

5 MR. LEVINE: Of course it does, always has.

6 DR. SIESS: And some of that design is being done
7 without the benefit of research.

8 DR. BUDNITZ: Chet, you made two points on the
9 word "confirmatory," and I think I'd phrase it a little
10 differently.

11 One you said was to confirm the adequacy of the
12 applicant's application. The other was to say --

13 DR. SIESS: The applicant's application and his
14 supporting research.

15 DR. BUDNITZ: Right, his application, which includes
16 the supporting documentation. The second was to confirm the
17 reactors are safe.

18 Now let me phrase that second one a little
19 differently. What we see as our charter, in my view, is to
20 confirm the adequacy of the NRC's regulatory activities.
21 Let's say that again -- to confirm the adequacy of the NRC's
22 regulatory activities. Or if they're inadequate, to do
23 research to make them adequate.

24 DR. SIESS: That's not very good because the only way
25 you find it's inadequate is when Three Mile Island comes up.

gsh

1 DR. BUDNITZ: No, no, no, no. You find it's
2 inadequate by developing computer codes and experiments
3 which can give detailed numbers to bolster or not judgments
4 made in the absence of those numbers.

5 Many judgments have been made in the licensing
6 process over the last 25 years for which engineering judgment
7 did not have the foundation of sound science and engineering.

8 You know measurements and codes -- we all know that.
9 The notion of the research program is partially to confirm
10 those judgments, are adequate for us to do our mission, or
11 to find that they're perhaps not.

12 DR. SIESS: But much of that research is intended to
13 provide you with the basis for knowing whether you're getting
14 good answers to the questions you're asking. And very little
15 of it is devoted to finding out whether you are asking the
16 right questions.

17 MR. LEVINE: Just a minute. In risk assessment, the
18 WASH-1400 pointed out years ago that the biggest contributors
19 to reactor accidents were transients and small LOCAs. That's
20 been on the table in front of a lot of people for a long
21 time. It's been in front of this committee. This committee
22 has recommended to the NRC that it pay more attention to this,
23 and it has not.

24 DR. SIESS: At the same time, it's recommended that
25 you pay less attention to the large LOCA. And that hasn't

gsh 1 been followed, either.

2 MR. LEVINE: My point is very simple.

3 DR. SIESS: Maybe they're related.

4 MR. LEVINE: My point is that people tend to plow the
5 same furrows they've always plowed. This is human behavior.
6 They tend to ignore new evidence.

7 Now I think what we have to do is find some way to
8 overcome these kinds of things and definitions of words and
9 the like aren't going to do that. You have to have people
10 who have open minds and are not directly involved every day
11 in licensing reactors because they tend to look at problems on
12 a day to day basis and not on a longer term basis.

13 PROF. KERR: It seems to me, however, that you're
14 defining confirmatory research. And Bob Budnitz's definition
15 gives one the kind of flexibility that one would like to have
16 if you were running a research organization.

17 DR. BUDNITZ: That's what I said -- to confirm the
18 adequacy of our regulatory approach.

19 Now --

20 MR. LEVINE: And our problem is that our research
21 program is bound, hamstrung, tied by the regulators.

22 DR. BUDNITZ: In fact, I was going to elaborate on
23 that by saying the following: Suppose that a man had built
24 a house and he hired somebody else to help him confirm the
25 adequacy of his design after it was built. And rather than

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1 hire a person to do some independent work, he hired someone —
2 he said, I want you to look at this and this and this and
3 this. And the guy says, well, I want to look at this. Well,
4 we don't want to look at that. That's low priority. You
5 won't get the independence from that that you would if you
6 turn somebody loose.

7 The problem with turning somebody loose is that they
8 might run off and be irresponsible and unresponsive. And
9 of course this analogy, this metaphor is right for the
10 agency.

11 The line that has to be thought about is the extent
12 to which the research program has the independence of view in
13 a real sense to check on what NRR or NMSS standards are
14 doing; that is, to look over their shoulder, which can be
15 both a help and a threat.

16 . The other side of it is that you just can't turn the
17 research program completely loose. It's not responsible.
18 And we're all aware of that tension all the time.

19 DR. SIESS: I had a very simple definition of the
20 kind of research I thought a regulatory agency ought to be
21 doing. This was before the word "confirmatory research" was
22 developed. It was back when we were arguing with Mr.
23 Schlesinger about getting the research out from on the shelf.

24 I said I thought the research should be to tell us
25 what questions we should be asking and to know when we're

gsh 1 getting the right answers.

2 I think that an awful lot of what we're doing is
3 knowing whether we're getting the right answers and there's not
4 as much emphasis on what questions we should be asking
5 because right now, the questions are being asked by licensing
6 people.

7 I see those questions getting more and more detailed.
8 They're getting right down to the very fine structure of
9 design and construction and they're overlooking the big
10 questions that we should have been asking for the Three Mile
11 type of thing.

12 Now the ACRS has been asking some of those big
13 questions in very broad terms, and sometimes too broad. And
14 people haven't understood what we're talking about.

15 I think instrumentation to follow the course of an
16 accident was that. Maybe we haven't made ourselves clear. I
17 don't know. But by the time the staff got through with it,
18 they were designing those instruments, practically.

19 And it's that kind of detail that I think we're
20 getting involved in. I still think that what questions we
21 should be asking and how do we know enough knowledge to know
22 what we're getting the right answers to.

23 But the emphasis needs to be on the first one.

24 I don't call it confirmatory or anything else,
25 regulatory research or whatever.

gsh 1 MR. LEVINE: That's what our name is.

2 DR. OKRENT: Is there anything that you think that
3 the ACRS should look at with regard to the relationship
4 between technical assistance and research? Or does that
5 seem to be flowing smoothly?

6 MR. GOSSICK: I think I'm sure that we've got some
7 work being done as technical assistance that really is research
8 and vice versa.

9 DR. OKRENT: That may not be bad.

10 MR. GOSSICK: Yeah. So there, of course, is a very
11 sizable amount of money in the technical assistance areas.
12 And hopefully, the BRG will not scrub that as hard as they
13 have the research program.

14 I don't know of any particular area. Does anyone
15 have anything to suggest on this subject?

16 MR. SMITH: I think in general there is much of
17 that going on. The one possibility that may arise is in the
18 waste management area. There's a tremendous increase in the
19 budget, both NMSS and research.

20 I don't think it's as clear as it could be at this
21 moment if there's any overlap on the bounds. But I think it
22 will be worked out.

23 DR. SIESS: I have a question that really relates to
24 what kind of advice we give to the commission. How far down
25 in line items does the commission look at this budget?

gsh 1 For example, in research, will they look in this
2 much detail?

3 MR. LEVINE: I don't know what they look at, but they
4 get much more detailed than that.

5 DR. SIESS: Below those decision units, if a decision
6 unit is cut in half, are they interested in which three of
7 six projects you leave out? Are they going to leave that up
8 to you?

9 MR. LEVINE: In our presentation to them, we give
10 them a breakdown of what's within each line item there. It's
11 a decision unit, not necessarily by projects but by work
12 areas. And when there are cuts, we tell them what that would
13 involve.

14 But there are just too many projects.

15 MR. SMITH: There is a further breakdown in this
16 piece of paper. By the way --

17 MR. GOSSICK: They'll look at it. Some of them
18 will. As we sit around this same table and go through the
19 budget, it probably won't be in that detail.

20 MR. SMITH: Let me, while I've got the floor,
21 apologize for this piece of paper. I didn't intend to hand
22 it out. There are inaccuracies in it. This improved reactor
23 safety, for instance, is an earlier version. This is the
24 version that you ought to take as gospel.

25 This 1/1.7 is back a week ago data when we were

1 arguing about whether there was some duplication of human
2 interactions with some other part of the budget.

3 MR. GOSSICK: The July 6th thing supercedes all
4 else, right?

5 MR. SMITH: This supercedes it and lets aside,
6 basically, the entire amount they requested.

7 DR. SIESS: Thank you.

8 DR. OKRENT: Dr. Budnitz?

9 DR. BUDNITZ: I would like to emphasize for your
10 consideration a very important point that I have observed;
11 that is, that there are many people in the licensing offices --
12 I&E, Standards, NRR, and NMSS -- for whom the research program
13 is seen as something that they would just as soon have go
14 away.

15 That's pretty strong language, but I believe it.
16 People have told me that and their actions say that, too.
17 They do not generally get their way, but their actions, in
18 small and in large measure, substantially affect the
19 viability of some of the areas in which we work.

20 For example, there are some groups who fail to
21 endorse or fail to initiate project areas because the
22 project areas would scrutinize the very way that they do
23 business, which the very way that they do business is seen as
24 something worth defending rather than scrutinizing.

25 Now there's some human nature on that, and there are

gsh 1 a lot of people who don't want anybody snooping around their
2 house.

3 But I feel in my bones that at least some of the
4 problem that we have in interacting with the other offices is
5 that we take our confirmatory mission as more exploratory and
6 some of the other staff members of the agency see this as a
7 threat to the status quo or to the way they have been
8 licensing all along, or making judgments.

9 This, then, leads to at least some areas where the
10 user requests that we get or the endorsements we get of
11 projects we develop are formulated incompletely or poorly. The
12 long range, short range balance is, in our view, inappropriate
13 and several other things that have to do with staffing and
14 administrative control and everything.

15 And a good deal of that could be remedied with more
16 flexibility. Unfortunately, it can't all be remedied.

17 For example, there are some areas in which our
18 "in" box of user requests is two or three years' deep. In
19 other words, projects we are now beginning to undertake,
20 reactor environmental, for example, were initiated in 1978.
21 And we may be able to begin some of them next year because
22 we don't have enough funds in that environment.

23 Some of the important work isn't even given to us
24 as a user request. It is, instead, undertaken under technical
25 assistance, which is the only way to get it done.

gsh 1 Then, that being so, we can't get the money next
2 year.

3 So there's kind of a funny process which I think is
4 not overwhelming in this whole system, but it's certainly not
5 negligible. It's quite significant in some areas.

6 And you should be aware of several things. First,
7 you should be aware that I feel that. I just said that. But
8 you should also be aware that this is an important view within
9 important parts of the office of research within our staff.

10 Members of our staff believe what I've said and
11 concur with me in this. I'm not sure how to fix the thing,
12 but it's an institutional issue that is a major problem to us.

13 PROF. KERR: Bob, I think it's an extremely important
14 point. And I would get the impression from what you have
15 said that research are the good guys and the people who don't
16 appreciate research are the bad guys.

17 DR. BUDNITZ: Not always.

18 MR. LEVINE: We're fallible.

19 DR. BUDNITZ: Sure, of course. It's an interaction,
20 Bill, and in all interactions, there's some problem on all
21 sides, of course.

22 MR. LEVINE: Let me state it differently. I don't
23 feel that the NRC has enabled me to fulfill my statutory
24 responsibility in the right way. My statutory responsibility
25 is outlined in Lee's paper.

gsh 1 I think when you look at the pyramid of reviews and
2 cross-checks and counter-balances that we've established, that
3 my ideas are very much less important in my budget than anyone
4 else's.

5 That's what's happening in our agency.

6 PROF. KERR: It seems to me that the principal
7 responsibility of the NRC, or a principal responsibility is
8 to get reactors licensed in such a way that they are safe.

9 If I can simplify it, the principal responsibility
10 is not to do research. That may be difficult for people to
11 accept who are dedicated to research. But it does put an
12 extra burden on you to — I am reluctant to use the word, but
13 you have to sell your services.

14 In the first place, they have to be useful and they
15 have to be meaningful. And in the second place, you have to
16 convince people that that is the case. That may strike you
17 as being trivial or unnecessary in a lot of situations, but
18 it seems to me that you have to do it.

19 MR. LEVINE: I have no quarrel with that. All I'm
20 saying is that the question of balance -- the balances that
21 the commission has delegated to so many different bodies, the
22 review of my program, that I have almost no control of it,
23 of formulating it.

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1 DR. OKRENT: Lee, earlier in the introductory
2 comments you mentioned that the ACRS was a body whose
3 comments were considered. I can't quite recall whether you
4 used the term that the ACRS was a "user," but can the ACRS
5 be a user from your point of view?

6 In other words, if they initiate a request, would
7 that provide sufficient justification that research would
8 not have to go, then, to NRR or one of the other groups for
9 concurrence?

10 MR. GOSSICK: I think that's right; let me just
11 refresh my memory. I believe the language is in the
12 Commission paper that defines the user.

13 MR. LEVINE: It's not covered in our user
14 requirement procedure.

15 MR. GOSSICK: I think it is.

16 MR. LEVINE: I don't think so.

17 MR. BAKER: SECY 77-130B specifically states the
18 other four offices as sponsoring user offices. However, as
19 you pointed out earlier, it also mentions that Saul can
20 sponsor work too, which he gets, and thus himself on the
21 basis of suggestions by other groups including the ACRS.

22 MR. LEVINE: I have no authority to sponsor it.

23 DR. SIESS: It says that research is the sponsor
24 office and must have the endorsement of the user office.

25 MR. LEVINE: If you want something done, I have to

kap 1 sell it to the user office is the way it works out.

2 MR. GOSSICK: I swear I didn't dig that out of the
3 air. If it's not in 130B it's in 130A, which is not
4 necessarily completely overwritten by the later version.
5 Recommendations for confirmatory research may be made by any
6 of the following: NRC program and staff offices, the ACRS,
7 the ASLB, the ALAB, Congress, the technical community and
8 the public. That's in a memorandum from Sam Chilk to Lee
9 Gossick on May 19, 1977.

10 DR. OKRENT: Does that make the public a user? In
11 other words, if John Doe writes in and recommends research
12 on passive containment, does that mean that Levine's office
13 is free to say, I have a user?

14 MR. GOSSICK: I think not.

15 DR. OKRENT: So the ACRS and John Doe are lumped
16 together.

17 MR. LEVINE: Yes.

18 (Laughter.)

19 MR. GOSSICK: You're in the same fix, I guess, and
20 in fact, the same piece of paper goes on and says, "in
21 general, no research project shall be approved without a
22 research request prepared by a sponsoring office," and the
23 sponsoring office, in this paper, they specify the NRR, NMSS
24 and I&E. I would take issue with that. I would include SD
25 in there.

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1 DR. SIESS: But if they sponsor him, they've got
2 to get concurrence with somebody else, the user.

3 MR. GOSSICK: No, if they can't get it --

4 DR. SIESS: Or from you.

5 MR. GOSSICK: Or from me, right.

6 DR. OKRENT: Actually, I'll give you a general
7 impression. In my opinion, the recommendations that the
8 ACRS have been giving in the research area in the past few
9 years are increasingly less followed by the NRC, than in
10 fact, they may have been when Shaw was the head of
11 research. There are some areas he wouldn't do, but many
12 areas, in fact, he'd follow the recommendations of ACRS. I
13 don't find a terribly strong correlation -- and I've read
14 the response of the research office to the letters of last
15 year and the year before -- and I see sort of general kinds
16 of statements, but I think in specific areas I don't see a
17 strong correlation. Maybe if the ACRS were a user with some
18 -- I guess you might call it legal status -- like other
19 offices, it would have some effect. I don't know. It's an
20 observation. I may be wrong.

21 PROF. KERR: Maybe ACRS recommendations are
22 getting worse.

23 DR. OKRENT: That also possible.

24 DR. SIESS: They're getting less specific.

25 DR. OKRENT: They could be specific. Are there
26

kap 1 any other topics that members would like to raise with
2 Mr. Gossick or the group who are here, with regard to ED0s.
3 I don't think it's fair to take up Mr. Gossick's time with
4 things that would be specific to one of the offices.

5 (No response.)

6 DR. OKRENT: Let me ask a question that gets back
7 to the first one I sort of raised, about whether there was a
8 way of doing major rethinking on the safety research
9 program. If that were to be done within the NRC, is that
10 something that would be initiated in a grass roots way or is
11 it something that would be initiated at your office, saying,
12 "have we really sat back and looked?" How would that come
13 to pass? It may not be worth doing.

14 MR. GOSSICK: Could you be a little more specific
15 about the dimensions of this rethinking of our safety
16 research program, as I understood you to put it? Are you
17 talking about a complete backing off, and then considering a
18 new direction, or a new category of work? Perhaps new
19 priorities? There's a lot of momentum that you're faced
20 with, I mean, you've got a LOFT thing that you've spent half
21 a million dollars, nearly, on, and you're not going to just
22 turn that around and go somewhere else overnight.

23 I guess -- I don't know what percentage of your
24 budget would you say you had, Saul? Are you in a mortgage
25 condition that you couldn't just walk away from it?

kap 1 DR. SIESS: Some of that goes back to AEC.

2 MR. GOSSICK: That's right. But I think, if I
3 understand your question, that is not something that is
4 likely to happen in the more or less normal year-to-year
5 formulation of the research budget. You know, some flash of
6 inspiration, we say, Hey, it's time to back off and take a
7 new approach to our office.

8 I think it probably evolves with the views and
9 recommendations that you can provide to the Commission. And
10 it comes to us, I'm sure from other outside influences, such
11 as operating experience, Three Mile Island, to be exact, as
12 an example.

13 A whole host of inputs that are not just turning
14 90 degrees to the right, but certainly a change over some
15 period of time from the direction we're going. One of the
16 problems that staff and Commission have struggled with is
17 this basis for planning the assumptions on which we can go
18 ahead and put together a budget each year. And I think,
19 Chuck, let's make sure that the Commission gets a copy of
20 that planning guide.

21 VOICE: Yes, sir, I got a copy from the
22 secretaries. SECY paper 79-205. Mr. Fraley has it for the
23 members' use; however, I think the secretary has to do some
24 other checking with the commissioners before he can make it
25 a public document. It's not a public document yet, so they
26 now

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1 now have it

2 DR. OKRENT: I'm going to try to provide an answer
3 to the question. I could speculate, but I'd rather not, at
4 the moment. I think it's not an idle question, then, and I
5 don't accept as irrevocable the existence of a mortgage or
6 whatever -- however you want to put it -- that ties funds up
7 and so forth. I mean, that's my own point of view. I've
8 always said in the safety area you have to be relatively
9 flexible in what you choose to do.

10 MR. GOSSICK: I think that's right. On the other
11 hand, let's remember that the only way we can do this kind
12 of work is getting money from Congress, appropriate the
13 funds to do it. I think too many, you know, sudden changes
14 of direction are going to cause people to say that they
15 really don't know what they're doing, and if they have an
16 ability to look ahead far enough, to make sure that the
17 money level being authorized is proper and well-spent -- I
18 don't disagree with you completely, though. In fact, if
19 I'll ever recognize something that is, you know, no longer
20 of any useful purpose or because simply of priorities, we
21 find that we may have to foreclose on these mortgages.

22 There's no need for it; we can't afford it for
23 something else needs to be done more urgently. That can be
24 explained, I think.

25 DR. OKRENT: Let me ask just one small question.

26 I

kap 1 things that had been done in that area or are being done,
2 they have very great value to us. It's hard to judge;
3 legally, yes, we're required, I guess it's spelled out in
4 the Act, that we will do work in these areas. The first
5 year's funding that got this started was really an arbitrary
6 number that was imposed on us. Each year it tends to
7 narrow, at least there are more requirements that can be
8 satisfied. And I think primarily based on, again, user
9 requirements, it's well-supported by user requirements.
10 Were we not funded by the agency.

11 MR. COSSICK: Yes, right, but one of the areas --
12 now, it's not exactly an area, but the same division. The
13 safeguards work. Of course, as a program where we've had to
14 defend it to Congress in very, very detailed fashion.
15 That's sort of leveled off and come down now.

16 . Saul, do you have any other thoughts in this area?

17 MR. LEVINE: I think Dave is right, in terms of
18 the potential impact on public health and safety. Three
19 Mile Island transcends general environmental
20 considerations. That doesn't mean that you have to trade
21 one before the other.

22 DR. OKRENT: As long as you have enough resources.

23 MR. LEVINE: I think it's time the Commission has
24 to stand up and say it needs the resources. I think that's
25 the message that comes to me from Three Mile Island.

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1 DR. BUDNITZ: The budget for reactor-related
2 environmental work is only a few percent of the safety
3 budget. Yet we are constantly told by the people in NRR and
4 the division of BSE, safety and environmental, that they
5 cannot perform their site safety reviews adequately in this
6 area without this work.

7 In fact, I was acquainted last week with the fact
8 -- I was told the fact; I'm not sure it's a fact -- that
9 the last hearing boards have been hung up on environmental,
10 not on safety issues as the main part of their hearing
11 board, adjudicatory difficulties.

12 Therefore, there is surely need for some work in
13 these areas. Whether, you know, it's too high by a factor
14 of two or too low, it depends on looking at the individual
15 projects.

16 MR. LEVINE: The whole area doesn't have enough
17 money to change a reactor experience.

18 DR. BUDNITZ: The FY '80 budget is going to be
19 about three percent of the entire research budget for that
20 area. About three percent.

21 DR. OKRENT: My problem is, you told me
22 three-quarters of the budget is locked in, so I only have 25
23 percent to work with. That's eight three percent items.

24 DR. BUDNITZ: No. That's really not fair. For
25 example, in a sense LOFT is locked in but the experimental

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1 program at LOFT next year will be very different than we had
2 thought last December. LOFT is going to be doing a number
3 of tests over the next year or two, different from the
4 program we had planned, so although the facility costs are
5 in a major way locked in, the program and the answers that
6 we seek are as flexible as we can make them consistent with
7 the fact that the facility has a certain size and a certain
8 number of constraints. Semi scale, the same way, PBF, all of
9 these things are "locked in."

10 DR. OKRENT: Unfortunately, my intuition tells me
11 that that's not where we're going to learn the things of
12 most help.

13 DR. BUDNITZ: The risk assessment work, the code
14 work, is being redirected substantially to work on codes for
15 the transients and small LOCAs. We're working as hard as we
16 can within these constraints. As Lee says, you don't turn
17 90 degrees in three weeks.

18 MR. LEVINE: Part of the additional money we've
19 asked for resulting from — we've asked for about 30 million
20 dollars more from Three Mile Island research, and part of
21 that money is, in fact, to develop short, fast running code
22 which may not be accurate enough to satisfy everyone, but
23 from which we ought to learn a good deal about the system.

24 DR. BUDNITZ: Part of it is for risk assessment.

25 MR. LEVINE: That would be the same purpose.

kap 1 DR. MARK: Could I ask -- you just mentioned,
2 Saul, \$30 million is being asked for. Do you know what
3 reception it's given?

4 MR. LEVINE: The BRG has approved most of them.

5 DR. MARK: The BRG, but they don't have \$30
6 million.

7 MR. LEVINE: They what?

8 DR. MARK: They don't have \$30 million; do they?

9 MR. LEVINE: It's part of our budget process. It
10 goes to the --

11 DR. MARK: But is it not Congress that has to
12 approve it?

13 MR. LEVINE: Yes, that's our whole budget.

14 DR. MARK: I'm asking what reception we can
15 expect.

16 MR. LEVINE: I don't know. It's hard to tell. I
17 talked to OMB and they say they have an open mind about it.

18 DR. MARK: When will that get talked to?

19 MR. GOSSICK: The supplemental will go to OMB
20 along with the regular '81 budget. It has to be over there
21 by the first of September. The supplemental, however, will
22 go on directly to Congress, after a very minimal kind of
23 review or a short review, and then, the budget won't go over
24 until after around the first of the year.

25 So we would hope that the supplemental action will

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1 recur, if Congress is interested and we can well defend it.

2 MR. LEVINE: By mid fiscal year --

3 MR. GOSSICK: Before the end of the calendar year,
4 before they go out for Christmas.

5 DR. MARK: And you don't at this moment have
6 strong indications as to the reception?

7 MR. GOSSICK: There are some indications in some
8 quarters that there is a very favorable reception
9 anticipated there. I'm sure it will be some other areas, or
10 other parts of Congress that won't be so inclined.

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1 MR. MURLEY: In the meantime, though, our regular
2 fiscal '80 request has been cut by about \$10 million, in
3 fact, by the Appropriations Committee.

4 MR. GOSSICK: The same committee that is talking
5 about adding onto our '80 budget on the floor has also been
6 active in cutting it in committee.

7 DR. MARK: That's \$10 million cut in respect to
8 those numbers we have in front of us.

9 MR. GOSSICK: Well, your '80 budget, does it show
10 Congressional action?

11 MR. SMITH: No.

12 MR. GOSSICK: No.

13 MR. LEVINE: The present request, that's what we
14 requested. Not what the Congress gave to us.

15 DR. MARK: You requested and they have stepped
16 back \$10 million from that request.

17 MR. LEVINE: Except it's not a final action.

18 DR. MARK: Not a final action? Are they doing
19 this across the board or on detailed items?

20 MR. SCOGGINS: Details, to a certain degree, most
21 of them are details.

22 DR. MARK: What things annoy them the most?

23 MR. SCOGGINS: For example, they gave a very minor
24 cut to the light water reactor area. They, in effect, told
25 us to put money back into the gas reactors for which we have

kap 1 no money in the President's budget, as you well know. So
2 therefore, that's like an effective cut, and we'll have to
3 eat it within the total.

4 The reduced groupings mostly in the reactor
5 environmental, risk, seismic, et cetera. It's where they
6 took the majority or the remainder of the \$6-1/2, \$7 million
7 cut in safeguards, specifically. They recommended a
8 reduction of about, I believe, 40 percent in the safeguards
9 area.

10 DR. MARK: 40 percent is noticeable in anybody's
11 budgets.

12 MR. SCHGGINS: That's correct.

13 DR. PLESSET: Maybe Tom Murley could help me to
14 try to relate a detailed breakdown of the FY '80 supplement
15 with what's in this thing. I couldn't get them to fit. The
16 numbers you mentioned seemed to be right. You recall what
17 I'm getting at.

18 MR. MURLEY: In the presentation that I made to
19 your subcommittee?

20 DR. PLESSET: Yes.

21 MR. MURLEY: Yes. I think I gave to Tom a list of
22 those research items, which were by topic and not by budget
23 group, and by topic it showed which budget group they went
24 into, so there is a Rosetta Stone that will relate them, and
25 Tom, can you make sure ; gets that?

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1 MR. MC CRELESS: Yes, I will.

2 DR. PLESSET: Okay. Thanks.

3 DR. OKRENT: I have a feeling it's getting late
4 for Mr. Gossick, so I'd like to thank him very much for
5 coming down. This morning has been interesting.

6 MR. MC CRELESS: I would like to say one thing,
7 if I may. I attended the budget review group meeting, three
8 of them, last week, that pertains to the research budget,
9 and I found that they were very professional in the way that
10 they did it.

11 You mentioned earlier that the men did not have
12 much technical expertise but they seemed to have an awful
13 lot of expertise in presenting information to OMB and to
14 Congress, and I think that they helped RES by focusing their
15 attention on areas that they needed to strengthen their
16 arguments.

17 MR. GOSSICK: Tom, I really appreciate your
18 comment on that because you touch on an extremely important
19 part of this budgetary process. We can defend it, our
20 people can defend it technically to yourselves or others,
21 you know, all day long, but it's the very critical process
22 of being able to present the program in a way that the
23 non-technical people, for the most part in OMB and for a
24 very decided portion of the Congressional committees that we
25 have to go to and convince them that, you know, it's

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1 important to put it on grounds that are salable in those
2 arenas, not just to ourselves or to other technical peers
3 who would pass judgement.

4 Thank you.

5 DR. OKRENT: Thank you. Let's take a 10 minute
6 break and reconvene.

7 (Recess.)

8 (Whereupon, at 10:55 a.m., the hearing was adjourned, to go
9 into executive session.)

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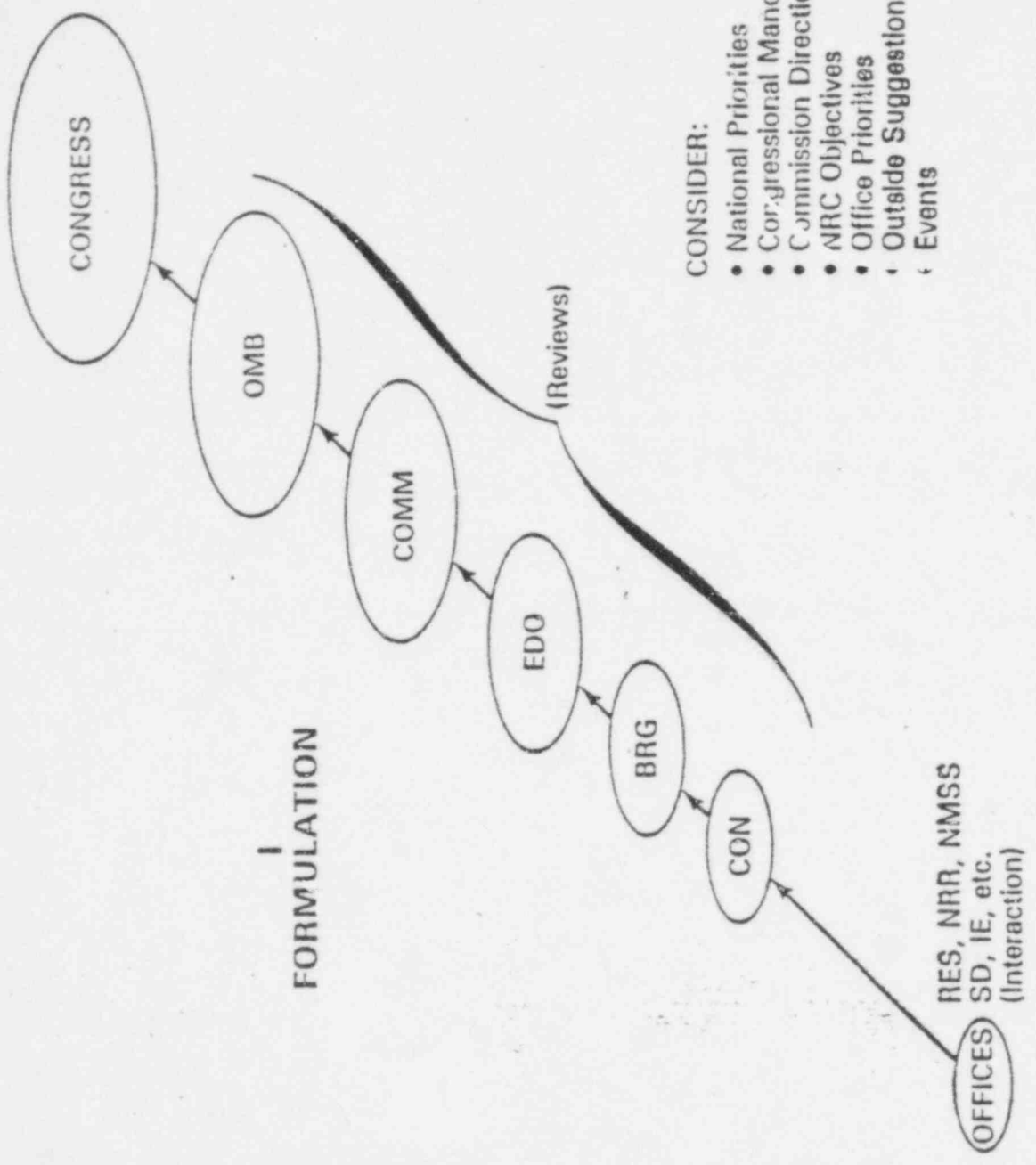
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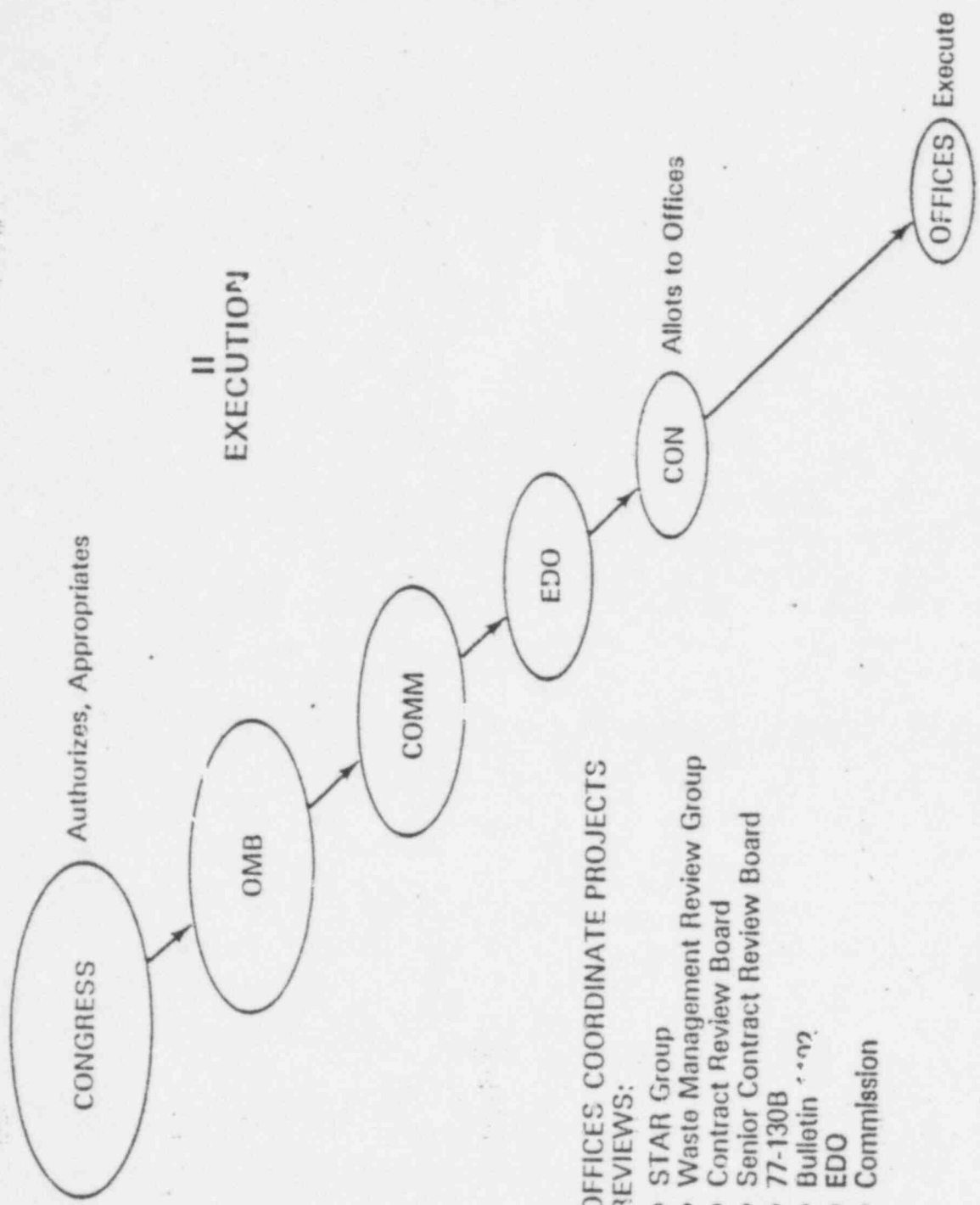
FEDERAL ARCH BUDGET FORMULATION VS. EXECUTION



CONSIDER:

- National Priorities
- Congressional Mandates
- Commission Direction
- NRC Objectives
- Office Priorities
- Outside Suggestions
- Events

RESEARCH BUDGET FORMULATION VS. EXECUTION



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OFFICES COORDINATE PROJECTS REVIEWS:

- STAR Group
- Waste Management Review Group
- Contract Review Board
- Senior Contract Review Board
- 77-130B
- Bulletin '72
- EDO
- Commission

NUCLEAR REGULATORY RESEARCH
PROGRAM SUPPORT
(IN MILLIONS)

7/5/79

TAINGALO 1000
POOR ORIGINAL

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	EY 1979	CONG APPEND BRG	EY 1980	MIN	EX 1981	REL	APPEND	BRG
NR SAFETY RESEARCH	\$32.0	\$34.8	\$42.9	\$41.3	\$32.1	\$33.5	\$48.5	\$45.3
SYSTEMS ENGINEERING	23.3	42.9	44.9	44.9	44.3	44.3	48.3	49.3
LOFT	9.4	8.9	12.4	12.4	9.2	11.0	14.4	15.2
CODE DEVELOPMENT	23.9	23.1	28.7	28.7	23.3	24.0	28.7	28.5
FUEL BEHAVIOR	8.4	8.6	9.6	9.6	6.6	9.9	14.7	15.1
PRIMARY SYS. INT.	97.0	118.3	138.5	136.9	115.5	122.7	154.6	153.4
TOTAL LMR	8.4	10.0	12.0	12.0	12.6	13.9	18.0	19.9
SEISMIC ENG. SAFETY	12.5	13.7	13.7	13.7	22.1	22.1	22.1	22.1
FAST BREEDER REACTORS	-2.9	-0-	-0-	-0-	-0-	-0-	3.9	3.9
ADV. CONV. REACTORS	120.8	142.0	164.2	162.6	150.2	158.7	198.6	199.3
TOTAL RSR	5.2	3.8	4.5	4.5	5.1	7.8	9.8	9.8
REACTOR ENV.	3.0	3.8	3.8	3.8	4.7	5.3	5.9	5.9
FUEL CYCLE	4.4	6.7	6.7	6.7	4.7	7.2	15.9	15.9
WASTE MANAGEMENT	5.0	5.0	5.2	5.0	4.4	5.3	6.7	6.7
SAFEGUARDS	4.4	5.7	9.0	9.0	6.4	7.3	11.2	12.6
RISK ASSESSMENT	9.8	1.0	4.4	1.0	1.1	1.1	4.7	6.6
IMPROV. REACTOR SAFETY	\$145.6	\$158.0	\$197.8	\$192.6	\$176.6	\$192.7	\$252.3	\$256.8
TOTAL								\$181.1/209.4

32.8 + 77.8 57.8
45.3 48.2
15.1 15.1
139.2 + 11.8
15.1
15.1 6.2
5.0 5.0
15.9 15.9 + 3.0
6.7 6.7
11.2 11.2
4.7 4.7
194.3

NUCLEAR REGULATORY COMMISSION
PERSONNEL

7/5/79

POOR ORIGINAL

	FY 1979	FY 1980			FY 1981					
		CONG	AGENCY	BRG	MIN	CUR	REQ	AGENCY	BRG	
LWR SAFETY RESEARCH										
SYSTEMS ENGINEERING	18	18	21	20	18	19	24	24	18 18	
LOFT	8	9	11	9	10	10	11	11	10	
CODE DEVELOPMENT	8	8	11	9	8	10	11	11	9	
FUEL BEHAVIOR	8	8	10	9	8	9	10	10	9	
PRIMARY SYS. INT.	<u>7</u>	<u>8</u>	<u>8</u>	<u>8</u>	<u>8</u>	<u>9</u>	<u>11</u>	<u>11</u>	8 9	
TOTAL LWR	49	51	61	55	52	57	67	67	53	
SEISMIC ENG. SAFETY	18	19	20	19	20	21	23	23	15 19	
FAST BREEDER REACTORS	11	11	11	11	15	15	15	15	0/15	
ADV. CONV. REACTORS	<u>3</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>3</u>	<u>3</u>	<u>0/3</u>	
TOTAL RSR	81	81	92	85	87	93	108	108	68/86	
REACTOR ENV.	6	6	7	6	7	10	11	11	7	
FUEL CYCLE	6	6	6	6	7	9	9	9	7	
WASTE MANAGEMENT	8	10	10	10	9	12	20	20	20 ? 15	
SAFEGUARDS	<u>11</u>	<u>8</u>	<u>8</u>	<u>8</u>	<u>8</u>	<u>9</u>	<u>9</u>	<u>9</u>	<u>8</u>	
TOTAL SAFER	31	30	31	30	31	30	49	49	42	
RISK ASSESSMENT	22	23	30	27	25	28	33	33	25 25	
IMP. REACTOR SAFETY	1	1	3	1/2		1	4	4	0/ 3/4	
PROG. DIR. & SUPPORT	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>26</u>	<u>28</u>	<u>28</u>	<u>24</u>	
TOTAL RES	159	159	180	167/169	168	186	222	222	157/180	

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