

NUCLEAR REGULATORY COMMISSION

IN THE MATTER OF:

PUBLIC MEETING

BRIEFING ON USE OF WASH-1400 BY NRC STAFF

Place - Washington, D. C.

Date - Thursday, 14 December 1978

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

PUBLIC MEETING

BRIEFING ON USE OF WASH-1400 BY NRC STAFF

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

Thursday, 14 December 1978

The Commission met, pursuant to notice, at 9:45 a.m.

BEFORE:

DR. JOSEPH M. HENDRIE Chairman

VICTOR GILINSKY, Commissioner

PETER A. LADFORD, Commissioner

JOHN F. AHEARNE, Commissioner

PRESENT:

Messrs. Shapar, Haller, Denton, Gossick, Kelley,
Pederson, Bunch, Rehm, Eisenhut, and Levine.

P R O C E E D I N G S

CHAIRMAN HENDRIE: If we could come to order.

The Commission meets this morning for further discussion on the Lewis Report on WASH-1400 and the general subject of the use of WASH-1400, the results, methodology, et cetera, Commission statements on the same.

We have a number of late running papers connected with the subject, enough in fact so that Commissioner Kennedy thought it more efficient for him to remain in his office and read them than to come here and discuss papers he hasn't seen.

The fact that there are several recent distributions suggests to me that although I expect this morning's discussion to be useful, that I do not expect it to lead to conclusions.

But let us see.

We have had for a couple of days at any rate the current staff paper, 78-637. What we might do is go ahead. And there is a briefing prepared on the basis of that. It seems to me that may provide us as good a framework as any as a basis for discussion, and we can see where it leads us.

Lee, why don't you go ahead.

MR. GOSSICK: Thank you, Mr. Chairman.

As you indicated, among the papers before you is

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david2 1 the December 12th paper that gives the Commission the
2 revised statement that was prepared by NRR working
3 with the NMSS and IE on research.

4 Also in that paper is the result of the
5 summary or the review of the uses of the WASH-1400 that
6 you directed us to do.

7 There is a separate paper that addresses the
8 budget impact, also asked by the Commission to be reviewed;
9 and as indicated, the effects primarily show up in the
10 proposals by the research office.

11 And then thirdly, there are comments that have
12 been provided on this most recent draft statement by
13 IME and MPE and some additional comments by NMSS. I
14 suspect you will get some additional comments from the
15 staff. It is still in the process of being circulated
16 by the office directors to their staff for those people
17 who wish to make separate comments on it.

18 We do have a presentation this morning and unless
19 there are questions, we will just proceed.

20 CHAIRMAN HENDRIE: Before you take off on that,
21 is the budget thing in 637?

22 MR. GOSSICK: No, that's a separate paper, 638
23 dated September 12th. You may not have yet the paper that
24 came down yesterday that provided the comments that I
25 indicated.

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1 CHAIRMAN HENDRIE: Well, 637-A I've got.

2 MR. GOSSICK: Well, mine addresses the budgets,
3 638.

4 CHAIRMAN HENDRIE: Yes, John just gave me that,
5 and I had not seen that before, but I do have 637, 637-A.

6 MR. GOSSICK: 637-A must be the comments.

7 COMMISSIONER GILINSKY: Could I ask why did
8 this paper come down last night as opposed to, say, a
9 day or two ago?

10 MR. GOSSICK: The draft paper actually came down --
11 was distributed on the 12th. 637, it probably did not
12 get to you. I don't know when it got to you.

13 COMMISSIONER GILINSKY: I got it last night.
14 I see the memo to you is dated the 8th.

15 MR. GOSSICK: Well, it came down essentially
16 the same day, didn't it, Don?

17 MR. REHM: I think it came down here the same
18 day we got it.

19 MR. GOSSICK: I don't know what the difference
20 is in distribution.

21 VOICE TWO: I think you got it about 5:00
22 o'clock on Friday.

23 MR. GOSSICK: I did look at it over the weekend.
24 I remember now.

25 Is it okay to proceed?

1 CHAIRMAN HENDRIE: Yes, why don't you go ahead.

2 MR. BUNCH: Could I have the first slide, please?

3 (Slide.)

4 Since we last met, the staff has had basically
5 two activities: one, to try to crystalize our thinking
6 for you, identify a little more crisply just what were the
7 principal issues that we thought ought to be in any
8 statement regarding reactor safety study review group
9 report and to try to clarify more directly just what
10 range of views there were on that kind of argument.

11 What I'm going to do this morning is very
12 briefly walk you through the principal arguments in the
13 proposed NRR statement and by discussing a few selected
14 topics or issues indicate the range of views that surfaced
15 during the staff's attempt to come up with a consensus
16 document.

17 And finally, I will quickly summarize the
18 results of the various office reviews of correspondents,
19 licensing actions where the reactor safety study might
20 have played a role.

21 (Slide.)

22 The next chart is a busy chart and attempted
23 to show only one thing, that the reactor safety study
24 covers virtually every subject in one form or another that
25 is addressed in reactor licensing, whether it is reactor

1 vessel toughness or whether it's the health effects
2 associated with ionizing radiation.

3 It is a very large document. There have been a
4 tremendous number of comments on it; all of this points
5 to the fact that there are a considerable number of
6 papers including the number of papers you've seen now,
7 including Commission papers on the reactor safety
8 study and on comments on the reactor safety study.

9 (Slide.)

10 The next slide basically will describe what
11 has transpired since our last meeting. As I have indicated,
12 the scope of the reactor safety study basically covers
13 the area from the cradle to the grave and in each
14 technical area we have found a diversity of views regarding
15 the technical validity, if you would, the adequacy of
16 coverage of the reactor safety study.

17 Similarly, there has been considerable
18 diversity of views about the review group report, what
19 it means, what its significance is, what implications it
20 might have to the licensing process.

21 At this point I would like to just reiterate
22 a view that the review group is not an independent
23 group in the sense that they have never been associated
24 with the reactor safety study before. It was comprised
25 of individuals who ranged from ardent supporters to very

1 passionate critics of the reactor safety study. It did
2 not include any NRC staff members.

3 To the extent that the review group contains
4 a number of recommendations and conclusions, I think the
5 fact is that it doesn't present much new information. It
6 presents findings and conclusions that are the consensus
7 of that group, but the fact is that there are ranging
8 views about what the review group says and what the
9 emphasis ought to be placed on the review group findings.

10 COMMISSIONER AHEARNE: Would you care to or
11 would you please expand a little bit on what you mean by
12 the comment that it was not an independent group, number
13 one.

14 And number two, you seem to make a heavy point,
15 that it was composed of people who were either critics or
16 supporters; and number three, that there were no
17 NRC staff members on it.

18 What significance do you attribute to those
19 statements, and what is the message you are trying to get
20 across because I'm not sure I got it.

21 MR. BUNCH: Well, I was going to get to the
22 conclusions or the implications of that in a moment, but
23 basically the message I was trying to convey by an
24 independent group is as follows: after the issuance of
25 the reactor safety study, there continued to be a lot of

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1 commentary on the accuracy of various elements of that
2 study and regarding the use of that study or conclusions
3 drawn from that study.

4 They haven't abated. Some of the critics include,
5 for example, Dr. von Hippel, who was a member of the
6 review group; some of the people who found considerable
7 merit in various parts of the reactor safety study were
8 also on that group, such as Professor Rasmussen.

9 The point is not to imply --

10 COMMISSIONER AHEARNE: Excuse me. Rasmussen
11 wasn't a member.

12 MR. BUNCH: Excuse me, that was Dr. Kouts
13 who had been associated with the study.

14 The point is not that there was any bias in
15 the deliberations of the review group, but rather that
16 it did fairly include a broad range of opinion on the study,
17 that it had developed prior to the formation of the group.

18 And the diversity of the members of the review
19 group was sufficiently great that one would not really have
20 expected a new finding to come out, but rather a
21 consolidation and a consensus.

22 COMMISSIONER AHEARNE: What I'm still struggling
23 with, I'm not sure you're making that comment as a factual
24 statement. We also certainly know the composition of the
25 review group. We know the reasons they were chosen were to

1 provide a spectrum and to try to find at least somewhat
2 knowledgeable people. Or are you trying to say that that
3 is a point in favor or a point in criticism or it?

4 MR. BUNCH: Not a point in criticism; let's
5 see if I can capture this.

6 One of the problems that the staff has
7 had in developing a statement that we could all share and
8 warmly endorse has been that we could not reach
9 agreement on what the review group said. Different
10 people have had within the staff different views about
11 the reactor safety study.

12 Those views have ranged just about as broadly
13 as the views of what the Lewis Committee said. And to
14 some extent, people read into the report or appear to have
15 read into the report the views that they themselves have
16 held, and there have been shades of emphasis that have
17 resulted.

18 Well, what we tried to do in developing this
19 last version was to avoid some of the problems that have
20 been identified before, namely an abundance of bureaucratic
21 language and a lack of specificity.

22 We reviewed past Commission and staff statements.
23 We attempted to consider all of the documentation that we
24 had available as a result of the staff review of the use of
25 the reactor safety study in the licensing process.

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1 We tried to identify positions that should be
2 taken in the statement and basically what you see in
3 SECY 637 is an 8 page document that supports the
4 findings and recommendations of the review group.

5 That concludes that there has been some misuse
6 of the reactor safety study, but also concludes that the
7 reactor safety study can serve as a useful and helpful
8 tool for the staff. It recommends continued support of
9 the use of the reactor safety study, qualitative fault
10 tree and event tree methodology; in the methodology,
11 but consistent with the Lewis Committee, urges that care
12 continue to be given of any use in the licensing process
13 of the RSS.

14 And finally, it provides for a number of
15 specific measures to try to help assure against any
16 misuse of how the reactor safety study -- and to try to
17 point the direction towards improvements in the developmental
18 stage of the reactor safety study.

19 (Slide.)

20 What I would like to turn to now is a preliminary
21 introduction to the main body of this presentation, which
22 is: what are the points where we think your attention ought
23 to be focused in your review of our paper and your review of
24 the comments that you'll see on the paper that was
25 developed?

1 And I will go into certain of these in a little
2 more detail.

3 One has been: to what extent should the
4 statement deal directly with certain comments that have
5 been offered by the staff and by the Commission in the
6 past on the reactor safety study? Should we go through
7 rote and list names of here's a piece of correspondence
8 that said such-and-so, and here's our present view
9 regarding that kind of posture.

10 The proposed statement does not do that. We
11 thought it preferable not to dwell on the p. . . But it was
12 to try to indicate what we have learned from the past and
13 set a course for the future.

14 Another comment that was made was that we had
15 downplayed the findings of the review group report and
16 certain of the findings, particularly some of the more
17 negative findings, deserved considerably more expansion
18 in the text.

19 And I referred, for example, to such matters
20 as the review group's comments on the statistical treatment
21 in the reactor safety study where they had found some
22 very poor handling of statistical methods.

23 COMMISSIONER AHEARNE: That is a little starker
24 than poor.

25 MR. BUNCH: Yes, sir.

1 What we have done is attempted to again
2 indicate agreement with the review group findings and
3 describe only generally the corrective measures that would
4 need to be taken and point out that in the conclusion what
5 measures are developed, what guidelines are developed will
6 be available for public inspection.

7 The next one, a view, for example, cited in the
8 Union of Concerned Scientists' recommendation on the
9 policy statement, would be a view that the reactor
10 safety study is a discredited document.

11 I think generally a majority of the staff
12 at least does not agree with that view and finds that there
13 is considerable merit to the reactor safety study, although
14 we have continued to recognize that there are some
15 significant limitations to those analyses.

16 There is no prohibition. There is no directive
17 that would constrain the use of the numerical estimates
18 in the reactor safety study.

19 Rather, as has been the case for the last
20 several years, there is reliance on more general
21 prescription for care --

22 COMMISSIONER AHEARNE: I have not gone back in
23 the transcript, but I thought certainly from OPE's summary,
24 it seemed to bear out what I thought Lewis had said when
25 he was here, namely that the uncertain bands around the

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2 they could not be used either absolutely or relatively.

3 And I thought what you had just summarized
4 was a statement that you could --

5 MR. BUNCH: I would like to deal with that at
6 the end of the discussion when we talk about the use and
7 the reactor safety study methodology. It is a point
8 where there is some disagreement.

9 COMMISSIONER AHEARNE: Fine.

10 COMMISSIONER GILINSKY: Disagreement within
11 the report or disagreement about what the report said?

12 MR. BUNCH: About what the report intends, yes,
13 sir.

14 I think what is happening is that different
15 people are reading the language to have different meanings.

16 COMMISSIONER GILINSKY: I understood Hal Lewis
17 to be saying that you could not make any statements about
18 it.

19 MR. BUNCH: Some would extend that to say you
20 can make no use of any of the numerical estimates within
21 the reactor safety study unless they have been independently
22 preverified; not just statements about what is the chance of
23 a core melt, but anything. What is the probability of a
24 large loss accident to any specific number?

25 I think it is a matter of degree rather than

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1 kind.

2 COMMISSIONER GILINSKY: But you will get to that?

3 MR. BUNCH: Yes, sir, I will.

4 The UCS has recommended through a chain of
5 logic that if you discredit the reactor safety study and
6 you agree with the premise that the reactor safety
7 study is a linch pin for the Commission's determination
8 that reactors are safe, that you must necessarily go to
9 rule making.

10 We have tried in our proposed statement to
11 more clearly state what was the intended purpose of the
12 reactor safety study and to clarify its intended role in
13 the licensing process.

14 Again, there have been some suggestions in
15 terms of how much specificity ought to exist in this
16 particular statement in terms of the specific actions
17 that are included at the end of the paper, whether or not
18 there should be specific milestones as well as just the
19 statements of what actions would be taken.

20 (Slide.)

21 At this point I would like to turn to each of
22 the principal topics and deal with them shortly.

23 Now, you will see, unfortunately, these are
24 rather long charts, and I will just only capsulize them.
25 Our review of the correspondence, which has been provided to

1 you, I believe, in Mr. Pedersen's letter on the review
2 of Commission correspondence and staff correspondence,
3 indicates that the range of commentary on the executive
4 summary -- most notably there is one comment which is cited
5 here, which is a statement to the effect that the
6 executive summaries are a fair and accurate explanation
7 in laymen's terms of the full study.

8 The review group comment which is stated below
9 has a different tone. And the problem again is a matter
10 of intent and a fair reading of the language. What we
11 have done --

12 COMMISSIONER AHEARNE: It is not really a tone;
13 at least what Hal Lewis said was that the executive
14 summary is not a summary of the report.

15 MR. BUNCH: Yes, sir.

16 COMMISSIONER AHEARNE: I mean, that is not really
17 a matter of tone, is it?

18 That is a straight statement.

19 MR. BUNCH: It is a straight statement.

20 COMMISSIONER AHEARNE: He went on to say it
21 should not be attached to the report or described as part
22 of it.

23 MR. BUNCH: What I have tried to put here is
24 to contrast the review of at least some correspondence to
25 that review group finding.

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1 COMMISSIONER AHEARNE: I was just trying to --
2 at least I thought that I picked up an implication that
3 there was a difference of tone of what the review
4 group's position was with respect to the executive
5 summary.

6 MR. BUNCH: With respect to that specific
7 statement, I think there could not be a bigger contrast.
8 There are quite a number of other references to the
9 executive summary, not all of which take this form.

10 I am not in my own mind sure that the
11 body of that every says the summary reflects the full study,
12 but rather it says here is a summary which has a purpose.

13 The purpose is one of public conveyance of
14 information to the public, which may or may not contain the
15 details of the study.

16 I think what the position statement does is
17 basically consistent with the past one that was discussed
18 about a month ago; try to correct the view that the
19 executive summary does fairly present what is in the
20 main report and try to clearly indicate that the executive
21 summary has been misued.

22 And for example, there is a recommendation
23 that any report on followon RSS programs, where they have
24 an executive summary, should try to avoid the pitfalls
25 that have been pointed out in the review group.

COMMISSIONER AHEARNE: And what do you think

we ought to do about the current situation? What does

your policy statement say we ought to be doing with that?

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1 MR. BUNCH: It says basically that the current report
2 ou ht to be accompanied by the Review Group findings.

3 COMMISSIONER AHEARNE: What does it say we ought to
4 do about the current executive summary?

5 MR. BUNCH: It says nothing, sir.

6 The point being, there, is: It does exist, and it
7 is on the record, and positions taken would comment on it, but
8 not try to repeal it, revoke it, or otherwise revise it.

9 COMMISSIONER AHEARNE: What comment does your posi-
10 tion statement make on it?

11 MR. BUNCH: If I might turn to that, I can quote
12 specifically what it says. That is indicated as page 5 of the
13 statement. The bottom of page 5, to the top of page 6. In fact,
14 as I see the words, they are at the top of page 6.

15 You will see a statement --

16 COMMISSIONER AHEARNE: I see a statement, and it
17 seems to me to be critical of the Commission's staff's statement,
18 not the executive summary.

19 MR. BUNCH: Yes, sir; that is correct. The executive
20 summary was prepared by the Reactor Safety Study Group.

21 COMMISSIONER AHEARNE: So your proposed position
22 statement generally agrees with the Review Group?

23 MR. BUNCH: Yes, sir.

24 COMMISSIONER AHEARNE: The Review Group saying it
25 wasn't a summary, it doesn't indicate the consequences --

1 Lewis' statement that it shouldn't have been attached; and your
2 view of the general agreement is to criticize Commission and
3 Staff statements.

4 MR. BUNCH: Sir, what I think I'm trying to convey
5 here is the statement -- the executive summary was prepared by--
6 was not prepared by the AEC or NRC. It was not. It was
7 prepared by the Reactor Safety Study Group.

8 COMMISSIONER AHEARNE: And the people who wrote that
9 study were not employed by the AEC or the NRC? Are you sure of
10 that?

11 MR. BUNCH: Well, perhaps Mr. Levine would care to
12 respond, but there were some members on detail from this agency.

13 The point I think the position statement herein
14 advanced is: It represented whatever views those individuals
15 had. If there was any misuse on the part of the agency, it was
16 in how we took to regard that summary.

17 MR. GOSSICK: I think, if you would turn to page 7,
18 item one, it does say that this statement will be distributed to
19 all subjects of the executive summary. It doesn't say we're
20 going to revise it.

21 COMMISSIONER AHEARNE: And I can't find any statement
22 in this proposed policy that criticizes the executive summary.

23 MR. BUNCH: Well, that is the point of this discus-
24 sion, sir. In our own mind, what we had done was say that the
25 misuse that needed to be corrected was our characterization of

1 the study; and that it served whatever purpose it served. And
2 some have felt -- apparently as you do -- that we ought to go
3 farther and to actually physically comment on the document
4 itself.

5 And with that, I would like to move on to Topic
6 Number 2.

7 (Slide.)

8 Topic Number 2 basically describes one of the other
9 major areas of contention, not necessarily within the staff, but
10 certainly others have found this to be a very great problem.

11 There have been a number of comments made by the
12 staff in its review of environmental -- excuse me, in its review
13 of comments on environmental impact statements; in responding to
14 public inquiries, there have been other statements over the
15 signatures of certain Commissioners where we have talked to the
16 meaning of the Reactor Safety Study results in terms of the
17 acceptability of nuclear power plants, for instance.

18 Now the most common one is an abstraction from some
19 of the results of the Reactor Safety Study to the effect that
20 the risks associated with LWR accidents are low compared to the
21 risks associated with such things as meteorites, airplane
22 crashes, and other manmade hazards.

23 There have been a few statements -- one of which I
24 have included -- to the effect that the report confirms the
25 Commission's convictions that the plants satisfying our

1 regulations are safe.

2 The Review Group, as is noted in this slide, stated
3 that there have been instances in which the Reactor Safety
4 Study has been misused as a vehicle to judge -- or improperly,
5 I would imply -- improperly used as a vehicle to judge the
6 acceptability of reactor risks; and that this may have been
7 premature at the time the Reactor Safety Study was initiated.

8 As the position statement would indicate, the
9 ability to make some sort of conclusive statement about accident
10 risk was regarded as rather a hope, rather than something that
11 clearly was going to come out of this effort.

12 The proposed position statement agrees with the
13 Review Group, and it cautions against use of the Reactor
14 Safety Study to reach an unqualified statement about accident
15 risks.

16 (Slide.)

17 Other people have argued on this topic, that this
18 statement does not go far enough; that specifically, the
19 Commission should respond to the comment made in the letter of
20 October 29th, 1975; and that we should make some sort of an
21 equivocal statement about the acceptability of accident risks.

22 I believe, in Mr. Pederson's recent memo to you, he
23 has posed one related question. To wit: Has the Review Group
24 altered the Commission's view about the acceptability of the
25 safety of current lightwater reactors?

1 Now this position statement basically would have a
2 discussion of the Reactor Safety Study and its role in the
3 licensing process, but would not in fact deal with the safety
4 of current lightwater reactors. That would be some other sub-
5 ject, if that subject need be faced.

6 What we have tried to do is separate the role between
7 the licensing process and the Reactor Safety Study, and
8 characterized the Reactor Safety Study as an activity of an
9 overall longer term development of probabilistic methods.

10 As I said, there are some corrective measures which
11 are proposed that would avoid further such problems, but there
12 are some who would like to see a little stronger statement made
13 that we thought appropriate.

14 If I might turn to the third viewgraph --

15 (Slide.)

16 -- on the matter of peer review, there have been
17 quite a number of comments over the last four or five years
18 about the inadequate peer review, or at least the inadequate
19 treatment of peer review comments on the Reactor Safety Study
20 in going from the draft to the final statement.

21 The Review Group consensus supported those concerns
22 and made a number of statements about the inadequate treatment
23 of legitimate concerns and technical problems in the final
24 document.

25 The proposed statement again endorses the Review Group

1 findings. It delineates some specific actions to improve the
2 peer review group process, one of which I would note would be
3 the call for a second round of review when there has been con-
4 siderable controversy on the major documents such as the
5 Reactor Safety Study.

6 There has been no attempt to retract the Anders to
7 Nader memo, which does describe the extent to which the peer
8 comments were considered -- although many would read the Review
9 Group as suggesting that that was necessary. And it does not
10 explicitly deal with the treatment, or adequacy of treatment,
11 of staff-peer comments.

12 As I indicated at the outset, there have been and
13 continue to be a diversity of comments within the staff, and
14 views within the staff, about how good the Reactor Safety Study
15 is. I think the staff generally believes it has equal technical
16 capabilities to the community outside, and it should be accorded
17 the same peer status.

18 And there are many who have quite a bit of problem
19 with the Reactor Safety Study analyses. There are many who
20 find that the benefits to be gained from this study substantially
21 outweigh the deficiencies of the study.

22 So we have this diversity of views.

23 Mr. Pederson did point out the Eisenhower report, as
24 he called it, which was a very brief report that followed the
25 finalization of the final draft report. And I think Mr. Denton

1 would like to add a comment on that.

2 MR. DENTON: Maybe it would be well to describe what
3 the role of the staff members were in the preparation, and by
4 staff members -- I mean the Licensing Staff members were, in
5 the preparation and comment on the Reactor Safety Study.

6 I have been able to identify four phases of comments.

7 The first phase was that some individuals from the
8 staff did look at draft versions of the draft statement and
9 commented as individuals -- not of the Reactor Safety Study --
10 individual members with expertise in various areas were asked
11 to look at draft versions of the original draft of WASH-1400.
12 So that is not what I would call a "staff effort." It wasn't
13 run through the staff in a coordinated fashion, but individuals
14 were selected.

15 COMMISSIONER AHEARNE: There, you're talking about
16 the 1974 version?

17 MR. DENSON: I'm talking about the draft. So they
18 commented on a draft of the draft.

19 And then after the draft was issued, the staff did
20 do what I would characterize as a "staff review" of the draft.
21 This resulted in approximately five statements or comments on
22 the draft statement.

23 COMMISSIONER AHEARNE: Is that a coordinated set of
24 comments?

25 MR. DENTON: That is what I would call -- as I remember

1 it, it did go through each of the individual licensing disci-
2 plines in the staff, and was coordinated. And I think it would
3 be fair to characterize that as a staff review of the draft.

4 MR. BUNCH: I have a copy of that here, if you would
5 like to see it.

6 MR. DENTON: The next phase --

7 COMMISSIONER BRADFORD: When was that?

8 MR. DENTON: That was while the draft was out for
9 comment.

10 COMMISSIONER AHEARNE: That would have been, I guess,
11 sometime in '74?

12 MR. BUNCH: In the fall of '74.

13 MR. DENTON: They were voluminous comments, and the
14 Licensing organization did participate fully across-the-board.

15 And then the next interface was right at the final
16 stages of the preparation of the final report, while various
17 sections were being pulled off the press.

18 The Commission did pull together several individuals
19 from the staff, and several outsiders, to comment on this
20 section. And this is what is referred to as the "Eisenhut
21 Report."

22 Now I have present in the audience Darrel Eisenhut.
23 Why don't I let him explain the actions that took place during
24 that time.

25 MR. EISENHUT: In October, or a little before October,

1 in '75, as Mr. Denton just mentioned, several members of the
2 staff got together and we were forming what was called a little
3 bit of a "task group." And we had been asked, after discussion
4 with the Commission at that time, to take a quick look at the
5 final report while it was already being essentially in the galley
6 proof stage, ready to go to press.

7 That is, we all didn't want to be caught with, all of
8 a sudden, the report going on the street without knowing
9 basically what's in it. It was an independent look at the
10 report, in the sense that there was no feedback from what we
11 were doing back into the report as it was being developed by
12 Saul Levine's people.

13 The report that we put together, our study group,
14 or task force, or whatever you want to call it, basically looked
15 at four different areas.

16 It was commenting on the overall responsiveness of
17 the final draft to the comments that were received.

18 It was to look and see whether we could not say
19 something about the methodology;

20 To look and see whether we couldn't make some comments
21 about the consequence model;

22 And to look at the overall report for the general
23 substance of the report and the tone it had.

24 And actually, there was a fifth area: which was the
25 development of a position statement for use of WASH-1400's final

1 report in the licensing process.

2 Since we were doing this exercise actually before
3 the final WASH-1400 report was complete, we did not have the
4 benefit of all of the actual completed pieces of the final
5 report that went out as WASH-1400.

6 We did not have the summary, for example. We did
7 not have any of the details on the consequence model. Therefore,
8 by definition, we couldn't really "comment" on the consequence
9 model too much.

10 Secondly, we also defined our report as being a two-
11 week review effort. The five people, or the several people
12 that were mentioned, performed basically a two-week review on
13 those pieces of the document.

14 We put together sort of a draft of our report, and
15 we came down and discussed it with the Commission, I believe,
16 in late October of '75.

17 MR. DENTON: That is what I referred to as "Phase
18 III."

19 MR. EISENHUT: Yes. That was sort of the Phase III
20 in the comment process.

21 COMMISSIONER AHEARNE: That then led to the October
22 28th report?

23 MR. EISENHUT: Yes, sir. That report had contained
24 in it a draft statement of policy as one of the sections in the
25 report.

1 After discussion and a meeting with the Commission,
2 we went back and finalized the report, and issued the report
3 which is later dated --

4 COMMISSIONER AHEARNE: November 15th?

5 MR. EISENHUT: November 15th.

6 You will notice also it does not contain a general
7 statement of policy. That had been removed. It was basically
8 removed because we just had not gotten to that point in the
9 process where people, as I recall, felt we could comment on an
10 overall policy statement based upon a two-week, limited review
11 of a draft of the final report, where we did not even see
12 various sections of the report.

13 We put together that report and issued it November
14 15th, and I understand that report has been made public.

15 That is basically a very short summary of what we
16 did at that time.

17 COMMISSIONER AHEARNE: Darrel, since it was a two-
18 week effort, and the Draft October 28th talks about this as a
19 result of the two-week effort, would it be fair to conclude
20 that there were very minimal changes between the October 28th
21 and November 15th --

22 MR. EISENHUT: As I recall, essentially none. I have
23 not gone back and made a point-by-point comparison. The only
24 major change would be the deletion of the section on the policy
25 statement.

1 COMMISSIONER AHEARNE: And Martin Walsh's name?

2 MR. EISENHUT: And Martin Walsh's name, who was a
3 contributor on the policy statement. That was the area he was
4 working on, therefore the final report -- Marty's name has been
5 eliminated.

6 CHAIRMAN HENDRIE: The section got ditched.

7 MR. EISENHUT: In other words, we sort of scratched
8 it.

9 MR. LEVINE: Mr. Chairman, just to clarify the
10 record, I think Harold Denton misspoke slightly. The original
11 review that involved staff members was on a preliminary draft
12 of the entire WASH-1400. I don't recall whether it had an
13 executive summary, but there was an entire report, and it was
14 reviewed by about a dozen people -- mostly NRC staffers, and I
15 can recall one outside, Harold Etherington, and maybe one or
16 two others. But I don't recall who was involved in it.

17 This was prior to the publication of the draft
18 report.

19 COMMISSIONER GILINSKY: So this was in '74?

20 MR. LEVINE: The summer of '74.

21 MR. DENTON: My comment was that we had seen sec-
22 tions of it referred to my participation in reviewing the final
23 one. And there, as I recall, we did not have the entire report
24 before us at that time.

25 COMMISSIONER GILINSKY: The consequence model was

1 waived?

2 MR. DENTON: We did not have the executive summary.
3 We had very few of the comments themselves, because they had not
4 been published in the report.

5 CHAIRMAN HENDRIE: Dell?

6 MR. BUNCH: Okay. I think the point there was:
7 There was a concern expressed about the extent to which this
8 review might have colored the Commission Staff's statements on
9 the Reactor Safety Study, and how valid they were, and what
10 kind of spectrum of comments, and what kind of endorsement it
11 had now received by the staff.

12 I think, if you will read the November 15th thing,
13 you will find in it considerable cautionary remarks. Since the
14 Reactor Safety Study has been issued, the staff has continued
15 to interact -- the Licensing Staff has continued to interact
16 with Research on the RSS follow-on programs.

17 We have provided comments to the Lewis Committee.
18 We have provided comments to Research regarding various parts
19 of the Reactor Safety Study models and analyses, in our mutual
20 attempts to improve that effort.

21 And we have, again, a spectrum of views. Many have
22 been quite -- and continue to be quite -- critical about some
23 of the models in the Reactor Safety Study.

24 COMMISSIONER AHEARNE: For some of the people who
25 may not have had an opportunity to review that Eisenhower Report,

1 which you have just characterized as being "properly ³²cautionary,"
2 let me just read the findings or methodology.

3 "We have concluded that the overall methodology is
4 appropriate and was correctly applied. The data base used,
5 although sometimes sparse, was used in an effective manner in
6 order to properly determine risk assessments.

7 "Although the Safety Study attempted to calculate a
8 realistic estimate of the probability of core melt, it neces-
9 sarily made conservative assumptions that may have resulted in
10 somewhat high predictions of this probability.

11 "We are convinced, however, that the Study's objec-
12 tive -- that is, making a realistic assessment of risk -- has
13 been fulfilled as reasonably as possible within the framework
14 of the Study." Close quote.

15 MR. BUNCH: Yes, sir.

16 I think what I was referring to --

17 COMMISSIONER AHEARNE: Let me just talk about the
18 responsiveness of comments.

19 COMMISSIONER BRADFORD: You were reading from the?

20 COMMISSIONER AHEARNE: Findings.

21 COMMISSIONER BRADFORD: Yes, but that is the October
22 Findings?

23 COMMISSIONER AHEARNE: Yes. These were the ones
24 that --

25 COMMISSIONER BRADFORD: But by November --

1 COMMISSIONER AHEARNE: We've been told there was
2 very little change.

3 COMMISSIONER BRADFORD: By November, that "as
4 reasonably as possible" had been deleted.

5 COMMISSIONER AHEARNE: It was a little difficult for
6 me to view this as really very cautionary. I thought it tracked
7 very well with the policy statement that the Commission put out
8 after receiving this.

9 MR. BUNCH: It may well have, sir.

10 What I was trying to indicate is that, first, I'm
11 not sure that if the entirety of the staff, in any event,
12 would have supported all of the findings here.

13 Second, there were several comments in here to the
14 effect that it would be a very short, brief study. Only a few
15 months before, there had been this document, specific comments,
16 and I'm : re it was not simply possible to review the accom-
17 modation of each of those.

18 There was a statement I would also like to read
19 with regard to the responsiveness of comments, which wasn't
20 included with Mr. Pederson's comments, to the effect that --
21 in terms of how well the RSS accommodated comments: "Some
22 negative reaction is to be expected, and in part will be war-
23 ranted" -- I emphasize -- "because of weaknesses and deficiencies
24 in the responses provided by the Study."

25 Again, there is a diversity of comments in this
thing here.

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1 COMMISSIONER AHEARNE: Since you talk about
2 responsive comments, I will read entirely the findings that
3 "the safety study had a monumental task in examining about 800
4 pages of comments received on the draft report.

5 "In general, it appears that this study has been
6 responsive in addressing the principal technical concerns
7 expressed and received comments.

8 "We further believe that the approach used by the
9 study in responding to the comments was appropriate for
10 dealing with such voluminous comments. We believe there may
11 be criticisms, however, concerning the manner in which the
12 comments were utilized by the study. Only the essence of
13 significant comments is clearly identified and answered in
14 Appendix 11 of the study.

15 "As such, many contributors may conclude that their
16 comments were not adequately addressed."

17 MR. BUNCH: Yes, sir. And as the review group
18 report indicated, to some extent, those concerns that were
19 subsequently expressed were legitimate and legitimately
20 based. And we have attempted in our proposed statement to
21 indicate that clearly and try to avoid that happening in the
22 future.

23 I would like to turn now to Topic No. 4 on a
24 related matter.

25 (Slide.)

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1 I understand that there was some impetus toward
2 publication of the reactor safety study in late 1975, in
3 part, due to the imminence of action by the Congress on
4 Price-Anderson extension.

5 There have been -- we thought it appropriate to
6 indicate something that wasn't treated in any of the position
7 statements you have seen to date, but which has been a
8 subject of considerable interest. And I would just note in
9 the NRC statements that there have been a lot of correspondence
10 about the relationship of the study to Price-Anderson, and
11 it is not all the same.

12 If you look at the record, some say that there is
13 a relationship; some say there is not. The review group does
14 not mention it. It does comment on the consequence model,
15 as I indicated here, the proposed position statement.

16 COMMISSIONER GILINSKY: When you say there is a
17 relationship, what do you mean?

18 MR. BUNCH: Well, if you will turn to 637, we have
19 included a very short, terse chronology of the last 3 or so
20 years of the development of the reactor safety study. And
21 my understanding of the history of this thing stems from
22 the aborted attempt to update WASH-740, a subsequent
23 agreement between Senator Gravel and the AEC to undertake a
24 new study that would provide more realistic consequence
25 estimates than WASH-740 had, and which subsequently grew into

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1 the reactor safety study.

2 That is a connection since WASH-740 clearly was
3 used to help support the Price-Anderson legislation in the
4 '50s. And in view of the connection between the extension
5 activities on Price-Anderson, I think, personally, it was a
6 legitimate inquiry to whether or not the reactor safety study
7 results indicated a change in our thinking about the
8 implication of a large accident, and what relationship it
9 might have to the levels of indemnity that would be provided
10 by Price-Anderson.

11 MR. KELLEY: But at a minimum, the decision was
12 transmitted to the joint committee.

13 COMMISSIONER GILINSKY: As I remember, they needed
14 to have a rule. The last day for a rule was something like
15 November 3rd, or something, and this was sent on October
16 30th, or something like that.

17 CHAIRMAN HENDRIE: I think I remember some testimony.

18 MR. KELLEY: Rasmussen himself testified.

19 COMMISSIONER GILINSKY: There's no question that
20 there was some kind of legislative deadline at the time and
21 the schedule for the report was tied to that.

22 COMMISSIONER AHEARNE: I guess that could be viewed
23 as one of the definite opinions.

24 MR. BUNCH: I think the point I would be interested
25 in making here is that it is not clear to what extent that

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1 pressure for timeliness affected our ability to respond to
2 all the comments and take corrective action on the comments.

3 COMMISSIONER GILINSKY: Well, that is a separate
4 question. But I think even Bingham refers to it as a factor.

5 MR. BUNCH: Yes, sir. That is correct.

6 COMMISSIONER AHEARNE: And of course, the early
7 letter that you quote in '72 to Pastore makes it clear that
8 that is the reason for doing the study.

9 MR. BUNCH: That's correct. But I thought it was
10 worthwhile to try to bring this point out.

11 CHAIRMAN HENDRIE: I have been puzzled at times
12 myself about whether it was incidental to or caused by. And
13 I must say I'm not sure when I get all through, aside from
14 noting the several items of correspondence from various
15 chairmen, which don't give an identical view over time.

16 That is interesting, and I guess I would finally say,
17 so what?

18 MR. BUNCH: It did not seem to me to be a big issue.

19 CHAIRMAN HENDRIE: It is simply a point one notes.

20 MR. DENTON: This is probably a good place to
21 mention -- I would jump ahead just a bit -- in reviewing the
22 use of 1400, we did find that, and members of the staff
23 testified regarding the constitutionality of the
24 Price-Henderson Act in 1976, and the lower court overruled the
25 staff and the Supreme Court upheld the staff position.

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1 In checking on the role of 1400 on that, I have been
2 informed that the Supreme Court decision did not depend only
3 on the verbal estimates of 1400. This use is discussed on
4 page 331 in the enclosed attachment.

5 MR. KELLEY: You will recall that we sent a short
6 statement and concluded that it was not fair to say that the
7 government relied on Price-Anderson in its support of
8 WASH-1400.

9 CHAIRMAN HENDRIE: Why don't we dash ahead to Topic
10 No. 5?

11 (Slide.)

12 MR. BUNCH: Topic No. 5 has to do with perhaps the
13 greatest area of difficulty in our achieving a resolution.
14 What I have done in the NRC statements column is basically
15 track through a few pieces of correspondence indicating the
16 last information, at least that I'm aware of, regarding
17 commentary from the commission in the use of the reactor
18 safety study in terms of guidance to the staff. I have
19 quoted it therein, the body of it at any rate.

20 The review group comment basically endorsed the
21 use of quantitative fault tree of entry methodology and
22 as you know, they had quite a number of very critical
23 comments in certain parts of the application of the study.
24 And they refer to avoiding uncritical use of the reactor
25 safety study in the licensing process.

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1 The proposed statement basically describes the commission
2 policy as one of cautious endorsement of the Reactor Safety
3 Study and a sort of deliberative extension of its use as
4 our ability to handle the technology, develops, and as we
5 learn more about it and improve the methodology, that is the
6 no undue reliance aspect of it.

7 It also refers to the review of the staff evaluation of
8 past licensing applications of the Reactor Safety Study and
9 notes that the staff concluded that there has been no undue
10 reliance in the Reactor Safety Study. There is not a long,
11 lengthy dissertation on just the various kinds of use of
12 the Reactor Safety Study, other than to note its role,
13 principally, as one that is supplementary rather than being
14 a linch pin, or a major element in licensing decisions.

15 So it is supplementary use.

16 COMMISSIONER AHEARNE: Can you comment on how you
17 feel the stand the policy statement takes? Can you comment
18 on that and the differing views as raised by some members
19 of MPA?

20 MR. BUNCH: I will try to characterize the kind of
21 discussions that have taken place over time. Let me see if
22 I can go to a back-up viewgraph here.

23 If I could have back-up viewgraph 14, please.

24 (Slide.)

25 One of the things that has happened is, as I mentioned a

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1 little while ago, the staff, some of the staff have said
2 the statistical problems identified by the review group and
3 others are so profound that it calls into question the
4 validity of the final results.

5 If you use poor data, if you use a poor analytical method
6 in developing a risk estimate, what kind of confidence can
7 you have in the final product? And that is a very legitimate
8 concern. I don't think there's any doubt about it.

9 And the review group seems to support that general premise.

10 Our review of the application of the Reactor Safety Study
11 in the licensing process, our review of the various staff
12 arguments, what I refer to as speeches, staff submittals to
13 the commission in terms of what we intended to do, have
14 continually exhorted the need for caution and care in
15 deliberations.

16 It is my own view that we just simply have not seen much
17 on cost issues of the Reactor Safety Study, and that where
18 the study has been invoked, there has been more than a
19 casual awareness of the limitations of any of the numerical
20 estimates.

21 Now we can't say that there haven't been some isolated
22 examples where somebody has improperly used them. But viewing
23 the record as a whole, we don't see any indication at all
24 that people haven't been aware of the limitations that have
25 been talked about.

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1 Now with regard to the final issue -- that is, can you
2 use any of the estimates at all -- the statement basically
3 argues that you can. It is the best estimate in town if
4 you would, as I have heard it expressed, it does represent
5 their best estimate. It is clear that the uncertainty
6 bounds --

7 COMMISSIONER GILINSKY: Whose statement?

8 MR. BUNCH: The Reactor Safety Study estimates
9 were the best estimates they were able to do at the time.
10 It is clear that the range of uncertainty that is identified
11 in the Reactor Safety Study has been understated. The
12 review group has said that, and I think the staff agrees
13 with that, clearly agrees with that.

14 Where there seems to be a divergence of view is that in
15 the face of the statistical faults can you regard the
16 reactor safety study as basically a useful tool in the face
17 of its deficiencies, or do you simply have to say it can't
18 be used at all?

19 And I guess I would characterize MPA's commentary to say
20 you ought not to use it until you have revalidated all of
21 the principal ingredients of the reactor safety study. And
22 our view, as I would characterize it, is exercising due
23 caution, it is not only able to be used, but it should be
24 used because of the additional perspective it provides.

25 I had indicated on this viewgraph, one thing I would point

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1 to you in the findings, and I will read it to you, one of
2 the findings of the risk assessment review group is as
3 follows: "The achievements of WASH-1400 in identifying the
4 relative importance of various accident classes has been
5 inadequately reflected in NRC's policies.

6 "For example, WASH-1400 concluded that transients, small
7 LOCA, and human errors are important contributors to overall
8 risk. Yet, their study is not adequately reflected in the
9 priorities of either the research or regulatory groups."

10 Now you can't make that conclusion if you don't believe
11 that the numerical estimates of a small LOCA probability, a
12 small transient probability and human errors have some small
13 validity. If you don't believe any of the numbers, you can't
14 make the kind of distinctions that the group made.

15 COMMISSIONER GILINSKY: I understood Hal Lewis to
16 be saying that you could say something about the relative
17 importance of the effects, and also that parts of it were
18 supported by data and were, in effect, useful and could be
19 used. But that taken as a whole, you could not attach
20 significance to the summary numbers or the final numbers.

21 MR. BUNCH: Too much precision, yes, sir.

22 COMMISSIONER GILINSKY: I thought he was saying that
23 you could not say anything about those numbers.

24 MR. BUNCH: Well, as I said, I'm not sure that
25 everybody that has read this report comes away with the same

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1 perception. What we have tried to convey in the statement
2 is our best judgment of what the posture ought to be. If your
3 view is, as you have just described it, that if a fair
4 reading of the Lewis committee says, don't place any
5 reliance on the numbers, personally, I would not agree with
6 that.

7 I think they are clearly imprecise, but some use could be
8 made of them. And as I say, we've had some difficulty
9 understanding just exactly what the review group as a body has
10 tried to say.

11 MR. PEDERSON: On this point, you have to go to kind
12 of a little bit of the legislative history. And in the
13 transcript of the meeting briefing which you have from Dr.
14 Lewis, Commissioner Gilinsky asked him precisely this
15 question. Well, I can read it to you.

16 Gilinsky said: "Are you saying, in effect, that one can't
17 really make use of the integrated results that the only thing
18 you can really use are the relative probabilities?"

19 And Lewis says: "I have to be careful about this because
20 I have lost the view which I once held. As you may remember,
21 there is a sentence in the APS study to which I subscribed
22 at the time. So we did not have confidence in the absolute
23 probabilities in WASH-1400, but we believed it had merit in
24 assessing the relative probabilities of different accident
25 change. I am personally moving away from that position

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1 because if one finds different accident chains and one feels
2 that -- let me just invent a term -- that the error band is
3 a factor of 100 on one of them, I don't see how one can
4 assess its relative importance compared to the other.

5 "But on the specific issue of whether I can learn anything
6 from WASH-1400 that will enable me to say whether a reactor
7 is safe or not, I can't. I don't learn it from WASH-1400,
8 speaking for myself."

9 Now Lewis was very careful to say he was only speaking
10 for himself, but this is as close as we could find to the
11 legislative history, so to speak, in terms of what the
12 review group was getting at.

13 Dr. Kouts did come in and indicate, he was not sure he
14 would agree with that view in toto. No one else at the
15 table indicated a contrary view.

16 MR. BUNCH: And that is exactly the point that I
17 was trying to describe, because when we read the fifth
18 finding, as I have indicated, we read the view that Dr. Lewis
19 seems to be going away from, not the view that he expressed
20 in the meeting.

21 And the question is what view should the commission
22 adopt?

23 COMMISSIONER AHEARNE: Wait a minute. I did not
24 understand that. Say that again.

25 MR. DENTON: We have difficulty reconciling that

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1 part of the transcript which says that if you think the
2 error is so large that you can't really make meaningful
3 relative judgments with the statement in the report that
4 implies that there are, or there is an ability to distinguish
5 between high and low contributors to risk and we refocused
6 our program on such things as human factors.

7 CHAIRMAN HENDRIE: I think if we form a group like
8 this and put it to work to review a difficult subject, and
9 we form the group with some deliberation, it seems to me
10 the commission did so form it to represent various points of
11 view. And the commission proposes, then, to take very
12 seriously the collegial output of the group.

13 You stick to what the collegial view is. And Hal comes
14 in and presents a particular point of view one day, that
15 is his personal opinion. I find it very difficult to say,
16 well, that rides down the work of a year of the group.
17 Carefully enunciated here in this document is in fact the
18 collegial view.

19 Each word, I suspect, was hard fought over. And the
20 extemporaneous remarks of one of the members of the group,
21 I am afraid, simply can't stand against this.

22 COMMISSIONER BRADFORD: The whole rest of the group
23 was sitting right here at the table with him, and with the
24 exception of Herb Kouts, they did not say anything.

25 CHAIRMAN HENDRIE: Have you read the transcript of

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1 Hal at the ACRS meeting? I recommend it to you. It doesn't
2 have the same tone at all. It is a good deal more positive
3 discussion of the results.

4 COMMISSIONER BRADFORD: Does it back away from
5 that view?

6 CHAIRMAN HENDRIE: I would say, on balance, yes.
7 I recommend it to you.

8 What I simply point out is that I simply am not going to
9 give weight to individual comments of members of the group
10 against the collegial views carefully fought out and
11 agreed to and written down in this report.

12 Now to the extent that one has difficulty in parsing, as
13 there are, indeed, difficulties precisely what the collegial
14 view means, okay. That is fair game for argument, and
15 indeed, the commission ultimately will have to make up its
16 own mind over a set of words which, again, will represent
17 certain compromises.

18 I think I suspect that if we deal here at the table, for
19 instance, with a piece of testimony and we agree on what the
20 collegial language of the commission is, and then I go off
21 somewhere and make remarks of my own which represent exactly
22 what I think ought to be done, you would all take considerable
23 umbrage at having somebody quoting to you the chairman's
24 remarks and never mind that collegial statement.

25 And I recommend the same view here.

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1 COMMISSIONER AHEARNE: I'm sure you are winning or
2 losing your position, Joe.

3 COMMISSIONER BRADFORD: If you did that before the
4 Congress and we were all sitting there, we would speak.

5 COMMISSIONER GILINSKY: Well, what does the report
6 say about absolute numbers. I mean, how close does it come
7 to dealing with absolutes?

8 COMMISSIONER AHEARNE: It really doesn't. I mean
9 the quote Del gave is really from the findings on the
10 relative importance.

11 COMMISSIONER GILINSKY: Why shouldn't we direct
12 this question to the group, then?

13 CHAIRMAN HENDRIE: I'm not sure you can get it
14 reconvened. I'm not sure you can get it reconvened.

15 COMMISSIONER AHEARNE: You could get a poll of the
16 individual members. I don't think you could get the group
17 to come together for any length of time, since it is such a
18 significant issue. And it is, really. I think, and Del
19 is quite correct. I've gone through this thing many times
20 and I can't find that. It might be useful to pose a question
21 to the members.

22 COMMISSIONER GILINSKY: I believe that the report
23 says that the error balance is understated by an amount which
24 they can't estimate.

25 MR. BUNCH: That is correct.

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1 COMMISSIONER GILINSKY: Which leaves the question
2 pretty much open.

3 MR. LEVINE: Mr. Chairman, I'm sorry to interrupt.
4 There was a question asked about what the Lewis report says
5 about absolute versus relative probabilities. And while the
6 statement doesn't address it quite that directly, I think one
7 can draw considerable insight to the meaning.

8 COMMISSIONER AHEARNE: Saul, can you use the mike?

9 MR. LEVINE: One can draw considerable insight into
10 the collegial meaning of the group from one of the
11 recommendations. It says, in general, avoid the use of
12 probabilistic risk analysis methodology for the determination
13 of absolute risk probabilities for a subsystem, unless an
14 adequate data base exists and it is possible to quantify
15 the uncertainties.

16 It goes on to say, however, the methodology can also be
17 used where cases in which the data base would only support
18 a bounding analysis and for other cases in the absence of
19 any better information if the results are properly
20 qualified.

21 I think that is a direct answer, almost a direct answer
22 to the question.

23 COMMISSIONER AHEARNE: I don't think so, Saul. I
24 think it leaves the interpretation I would place on that --
25 is that it is addressing the methodology and it doesn't speak

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1 at all to the quantitative value.

2 MR. LEVINE: It is addressing the application of
3 the methodology but not for overall risk assessments.

4 COMMISSIONER AHEARNE: That's right. But it is
5 saying the methodology, application of the methodology. I
6 see that as a future looking. When you apply this method,
7 not the data or the numbers, out of WASH-1400, but rather,
8 the method.

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MR. LEVINE: It is referring to the use of

quantitative numbers.

COMMISSIONER AHEARN: I don't see where it says

"numbers."

MR. LEVINE: It says you can use them for absolute

risk probability predictions if you have an adequate data

base.

COMMISSIONER AHEARN: It says you can use the

methodology, and I think the disagreements between you and I
are exactly Del's point, that you can take the things and

read it differently.

CHAIRMAN HENDRICK: By the way, as a footnote to the

discussion of relative probabilities, I would like to note

that there is some difference, whether you like the whole

scheme or don't like the whole scheme, between taking an

absolute risk estimate from this accident sequence done in a

certain way and form the ratio of that to another risk number

from another sequence done in a somewhat different way to form

a comparison.

There's quite a difference between that and saying,

"Well, now, we will use the same data base and the same

methodology, and we will compare the risks from lining up the

equipment this way or that way."

Let me point out that in the latter case this sort

of error propagation that you get is much different, and the

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pv 1 first order, probably there are uncertainties in the data
2 base, and sort of the first order disappears.

3 COMMISSIONER AHEARNE: It is certainly much less of
4 a problem.

5 CHAIRMAN HENDRIE: But that is really sort of a
6 footnote.

7 The hour wends toward 11:00. It seems to me that
8 topic 5 has been exercised some. It seems to me that enough
9 of these documents have arrived recently enough so that the
10 discussion, while useful in exercising various points of view,
11 is not going to come to completion this morning. In fact, I
12 have a Commissioner who says he prefers to read the documents
13 than come and discuss them -- which is fair enough.

14 So, I propose to adjourn this discussion at this
15 point, and the secretary will reschedule and get it back on
16 the docket.

17 COMMISSIONER AHEARNE: Could I ask a question?

18 CHAIRMAN HENDRIE: Sure.

19 COMMISSIONER AHEARNE: We have a memo from one of
20 the members of the staff, calling to mind a letter to
21 Senator Glenn in December of '76 as being one of the
22 statements or items that might fall into the question. I
23 found that it was not listed in our list from our
24 congressional office and did not have time to go through your
25 backup material. Is it in that?

pv 1 MR. DENTON: I think I referred to that letter in a
2 transmittal memo, but I am not sure that we have listed memos
3 to the Commission.

4 COMMISSIONER AHEARNE: This is a letter to
5 Senator Glenn.

6 MR. DENTON: In our list of uses of 1400 in this,
7 we did not include any of the Commission's correspondence; is
8 that correct, Dell?

9 MR. BUNCH: That is correct.

10 COMMISSIONER AHEARNE: No. Wait. The list of
11 things that you have in here includes things to Congress.

12 MR. BUNCH: IF I might, let me clarify what is in
13 that list. What we have done is cite the correspondence that
14 appears in the package by Mr. Kammerer, and we have cited the
15 correspondence that appears in the package by Mr. Pederson.
16 What we have not done is included those specific letters in
17 our rack-up. If the staff identified certain letters, like
18 the Glenn letter, on their own, we have included those.

19 COMMISSIONER AHEARNE: So, are you saying the Glenn
20 letter is included? That was really my question.

21 MR. BUNCH: I believe it is. I have got a copy of
22 it here. And I think it should be in the list. But we will
23 have to check and make sure. What was the date again?

24 COMMISSIONER AHEARNE: December 9, 1976.

25 MR. DENTON: Just to be clear, this table that

pv 1 categorizes the actions --

2 COMMISSIONER AHEARNE: I was not looking at the
3 chronology; I was really looking at the long list of category
4 1, category 2, category 3 issues.

5 MR. DENTON: In that table we only included those
6 that we received from, I would say, the EDO-type offices, and
7 the other two offices -- Ken and Carl's -- we just identified
8 as a package.

9 COMMISSIONER AHEARNE: Well, this particular letter
10 apparently was a letter from the EDO office.

11 MR. DENTON: Let me check.

12 COMMISSIONER AHEARNE: Could I get a copy of that?

13 MR. BUNCH: Yes, sir.

14 COMMISSIONER AHEARNE: That was more factual.

15 MR. DENTON: Let me also mention that we have given
16 the PDR a copy of the voluminous information that is referred
17 to here, so that should be available downstairs.

18 COMMISSIONER BRADFORD: In the category of sort of
19 an experiment showing how long it takes messages to get from
20 our head to our shoulders, let me just read something from the
21 Office of Administration Report for the week ending December
22 1. This is an FOIA request, response to a request for the
23 Atomic Energy Commission reports on the safety of nuclear
24 generators, to make available to the requester a copy of the
25 executive summary of WASH-1400 and inform them of other

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pv 1 documents in the PDR.

2 MR. GOSSICK: I just heard about it this morning,
3 Commissioner.

4 COMMISSIONER BRADFORD: And you are quite right.
5 I am not sure what happened.

6 MR. REHM: Just -- this is subject to other
7 interpretations. I would like to check it out.

8 COMMISSIONER BRADFORD: For example, it is possible
9 that it can be interpreted as being a request for AEC
10 documents.

11 MR. REHM: No, sir. It's possible the other
12 documents were documents other than the Lewis report.

13 COMMISSIONER BRADFORD: Well, the problem is that
14 all the Commissioner got was a copy of the executive summary
15 of WASH-1400.

16 MR. REHM: That, I would like to verify,
17 Commissioner.

18 MR. GOSSICK: We will check it out. It clearly
19 should have been so stated.

20 COMMISSIONER AHEARNE: I would point out, Tom, if
21 he got more, all we are reacting to is the paper that came up
22 to us.

23 MR. GOSSICK: It should have stated that.

24 CHAIRMAN HENDRIE: Well, you know, if a person
25 submits an FOIA request for the executive summary, and we

pv 1 aren't quick to deny it to him.

2 (Whereupon, at 11:00 a.m., the meeting was
3 recessed, to be reconvened at 11:01 a.m., this same day.)

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