

NUCLEAR REGULATORY COMMISSION

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IN THE MATTER OF:

PUBLIC MEETING

DISCUSSION OF SECY-73-616 - REPORTING THE PROGRESS  
OF RESOLUTION OF "UNRESOLVED SAFETY ISSUES" IN THE  
NRC ANNUAL REPORT

Place - Washington, D. C.

Date - Tuesday, 12 December 1978

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Telephone:  
(202) 347-3700

7812270476

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*Official Reporters*

444 North Capitol Street  
Washington, D.C. 20001

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UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

PUBLIC MEETING

DISCUSSION OF SECY-78-616 - REPORTING THE PROGRESS  
OF RESOLUTION OF "UNRESOLVED SAFETY ISSUES" IN THE  
NRC ANNUAL REPORT

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

Tuesday, 12 December 1978

The Commission met, pursuant to notice, at 2:10 p.m.

BEFORE:

DR. JOSEPH M. HENDRIE, Chairman

VICTOR GILINSKY, Commissioner

RICHARD T. KENNEDY, Commissioner

PETER A. BRADFORD, Commissioner

JOHN F. AHEARNE, Commissioner

PRESENT:

Messrs. Aycock, Arnot, Baranewsky, Bunch, Bivens, Case,  
Denton, Hebdon, Gossick, Grimes, Hou, Kenneke, Kelley, Kovacs,  
Kreger, Murphy, Neighbors, O'Connor, Pawlicki, Ross, Mattson,  
Russell, Stello, Novac, Woods, and Wenzinger

TR 1817  
DENNIS:1  
jg-1

1 CHAIRMAN HENDRIE: Let us come to order. We  
2 meet again for the second time on the unresolved safety  
3 issue chapter of the draft annual report. We had a good  
4 meeting on the subject the other day and decided it was so  
5 much fun that we ought to carry on; so Harold, let me  
6 invite you to pick up the thread where we left it.

7 MR. DENTON: Thank you, Mr. Chairman. Today  
8 we are prepared to discuss those category A items and those  
9 items of research identified in categories 1 and 2 that did  
10 not make the unresolved safety issue list.

11 There were 40 original category A's, 26 of which  
12 we ultimately put on the unresolved safety issue list,  
13 leaving 24.

14 In the research categories 1 and 2, they had a  
15 total of 25 items, 15 of which did make the unresolved  
16 safety issue. There was double counting because they  
17 were in the same issue in some cases.

18 In total, if you look at the ones that did not  
19 make it, there were a total of 29 issues that did not make  
20 it that were identified either as category A's by NRR or  
21 category 1 and 2 by RES. Seven of these issues are  
22 discussed in the staff paper and in enclosure 2. The  
23 reasons are given as to why they were excluded. Those  
24 discussions begin on page 9 and run through the next few  
25 pages, leaving a total of 22 issues that were not considered

jg-2

1 by the task force as generic -- as unresolved safety  
2 issues. We are prepared to go through those one by one.  
3 We have a slide on each item. We can promise not to spend  
4 more than three minutes on each item or it will take longer  
5 than an hour to get through the list.

6 COMMISSIONER AHEARNE: There is constraint on  
7 a hour?

8 MR. DENTON: No. Just picking a time in order  
9 to make the whole list of 22 items. We can spend as much  
10 time as the Commission desires, of course, on any of them.

11 Of the 22, one of them is resolved, so it is really  
12 only 21 that we need to talk about.

13 Two other ones, also the staff has essentially  
14 completed its review.

15 We have in the audience today individuals who can  
16 provide detailed information on these if Mike's summary  
17 is not sufficient.

18 Mike, why don't you begin with A-13?

19 COMMISSIONER AHEARNE: Could we start with A-12?

20 MR. DENTON: Certainly. A-12 is discussed on  
21 page 9, fracture toughness.

22 Mike, do you want to begin? Then we will see  
23 if we need assistance.

24 MR. CASE: In other words, you would like to go  
25 back and forth even though it is discussed in the paper? We



jg-3

1 don't have a slide on those.

2 COMMISSIONER AHEARNE: Perhaps I ought to first  
3 ask the Chairman what he had in mind for this meeting.

4 CHAIRMAN HENDRIE: It is to give the staff a chance  
5 to tell us about the ones that aren't on the list; a chance  
6 to ask questions. I think if you would like to --

7 COMMISSIONER AHEARNE: A-12 just happens to be  
8 the first of the A items that didn't make the list.

9 CHAIRMAN HENDRIE: We could work our way, in fact,  
10 through the A list. From one to -- these days it is 44, I  
11 think. I could announce that A-1 through 11 are on the  
12 lists.

13 COMMISSIONER AHEARNE: I was just going down  
14 the OPE. They gave this fairly nice summary that enables  
15 me to read.

16 MR. AYCOCK: We are starting with A-12. I don't  
17 believe we have a summary statement of what the task is  
18 here, so I am going to try to provide that. Fracture  
19 toughness is steam generator reactor coolant pump supports.  
20 is an issue dealing with whether or not support materials  
21 have adequate fracture toughness. Some of you may be  
22 familiar with the north and in a fracture toughness support  
23 problem. I'm not sure whether it was discussed with the  
24 Commission.

25 COMMISSIONER AHEARNE: What is that problem?

jg-4

1 MR. DENTON: Let me be sure it is not one  
2 that's exparte.

3 MR. CASE: I think we can talk about the problem  
4 without identifying the case involved.

5 COMMISSIONER AHEARNE: You already have. You  
6 just identified the case.

7 COMMISSIONER KENNEDY: There are other such  
8 problems, potentially?

9 MR. CASE: That's the issue.

10 COMMISSIONER KENNEDY: Why don't you tell us what  
11 the problem is and why it is potentially an issue?

12 MR. CASE: Do you want to have Dick do it? He's  
13 sort of extemporizing on this one.

14 MR. STELLP The issue deals with whether or not  
15 the reactor coolant and steam generator supports from  
16 a fracture toughness point of view are adequate or not. The  
17 question deals with how were the supports manufactured and  
18 principally what materials were used and what are their  
19 fracture toughness properties.

20 We have initiated a program or we have gone out  
21 and asked the licensees for information regarding the  
22 design of these supports in all of the operating plants  
23 and others. The results are presently under review where  
24 we are looking at the question of whether or not they are or  
25 are not a problem and trying to categorize the relative

1 problem with respect to the materials.

2 The issue is an issue where if you had a load,  
3 loss of coolant accident generating loads on the supports,  
4 would they have adequate toughness.

5 There are two conditions necessary: one, you  
6 have to have the load; then, of course, the supports,  
7 the material itself has to be relatively cold so that it  
8 doesn't have the toughness. If the material is  
9 elevated in temperature, it is about its ductility  
10 temperature and is tougher. For both of those, you need  
11 both of them which we consider to be unlikely; that is,  
12 that you have a loss of coolant accident at a time when the  
13 material is relatively cold or in the state where you may have  
14 a problem.

15 Because it involves the coincidence of these things,  
16 we don't believe that it represents any major reduction  
17 in safety. We are already pursuing the issue. That is, there  
18 is action going on. Make no mistake about it.

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19-5

END-1



bw 1 COMMISSIONER AHEARNE: Is part of the question  
2 whether the — is it a reevaluation of the potential problem  
3 that has led to this concern, or was it some incident that  
4 led to the concern?

5 MR. STELLO: Well, in a review in a particular  
6 case, we found that there were materials that were being used  
7 for which the toughness was not what we wanted it to be.  
8 This caused a concern, and we decided at that point that  
9 we needed to go out and find out more about how other  
10 plants had built these same structures.

11 That's what we are doing now, so it was a concern  
12 raised during a review in a particular case for which we  
13 asked ourselves: did we have adequate information on other  
14 plants on that same issue? The answer was no, we didn't  
15 think we had enough. We wanted more. We went out and  
16 got that more information.

17 COMMISSIONER AHEARNE: Then at the present time  
18 it's not a question of what ought that toughness to be?  
19 What ought that material to be? It is more a question of  
20 have plants been built to the right specification?

21 MR. STELLO: Well, there are way in which even  
22 if the toughness isn't what y. u would like it to be, you  
23 can compensate for it. There are compensatory things one  
24 can do. So it isn't critical that you have particular  
25 toughness level. Even that would be acceptable.

bw 1 COMMISSIONER AHEARNE: It's good to find out what  
2 the existing toughness level is?

3 MR. STELLO: That's true; and as to whether or  
4 you would want to add more margin in assuring yourself  
5 it is adequate by taking extra measures; either more  
6 in-service inspection or possibly wrapping the structures  
7 with strip heaters to make sure they do stay warm at all  
8 times.

9 COMMISSIONER AHEARNE: Now obviously there has  
10 been at least one plant in which you had a -- you were  
11 concerned?

12 MR. STELLO: That's a true statement.

13 COMMISSIONER AHEARNE: It seems to me that going  
14 back to that great discussion of yesterday, was it, what is  
15 a -- one of these unresolved issues, this seems to have been  
16 in your definition.

17 MR. STELLO: Well --

18 MR. CASE: The point Dick is making, even though  
19 the situation might exist on a given plant, we don't think  
20 that situation is a major -- let me get the definition --

21 COMMISSIONER AHEARNE: But it's something that  
22 you may end up requiring them to make changes? Changes would  
23 be to provide an increased level?

24 MR. CASE: Increased level of safety. We are not  
25 dealing with a major problem, is the way we look at it, based

bw 1 on our judgment and the risk evaluation.

2 MR. KENNEKE: The risk is not in an upward  
3 direction, regardless of the amount.

4 MR. STELLO: No. Not regardless of the amount.

5 COMMISSIONER AHEARNE: Are you saying that it  
6 would be acceptable not to make any changes?

7 MR. STELLO: No.

8 MR. CASE: If we found this situation existed on  
9 other plants. I am not saying that. I am saying that the  
10 potential problem out there is not a major reduction in  
11 the degree of protection provided for public health and  
12 safety.

13 There is a reduction all right, but it's not  
14 a major one.

15 COMMISSIONER AHEARNE: If there were a major  
16 reduction, you would probably be asking for more drastic  
17 action? If you knew there was a major reduction?

18 MR. CASE: Yes, indeed. We are just trying to  
19 distinguish relative importance to safety, and it's our  
20 judgment that there is enough distinction here that it does  
21 not qualify as an unresolved safety issue.

22 MR. DENTON: I think there are several factors, in  
23 my mind. It's a judgment call as to the significance of the  
24 reduced fracture toughness, to begin with, because it requires  
25 a combination of events. Only in certain times during



bw 1 start up and cool down are you vulnerable to having this  
2 contribute to a course of an accident.

3 Secondly, as I think Vic's original survey shows,  
4 we are not finding a very widespread problem?

5 MR. STELLO: The results of all of the analyses  
6 that we asked from the vendors are in, but we haven't  
7 completely analyzed all of them. To try to put them  
8 in broad bins at the moment might be a little bit difficult,  
9 but as I recall, most of the results that we have seen,  
10 I think that you would characterize the toughness as at least  
11 moderate, not low.

12 The point I was trying to make with respect to  
13 safety is you have to have two considerations before you  
14 have a safety problem. You have to have a load present,  
15 a loss of coolant accident; and at the same time, those  
16 supports must be decreased in temperature. They must be  
17 cold.

18 (Commissioner Kennedy left the room at 2:20 p.m.)

19 MR. STELLO: Then they have to have a flaw.  
20 There must be something wrong with them, in order for those  
21 supports to come in question as to whether they are or  
22 are not all right. We are clearly taking action. We  
23 sent the letters out. We are getting information back.  
24 We haven't told licensees they have to do anything yet. We  
25 haven't caused them to correct anything yet. If we need to,

bw 1 we know what to do. The purpose of this particular task,  
2 this A-23 is to try to decide whether or not we need to  
3 evolve new guidance for the review: should we do our  
4 reviews or set material requirements different from those  
5 we now set? That's a forward-looking concern.

6 In our reviews in the future, should we do them  
7 different than we have done them in the past. That's an  
8 underlying basis here; but with respect to the issue itself,  
9 it's resolved if we need to take an action. We know what  
10 to do.

11 COMMISSIONER AHEARNE: At the moment you don't  
12 know just how widespread or what type of action?

13 MR. DENTON: And the fact we have identified  
14 fixes that ameliorate the situation.

15 COMMISSIONER AHEARNE: Which as I say again in  
16 my mind leans towards leaving it on your list rather than  
17 taking it off.

18 MR. CASE: I guess where I resist, Commissioner  
19 Ahearne, there are a number like this you are going to find  
20 through this discussion.

21 COMMISSIONER AHEARNE: I wouldn't be surprised.

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1 MR. CASE: The issue is the degree of safety  
2 significance.

3 COMMISSIONER AHEARNE: I wouldn't be surprised.  
4 The same as you are establishing your position, I am  
5 establishing my position.

6 COMMISSIONER GILINSKY: What is it that caused you  
7 to put it on?

8 COMMISSIONER AHEARNE: There is a problem that  
9 was identified as a -- at least -- it is more than just a  
10 theoretical problem. It is a real problem that has  
11 occurred. It is if it does get the double condition of the  
12 reduced temperature plus the excess load and this is this  
13 weakness that has at least been found in one place, then  
14 that is a significant hazard; and that the low probability  
15 is the low probability of both of them occurring at once,  
16 as I understand it.

17 MR. CASE: There is indeed more to it than that.  
18 Let's assume they both do occur at once. Then you have to  
19 look at the consequences of the support failing. Does that  
20 completely vitiate the operability of the component in  
21 question? There's judgment that has to be reached on that.  
22 It is not a one to one probability that given the flaw,  
23 given the low temperature, given the extra load you get from  
24 a LOCA that, A, the support will fail and B, if the  
25 support does fail, it will affect the operability of the



1 component. That's yet another improbability that enters  
2 into the risk evaluation.

3 (Commissioner Kennedy returned to the room at  
4 2:25 p.m.)

5 COMMISSIONER GILINSKY: You are speaking to the  
6 question of how serious the problem is?

7 MR. CASE: Yes.

8 COMMISSIONER GILINSKY: Is it an unresolved  
9 problem?

10 MR. CASE: I could make an argument now, because  
11 if we identify the problem we know what to do about it, and  
12 it has been done in one plant.

13 MR. DENTON: It is more in my mind the type where  
14 we are finding out in operating plants that something didn't  
15 perform quite the way it was intended or we thought it  
16 would. We take action to get it to perform that way.  
17 It is not that our knowledge of this area suddenly changed.  
18 We realized we had a problem here.

19 COMMISSIONER KENNEDY: An unresolved safety  
20 question ought to be something you don't know what to do  
21 about. Once you figure out what to do about it, it is no  
22 longer a question. It is a matter, it seems to me, of  
23 engineering to get it done.

24 MR. CASE: Identifying where it needs to be done.

25 COMMISSIONER AHEARNE: We don't know yet where.

jg-3

1 COMMISSIONER GILINSKY: We have this odd order  
2 paradox in that we carry along a lot of unresolved safety  
3 issues which we are dealing with every day.

4 MR. DENTON: One other point I should mention  
5 is yesterday Al Kenneke raised the question of what would  
6 we say in SER's about unresolved safety issue. We read the  
7 Board's order on generic safety issues to require that  
8 we discuss both category A's and B's in every case. That's  
9 being the system in which we operate under.

10 What we would discuss in all new cases would be  
11 three areas. We would discuss those things called unresolved  
12 issues as defined for Congress. We would probably discuss  
13 the other A's that we have started the tradition of doing.  
14 Then we would also discuss the B's. In each case then we  
15 would discuss this issue as it applied to a particular  
16 plant; but we would not categorize it as an unresolved safety  
17 issue.

18 COMMISSIONER AHEARNE: Don't misunderstand me.  
19 I am trying to work on the process that is reducing the  
20 number of issues; but I think it has to be done in such a way  
21 and is clear in that reduction that we are, if anything,  
22 leaning on the side of caution, conserve a time, on the  
23 reductions.

24 Your proposal here --

25 MR. CASE: We think we are. It just depends on

g-4 1 where the level is.

2 COMMISSIONER AHEARNE: I understand. On the  
3 proposed insert that was going to go into, I guess, the  
4 annual report on this reduction, you have for this particular  
5 A-12 the NRR staff concluded that the likelihood of an  
6 initiating event was low. That's what you are talking about;  
7 and based upon a preliminary survey, the support in  
8 May of '76, the support materials are expected to have  
9 adequate toughness.

10 If I understand from one of the comments, some  
11 of the comments that were just made, that that  
12 last portion at least was -- may have to be somewhat  
13 modified; that is that this could be read as concluding that  
14 all the support materials have adequate toughness and therefore  
15 there's not going to be any need for any modifications any-  
16 where. I think that that's probably -- would be a misreading  
17 at the moment?

18 MR. CASE: Yes.

19 COMMISSIONER AHEARNE: So at least there was  
20 some additional unresolution at the point in time this was  
21 written to today.

22 MR. CASE: That is true.

23 MR. DENTON: I think when we go through these,  
24 quite often when an issue is raised, the staff really doesn't  
25 think there is a problem, we follow through and ask research



1 to do something or decide to ask anybody anyway.

2 COMMISSIONER AHEARNE: Harold, I am not trying  
3 to say that the staff isn't aggressively pursuing this.  
4 I think you are. I think you are taking the actions  
5 that have to be taken. My concern is as we press this  
6 list of issues, to make sure when we drop something off,  
7 we drop it off in the sense that we recognize that it is  
8 either no longer a problem because it never was or it is no  
9 longer a problem because all the steps have been completed;  
10 and this one didn't seem to me to meet that criteria.

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END-3

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cmw 1 COMMISSIONER GILINSKY: Let me ask you, are any  
2 of these in the category that they are so serious or so  
3 unresolved that they would be a bar to licensing a reactor?

4 MR. DENTON: Not the ones that we are talking about  
5 in this category. Now, if you want to talk about the ones  
6 that we put in the unresolved safety issue, I think you find  
7 differing views. There probably would be some of those, if  
8 we were not able to say we expect to bring this to fruition  
9 in the near future. There would be concern.

10 ATWS is one where we think definite changes are  
11 needed and have felt so for the last five years. We have not  
12 been able to come to grips with exactly what the proper change  
13 is. I think if we didn't call that one an unresolved safety  
14 issue, we would find people thinking we should not continue  
15 licensing plants without something being done on that.

16 COMMISSIONER GILINSKY: Still, I mean, plants have  
17 been licensed during these five years even though we have  
18 been carrying this as an issue. In some sense we resolved  
19 them all in individual cases.

20 MR. DENTON: It's resolved in the sense of one more  
21 plant doesn't add that much to societal risk, but ultimately  
22 the Staff thinks that it's an issue as the number of reactors  
23 and number of reactor years increase. You do need to do  
24 something to compensate in this area.

25 COMMISSIONER GILINSKY: Where I was headed, I mean

cmw 1 in a sense we resolved them in a way that we are not  
2 entirely happy with. Otherwise we wouldn't be carrying them  
3 along.

4 MR. DENTON: That's right. I think that's the  
5 connotation that the unresolved safety issue has. Ones that  
6 would give the Staff real problems to deal with if we were  
7 not able to expect some improvement in those areas in the  
8 near term. At least that's the kind of thinking that went  
9 into the group when they called them unresolved. This one  
10 doesn't give that sort of image to metallurgical and mechanical  
11 engineers on the Staff; but it gets into a problem --

12 COMMISSIONER GILINSKY: Aren't you approaching a  
13 period of time? In other words, these were temporary fixes,  
14 fixes acceptable for a time?

15 MR. DENTON: Time is an element.

16 MR. CASE: In most cases it's not specified exactly.

17 COMMISSIONER GILINSKY: I understand, but in some  
18 intuitive way.

19 MR. CASE: Yes. That was a good example of that.  
20 Where you continue the licensing, but you are getting to the  
21 point where --

22 COMMISSIONER GILINSKY: You are getting increasingly  
23 uncomfortable?

24 MR. CASE: Yes.

25 MR. DENTON: Because there are more and more plants,



cmw 1 and on a societal basis there is an increasing risk. In  
2 fact, there needs to be something for all plants, even though  
3 we are willing to tolerate individual plants not having  
4 that fix for some period of time.

5 MR. CASE: All I ask, Commissioner Ahearne, is you  
6 reserve judgment until we get through them all.

7 COMMISSIONER AHEARNE: Do you want to just put them  
8 on all at once?

9 I think I have taken my -- it's obviously a  
10 Commission decision. My view will be to keep them on.

11 CHAIRMAN HENDRIE: Why don't you push ahead to the  
12 next one?

13 MR. DENTON: A-13. We will go down the numbers.

14 MR. AYCOCK: Let's discuss A-13.

15 (Slide.)

16 What we have provided in the slides is a very  
17 brief statement of what the problem is about; some background  
18 information on what it was assigned to and what category the  
19 draft risk report assigned to it. Then a brief statement on  
20 the steering committee judgment.

21 Snubber operability assurance is to evaluate  
22 industry practice associated with snubber qualification  
23 testing, design and analysis procedures, selection and specific  
24 criteria and preservice and in-service inspection programs.  
25 To develop tech ~~notes~~ and reviewer and Regulatory Guide answers

cmw 1 to assure a high level of snubber operability.

2 It was assigned to Group 1; that is, relate to plant  
3 safety.

4 It was assigned to Risk Category 3 in the draft  
5 risk report. That's a negligible risk potential. On the  
6 basis of a bounding calculation that indicated that this  
7 contributed less than 1 percent of the RSS risk.

8 COMMISSIONER AHEARNE: The RSS risk being defined  
9 as?

10 MR. AYCOCK: Being defined as the total risk from  
11 all accidents considered in the study.

12 MR. CASE: In the RSS study.

13 COMMISSIONER AHEARNE: So the interpretation is it  
14 contributed less than a percent to WASH-1400's estimate of  
15 risk?

16 MR. CASE: Correct.

17 COMMISSIONER AHEARNE: And the underlying assumption  
18 is therefore that that is an adequate low risk?

19 MR. CASE: No. Their input to us was just to  
20 characterize the risk. The judgment was reached in the next  
21 step, taking into account that advice.

22 MR. AYCOCK: That's correct. The steering committee  
23 conclusion was that the task may result in some modifications  
24 to tech specs, et cetera, but the potential for snubber failure  
25 does not represent a major reduction in the degree of

cmw 1 protection.

2 The Office of Inspection Enforcement bulletin  
3 and tech spec requirements already implemented provide  
4 assurance that faulty snubbers will be detected and corrective  
5 action taken.

6 In other words, there are interim measures in place.

7 COMMISSIONER AHEARNE: Is the question that there  
8 are interim measures in place, do I conclude, therefore, that  
9 You are not saying that faulty snubbers would be a problem?  
10 Would not be a problem but that faulty -- the procedures now  
11 allow you to detect and the requirements are that they be --  
12 corrective actions be taken?

13 MR. CASE: The present procedures require a periodic  
14 testing and depending on how many are found faulty in that  
15 testing, the testing interval is either increased or decreased  
16 for the next test.

17 So obviously they don't guarantee an all-time surety.

18 COMMISSIONER AHEARNE: It's the inspection procedures  
19 and the follow-up actions that lead you to have confidence that  
20 this is no longer a problem? Or not a problem?

21 MR. CASE: Plus also the fact that even though it is  
22 a problem, it doesn't have a high risk potential.

23 MR. DENTON: It's an area we think needs improvement.  
24 We got into it by the number of reports we were getting of  
25 inoperable snubbers being found. Let me ask John Kovacs, if



cmw 1 he's here, to maybe summarize your views. He's a specialist  
2 working in this area.

3 MR. KOVACS: That's essentially correct. The  
4 original concerns with the large number of snubbers that were  
5 reported -- the problem that caused that original concern was  
6 identified as being due to faulty or incompatible seal  
7 materials within a certain type of hydraulic snubber. This  
8 problem was correctly identified.

9 The technical specifications involved today directly  
10 address that problem. As time has gone on, there are  
11 implications that that problem is gradually going away. There  
12 has been a sustained effort in the operating plants to replace  
13 all of those seals. They are no longer used in the newer  
14 designed snubbers that are coming into use today.

15 So consequently, it appears that the technical  
16 specifications have been quite effective in addressing that  
17 problem.

18 COMMISSIONER AHEARNE: That was the only main  
19 problem, the seals?

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bw 1 MR. KOVACS: As a result of that, the Staff looked  
2 into other methods of failure that snubbers may be  
3 susceptible to. Other problems that may arise in handling  
4 and shipping and in installation of snubbers. The past  
5 action plan, as evolved today, is addressing all of those  
6 concerns, in addition to those that I mentioned earlier with  
7 the faulty seal material.

8 COMMISSIONER AHEARNE: As far as the actual  
9 failures that showed up in the field inspection, they  
10 were primarily as a result of the seal material?

11 MR. KOVACS: Primarily, yes, sir.

12 COMMISSIONER AHEARNE: 80 percent, 70 percent?

13 MR. KOVACS: I would say probably 95 percent.

14 COMMISSIONER AHEARNE: When you say things have  
15 improved, that's the failure rate in the field is now  
16 drastically down?

17 MR. KOVACS: Yes, sir.

18 CHAIRMAN HENDRIE: Most of those things, when the  
19 seals go, John, you can see the oil, as I recall?

20 MR. KOVACS: Yes, sir.

21 CHAIRMAN HENDRIE: I don't recall any cases where  
22 there was some kind of internal exchange. It seemed you could  
23 always see the oil dripping down the snubber off the  
24 supports, the wall, on the floor, something like that.

25 MR. KOVACS: That's right. A leak before break

bw 1 It was clear that that was a problem when it did become one.

2 COMMISSIONER AHEARNE: I guess that kind of  
3 explanation does a lot more for me than this, in a sense  
4 that I think that that is the kind of explanation that is  
5 needed in the material that is sent forward to Congress on  
6 why things are off the list.

7 MR. CASE: But it's -- it's not that John is  
8 saying there is no safety problem out there.

9 CHAIRMAN AHEARNE: I know that.

10 MR. CASE: It's still a matter of degree.

11 MR. DENTON: I think no doubt we are being  
12 forward-looking on things like that. We are saying we  
13 expect it to be all right. Otherwise we say we expect a  
14 problem. Where we don't have the knowledge on A-12 yet,  
15 we expect it to turn out like A-13. We just don't know  
16 yet.

17 COMMISSIONER AHEARNE: I know. That's right.  
18 It's unresolved.

19 MR. DENTON: A-14.

20 MR. AYCOCK: Let's go to A-14. The purpose of  
21 this task is to assess flaw detection limits which can be  
22 achieved using current ASME code in-service inspection rules,  
23 defining priority areas where improvements were needed,  
24 following development of new and improved flaw detection  
25 methods, and implementing procedures and inspection



bw 1 inspection requirements capable of proving the necessary  
2 improvement.

3 This was assigned to NRR Group 3 which is  
4 confirmatory. The risk categorization was Category 3 which  
5 is the negligible risk potential group. The basis for that  
6 assignment in the draft report was that it may reduce  
7 failure rates below those which have been assessed, based  
8 on today's technology. However, the degree of safety  
9 improvement cannot be quantified.

10 The steering committee conclusion -- I might  
11 note that portions of this task related to UT reliability  
12 will be included in the new task A-42 on pipe cracks in  
13 BWRs, which is an unresolved safety issue.

14 This task does -- the judgment of the steering  
15 committee was that the task does not solve a major  
16 reduction in the degree of protection of the public health  
17 and safety. The current requirements are adequate, although  
18 the task may provide some improvements.

19 COMMISSIONER AHEARNE: The flaws that are being  
20 discussed here, were they all metal flaws, no matter what  
21 segment of the reactor they are in?

22 MR. DENTON: Let me ask Steve Pawlicki to discuss  
23 that.

24 MR. PAWLICKI: I didn't quite hear the question.

25 COMMISSIONER AHEARNE: Well, the description here

bw 1 is flaw deduction limits. Is this metal flaws, independent  
2 of in what segment of the reactor it's in?

3 MR. PAWLICKI: Well, just —

4 COMMISSIONER AHEARNE: Reactor vessels, supports,  
5 pipes?

6 MR. PAWLICKI: Task Plan A-14 is directed to longer  
7 range improvements in flaw detection characterization.  
8 Of course, it will depend where the flaw is located, what  
9 the stresses are that existed at this particular location,  
10 the number of cycles that the component is subjected to,  
11 and so on.

12 CHAIRMAN HENDRIE: But it's flaw detection in  
13 all elements of the primary system measure boundary. It's  
14 not just the vessel?

15 MR. PAWLICKI: It's not only the reactor vessel;  
16 that's correct.

17 CHAIRMAN HENDRIE: Piping is a good deal more  
18 interesting at the moment.

19 COMMISSIONER AHEARNE: Originally it then  
20 included the pipes?

21 MR. PAWLICKI: Originally the — the reactor  
22 vessel and piping were included, and they are still included  
23 in the scope of this task, except that the more pressing  
24 task like boiling water reactor cracking will be part now  
25 of A-42, as Mike has indicated. So we will have results

bw 1 sooner. We are not going to have to wait two or three  
2 years before we get the results from A-14.

3 In the same manner, the problems of cracking in  
4 the boiling water reactor feedwater nozzles will be  
5 handled by Task Action A-10, also on a shorter term basis,  
6 and it will get the priority or the classification of  
7 Category A.

8 COMMISSIONER AHEARNE: Are both of those because  
9 the problems have now shown up sufficiently frequently, that  
10 are sufficiently serious, that in both of those cases the  
11 program had to be accelerated?

12 MR. PAWLICKI: This is basically correct.

13 COMMISSIONER AHEARNE: Why should we have  
14 confidence then that this is a lower priority task than  
45 15 those other areas where it hasn't yet shown up?

16 MR. CASE: We are getting considerable experience  
17 in looking, you know.

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1 MR. PAWLICKI: What we are basically doing is  
2 to divide the scope of the task action A-14 into two  
3 major groups. One we are trying to deal with the immediate  
4 problems, what can be done about it, how to lower the  
5 probabilities of it occurring and being detected, and increasing  
6 the probability of it being detected.

7 The second part is to improve the general methods  
8 that are being used and recommended by the ASME Code. There's  
9 room for improvement there; and there's connection between  
10 both of these parts, the boiling water reactor pipe cracking  
11 or feed water nozzle cracking, with general improvements  
12 of the methods. However, the general part of it can  
13 sort of wait.

14 We are dealing there with minor improvements  
15 of existing technology, like increasing the sensitivity of  
16 the detectors, improving the calibration methods that will  
17 be used in the day-to-day test, automating some of the  
18 inspection methods so the radiation exposure of the personnel  
19 is lowered.

20 MR. DENTON: Bear in mind all plants currently  
21 have requirements for in-service inspection. Their ASME  
22 Code improvements. I guess my view of this is that for  
23 as many years as I can recall, the Commission has been  
24 trying to improve flaw detection methods. I suspect it  
25 will be an ongoing area that is -- that is developed in the

jg-2

1 field to require the new improved methods of finding  
2 flaws before the pipe cracks.

3 So except in these areas where we actually  
4 experience the crack, we are content to keep the technology  
5 being improved.

6 COMMISSIONER AHEARNE: I don't know enough about  
7 it really to make a comment other than it has the character  
8 of the effort is a lower priority until it turns out that  
9 there's a serious problem in the cracking; and then it gets  
10 shifted into a higher priority.

11 MR. DENTON: That's right.

12 CHAIRMAN HENDRIE: In the best of all possible  
13 worlds, you would say you want a machine that detects  
14 everything. If you don't have that, I must say flaw detection  
15 is a lot better than it was years ago. Indeed, I think it  
16 is adequate for most purposes. I wouldn't hesitate for  
17 a minute to continue to support improvements; and as  
18 improvements get developed and so on, expect to see them  
19 built in due time into the requirement process.

20 COMMISSIONER AHEARNE: It is a different  
21 character of activity. It just strikes me as interesting  
22 that the pieces that are broken off are those pieces we  
23 do have obvious major problems were it would be a great  
24 help to have improved ability to detect the flaws.

25 MR. DENTON: In this case where we broke off,

g-3 1 there is a difference among experts as to the capability  
2 of small restoration to detect flaws. That's another  
3 reason for trying to decide that issue.

4 COMMISSIONER AHEARNE: All right.

5 CHAIRMAN HENDRIE: How much of a scan do you  
6 want to give to 15? I would recommend not much effort be  
7 put forth there. Anybody feel the need to scan on it?

8 COMMISSIONER AHEARNE: Oh, yes. Absolutely.

9 MR. AYCOCK: Could we have the slide on A-15?

10 (Slide.)

11 COMMISSIONER AHEARNE: Your purposes -- you have  
12 two. One is the occupational safety. The other is  
13 degradation of integrity of the boundary. I gather from your  
14 steering committee that as far as the integrity of the  
15 boundary issue, that that was a nonissue?

16 MR. CASE: You have to be concerned with the  
17 cleaning agents or you could get into a boundary integrity  
18 question.

19 COMMISSIONER AHEARNE: You concluded that that was  
20 not a major problem?

21 MR. CASE: We have under evaluation systems  
22 for cleaning. That's one of the considerations involved  
23 in looking at what people plan to do.

24 MR. DENTON: There is one in one plant that is  
25 being decontaminated. That's what got us into the area in a



1 big way. Then we said after that we ought to start looking  
2 at all plants, start looking at their rad waste treatment  
3 system in an early stage to make sure they are able to  
4 cope with the type of decontamination fluids that might be  
5 generated 20, 30 years hence.

6 COMMISSIONER AHEARNE: What are you doing on  
7 this? Assuming it is not on the priority list, what  
8 program are you following?

9 MR. DENTON: Paul, O'Connor will speak to that.

10 MR. O'CONNOR: The bulk of the action is  
11 taking place on this task is presently associated with the  
12 ongoing decontamination of Dresden Unit No. 1. The unit is  
13 presently shut down and will undergo chemical cleaning  
14 in June of this year. The primary concern has been to  
15 assure the capability of the chemical agents with all of the  
16 components and portions of the primary coolant system which  
17 are pressure boundaries. We also have spent quite a bit  
18 of time in assuring that the job will be carried out in a  
19 manner to assure that it will cause the least exposure to  
20 operating personnel in that the exposure that is taken is  
21 out-weighted by the exposure that will be safe by future  
22 operation of the plant after it is cleaned.

23 COMMISSIONER AHEARNE: This is then -- is it  
24 primarily a review of Commonwealth plants?

25 MR. O'CONNOR: It is a -- in the present case, it

1 is a review of Commonwealth plants. It is also, in the  
2 generic case, a determination of what the best manner in  
3 which to carry out --

4 COMMISSIONER AHEARNE: Is the current effort  
5 primarily a review of Commonwealth plants?

6 MR. O'CONNOR: Yes.

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JD-5

JD-6

cmw 1 MR. DENTON: I think we expected this to result  
2 in a provision of guidance for future such events.

3 COMMISSIONER GILINSKY: Let's go back to the  
4 definition of unresolved safety issues. It seems to me the  
5 origin of all of this was that the Congress was told we were  
6 licensing reactors while leaving a lot of unresolved issues,  
7 important safety questions. The safety fixes of one kind or  
8 another that weren't entirely satisfactory. Can we use that  
9 as a kind of dividing line between the issues we put on this  
10 list and the ones we wouldn't as being those that if  
11 unresolved would lead us to feel that reactors which pose these  
12 problems could not operate indefinitely without putting any  
13 sort of specific limit on it in terms of a certain number of  
14 years? Is that what characterizes them?

15 MR. DENTON: In my view, that's a fair  
16 characterization.

17 COMMISSIONER GILINSKY: Certainly there is no end  
18 of thing to do. Obviously we are expected to do that and  
19 will continue to do that. I think that's a pretty sharp  
20 division of issues. Some rise to the level where we don't get  
21 them resolved or settled and it really raises questions about  
22 the continued operation of reactors or their running.

23 COMMISSIONER AHEARNE: Along with that, if you can  
24 separate them that way, with that set that you retain on,  
25 wouldn't you at least have implicitly the idea of some kind of



cmw 1 a deadline by which the issues would have to be resolved if  
2 that was the way you were defining it?

3 COMMISSIONER GILINSKY: You know, it's a little bit  
4 like the waste issue. I certainly think we ought to have a  
5 plan and we ought to get them settled.

6 COMMISSIONER AHEARNE: You would have to pay a lot  
7 of attention to the plan.

8 COMMISSIONER GILINSKY: I hate to name a figure at  
9 this point.

10 COMMISSIONER AHEARNE: I wasn't asking you to.

11 COMMISSIONER GILINSKY: I think they have to be  
12 settled in short order. There is no question about it. That  
13 seems to me to be the point of all this.

14 COMMISSIONER AHEARNE: Certainly that's, I think,  
15 the outside perception of what that list is.

16 MR. CASE: That being so, then you don't want to  
17 throw everything on that list because we don't feel that way  
18 towards all of these issues.

19 COMMISSIONER AHEARNE: But you have to be very  
20 explicit with a very good explanation of why you are not taking  
21 them off. The issues are on the list. You can't suddenly  
22 say well, we are going to start all over again and set up a new  
23 list. You have for whatever reason they were on there to start  
24 with, you have that list and now you have to be very careful.

25 CHAIRMAN HENDRIE: But they weren't on that list in

cmw 1 order to meet the intent of congressional mandate 210. They  
2 are on there because there were 133 items the Staff threw  
3 together for a variety of reasons, some of which had to do  
4 with safety and a whole variety of other things. It seemed  
5 to be a handy list. It got packaged and sent off to the  
6 Congress.

7 MR. CASE: There was fairly clear language. After  
8 our discussion yesterday, I read the forwarding letter to the  
9 Congress again. It was quite explicit that the 133 went well  
10 beyond those issues considered to be unresolved safety  
11 questions and will parrot for our next year's report; but this  
12 is the best we have at the moment. It includes all of the  
13 resolved safety issues, but is longer than that.

14 MR. DENTON: In fact, I think there was a feeling  
15 several years back before Congress ever asked that a good  
16 running agency should have a list such as this. That list kind  
17 of turned into the 133.

18 COMMISSIONER KENNEDY: It's a continuing rolling over  
19 list. Things are dropping off one end and being added on the  
20 other.

21 CHAIRMAN HENDRIE: Well, let's come back to  
22 decontamination. We have exercised that one amply. Let's  
23 plunge ahead to A-16.

24 (Slide.)

25 MR. AYCOCK: A-16. BWR core spray distribution.

cmw

1           The purpose is to evaluate the effect of the  
2       presence of steam and/or increased pressures in and above the  
3       upper core region of a boiling water reactor on the  
4       distribution of flow from certain types of core spray nozzles.  
5       It was assigned to NRR Group 1. The risk category there is  
6       incorrect. It's an error. It should have been Category 3,  
7       which was the negligible risk potential category. It was on  
8       the basis of a bounding calculation which showed a low level  
9       of risk when compared with the reactor safety study.

10           COMMISSIONER AHEARNE: Since one of the obvious  
11       major criteria that at least is being presented and was  
12       followed in at least in your group discussion is the bounding  
13       risk estimates, to what extent if we interpret all of those  
14       probabilities as being absolutely uncertain and only having  
15       a relative sense of value, to what extent were absolute values  
16       used as the criteria to adjust the risk potentials?

17           MR. CASE: I think they are all relative.

18           COMMISSIONER AHEARNE: They are all relative, but  
19       there, I think, has to be some sense of absolute value sitting  
20       behind, because if you say that you have a -- have 40 items,  
21       or 133 items, and you are going to do a relative ranking  
22       probability of risk, that's fine; but all 133 could be very  
23       significant unless you have underlying it some sense of what's  
24       the absolute value. Because the only way you are going to say  
25       something is negligible is that in addition to being lower risk



cmw 1 than something else, it also has a low absolute value. So  
2 I am asking --

3 MR. DENTON: Let me ask the people who wrote that  
4 to address how they categorize it as 1, 2, or 3. We were very  
5 careful to take in each issue their write-up and run it  
6 through our technical branch that had responsibility for it  
7 and reflect those views back up to the steering committee,  
8 to have the overlay --

9 COMMISSIONER AHEARNE: But I notice that here it's  
10 always -- the words are compared to RSS, or based on RSS;  
11 whereas as I recall from the -- one of the recent meetings  
12 that we had on the Lewis report, you and your Staff pointed  
13 out you didn't really use RSS for your assessment, so that's  
14 a separate evaluation.

15 MR. MURPHY: Joe Murphy. Basically, in order to  
16 do the relative comparison, we had to come up with absolute  
17 numbers for that purpose. We arranged them in order and had  
18 essentially fuzzy lines in terms of risk significance which we  
19 separated. There were qualitative considerations that went  
20 into it also. In other words, if we were uncertain about the  
21 decision that we thought was in the -- in terms of a numerical  
22 ranking would come out into a negligible risk, but at the upper  
23 end of it, we'd move it into a low category. Similarly,  
24 if we knew the bound estimate was extremely conservative, we  
25 might move it down. So there is not a precise number per se.

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cmw 1 There were goals along the line of a 1 percent contributor  
2 fitting on our Categories 1 or 2. That's very rough, though.

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bw 1 CHAIRMAN HENDRIE: When you say a 1 percent  
2 contributor, what you are saying is that on some measure  
3 like -- I don't know, iodine release or some consequent  
4 measure, whatever -- that out of the sum total of an  
5 accident sequence in the RSS, this one is worth 1 percent?

6 MR. MURPHY: Yes. It was using a bounding  
7 estimate. So -- quasi-bounding estimate I guess I should  
8 say. With a bounding estimate, anything would be one. Using  
9 conservative assumptions we calculated a risk, a probability  
10 relative -- a risk relative to the WASH-1400 RISK.

11 Roughly, those that were 1 percent or over made  
12 the list. That doesn't mean the realistic assessment of those  
13 risks would be 1 percent. It would be far lower. I would  
14 not place great credence as to how things fall relative to  
15 each other in the list. In other words, item 5 is not  
16 necessarily larger than item 6. You are missing the point  
17 of uncertainties, if you came to that conclusion. Certainly,  
18 item 5 is more significant than item 30.

19 COMMISSIONER AHEARNE: When you say, if you made  
20 a realistic assessment of the risk, it would be much  
21 lower, how do you go about making that realistic assessment?

22 MR. MURPHY: It would take a long time, a lot of  
23 money. You know, you are essentially asking me how to a  
24 RSS update.

25 COMMISSIONER AHEARNE: Okay.



817.05.2

bw 1 MR. MURPHY: We did bounding estimate rather than  
2 the realistic things you get out of a full-blown series.

3 MR. DENTON: I think this is a particularly good  
4 one, too, to hear the other side on. Let me ask Roy Woods  
5 to give his perspective on the subject.

6 MR. WOODS: I guess I wrote it down a couple of  
7 hours ago. I can read it to you. I can add to that. Why  
8 don't you read it first?

9 MR. DENTON: Why don't you tell us about the  
10 test, is what I had in mind?

11 MR. WOODS: Tell you about the tests? There  
12 wre some preliminary tests which consisted of single-nozzle  
13 tests of various types in steam whic shows you what one  
14 nozzle will do in steam. Then you essentially develop a  
15 nozzle that will produce the same spray flow pattern in  
16 air. It's called the simulator nozzle. Then you put a  
17 full-scale system together out in Velavitos, which is an  
18 Air Force facility, using those simulator nozzles.

19 Your argument is, since each nozzle simulates  
20 what the real nozzle would do in steam, and you have all  
21 of them installed in the actual geometry in air, you are  
22 finding out what could happen if you tested all the  
23 nozzles in steam. You can't do that, obviously, because  
24 you don't have enough steam available anywhere.

25 Those test results showed there is not a

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bw 1 tremendous degradation, less than a factor of 2. It  
2 turns out we have more than a factor of 2 margin available  
3 above what you really need to justify the spray coefficients  
4 they are currently taking credit for.

5 So if the further tests that are being run now  
6 verify these preliminary tests, then we have no problem.  
7 That's a big "if."

8 It has to come out that way.

9 COMMISSIONER AHEARNE: So that if the tests  
10 don't verify that, then you would be back in having a  
11 problem?

12 MR. WOODS: If the tests don't verify, then you  
13 do, indeed, have a safety problem with no jet pump BWRs.  
14 With the jet pump BWRs, where you have the diverse flooding  
15 capacity, it would be -- I don't know how to characterize  
16 it. Maybe a couple hundred degrees in peak clad temperature  
17 increase. You can characterize that any way you would  
18 choose. You can get various opinions. I don't think it  
19 would be a major safety issue.

20 COMMISSIONER AHEARNE: The resolution, in a sense,  
21 depends upon the favorable results from the test?

22 MR. DENTON: Yes.

23 COMMISSIONER AHEARNE: Which is another way of  
24 saying it's still unresolved?

25 MR. CASE: Yes.

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bw 1 MR. DENTON: Judgment. It's likely to work right  
2 rather than unlikely.

3 CHAIRMAN HENDRIE: There aren't all that many  
4 plants that fall into that category.

5 MR. WOODS: Big Rock Point, Dresden 1, Humboldt  
6 Bay, LaCrosse, but LaCrosse is quite different. You really  
7 have five, two of which are currently shut down, Dresden  
8 and Humboldt.

9 COMMISSIONER AHEARNE: Dresden 1 is shut down clean?

10 MR. WOODS: Yes, but it's down.

11 CHAIRMAN HENDRIE: I think really realistically  
12 there are about four. You have about four plants that are  
13 in the category, which is getting kind of thin for a great  
14 generic issue.

15 Onward.

16 MR. DENTON: The next is A-17 system interactions.  
17 This is discussed on page 10 of the enclosure. Why don't  
18 I ask Denny Ross, since it's such a short writeup, to  
19 discuss it?

20 MR. ROSS: I don't think there's any disagreement  
21 between the NRR thoughts and the research categorization.  
22 The research categorization had two main points. First they  
23 had studied only the reactor safety study plant, so they  
24 hadn't quantified the effect of system interaction on all  
25 plants.



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bw 1 Secondly, what they did study on the reactor  
2 safety study showed that system interaction was important,  
3 so this could be a fertile field.

4 COMMISSIONER AHEARNE: Category 1, wasn't it?

5 MR. ROSS: On the high risk.

6 COMMISSIONER AHEARNE: Yes.

7 MR. ROSS: Yes. The way we read the research  
8 categorization, it indicated simply it was a fertile  
9 ground to investigate. The issue is —

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1 COMMISSIONER AHEARNE: Are you saying that your  
2 interpretation was that high risk was equivalent to  
3 fertile ground to investigate?

4 MR. ROSS: Yes. That is in an area where they  
5 had found system interaction, the thoughts that we had was  
6 that the important system interactions are already  
7 covered in our judgment by the procedures we have for review  
8 between the five system branches within DSS. Each of the  
9 system branches has a primary area to review and secondary  
10 areas of responsibility with the other system branches?  
11 and we did not think in our judgment that there was any  
12 important system interaction left unreviewed. This is a  
13 judgmental matter.

14 COMMISSIONER AHEARNE: Could that be interpreted  
15 as saying that you are confident that the current process,  
16 the way the staff is working, is working correctly, so therefore  
17 there's no potential problem?

18 MR. ROSS: Yes. I think that's a fair  
19 characterization.

20 The important thing about the study process, I  
21 think that distinguishes it, merits further study, is that  
22 we have an outside group at Sandia studying the  
23 system interaction problem under contract. This means that  
24 they are more objective. They didn't write the standard  
25 review plan. They are more objective about looking at what

1 we do. Secondly, they are single-minded. They are devoted  
2 to this task as contrasted with perhaps the NRR staff being  
3 occupied also with currently sensing problems.

4 COMMISSIONER AHEARNE: By systems interaction,  
5 is it primarily the issue of the synergistic affects of  
6 problems spreading from one into another into another?

7 MR. ROSS: Yes. I think that's right. There is  
8 a footnote in the research report that gives some examples  
9 of system interaction. Yes. Failure in one system spreading  
10 to others.

11 COMMISSIONER AHEARNE: In what way is it related  
12 to common case failure?

13 MR. ROSS: Well, the -- you have to include, of  
14 course, on common cases tests, maintenance, operator  
15 error which could become important. If you look on that  
16 as a common case.

17 MR. DENTON: An easy way to think of systems  
18 interaction for me at least is it is a steamline pipe break  
19 which by whipping hits the component cooling water which is  
20 vital back to a component to cool the core. It is more of  
21 that kind as opposed to a plastics problem in the BWR  
22 scram valves which would be a common mode failure potential  
23 for a system.

24 MR. ROSS: For some safety actions like shutting  
25 down, many systems are involved; so system interaction will be



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1 looking at how these various systems work during an  
2 important safety action of the plant.

3 COMMISSIONER AHEARNE: It almost seems this is the  
4 type of item that should not have ever been included on  
5 the list?

6 MR. CASE: It is fair to say for whatever it is  
7 worth, that it is high on the ACRS list.

8 COMMISSIONER AHEARNE: The point is isn't it saying  
9 that until -- in any plant, you have got a number of things  
10 that might go wrong if they were to go wrong something else  
11 could happen, so it is a compounding problem? And that you  
12 also have to be very aware of that and alert to it and  
13 that your answer is -- or research's answer, point is that  
14 that has the potential of great risk because you don't --  
15 you are not really talking about any exact explicit items?

16 MR. ROSSN: That's right. The best one word  
17 characterization is oversight. Have we overlooked anything.  
18 That's what we expect to find out through Sandia.

19 COMMISSIONER AHEARNE: You are really hoping  
20 the Sandia effort will be a confirmation of your  
21 conclusions?

22 MR. ROSS: Well, we are expecting. I don't know  
23 that I hope one way or the other.

24 COMMISSIONER AHEARNE: When will that Sandia  
25 effort be over?

MR. ROSS: The contract expires next summer.

That's a phase 1.

(Laughter.)

We have to make a decision based on the results then. Do we want to do some more or not. We get some short-term results this physical year.

COMMISSIONER AHEARNE: I see. If they conclude that NRR is not doing its job, you will continue the contract?

CHAIRMAN HENDRIE: Denny, have they turned anything of interest up thus far?

MR. ROSS: No, the project is just getting underway. We met out there a couple of weeks ago to define some basic ground rules. The program is being governed by sort of a troika between NRR, standards, and the probabilistic assessment staff. We are still giving some conceptual design ground rules. I think by February we will have some -- a good start on are they going the right direction; but no, there is nothing to report as yet.

CHAIRMAN HENDRIE: I take it this is an outgrowth of Jessie's pursuing the matter in these terms over the last couple of years?

MR. ROSS: That's correct. We are keeping a very close connection with the ACRS subcommittee.

END-9

begin 10

CHAIRMAN HENDRIE: Roger?

MR. MATTSON: I would just point out the main thrust of his argument is that the licensing process is designed to turn these things up if they exist. In the time that I have been connected with system interaction, we found more in the licensing process than they found in all the studies they are doing of license interaction. I think that says to me the process is doing its job.

MR. DENTON: A-18, pipe rupture design criteria. Mike?

MR. AYCOCK: Yes. The purpose of this task is to develop consistent criteria regarding pipe break protection inside and outside of containment. Also to develop criteria for optimizing piping design for normal and abnormal situations.

It was assigned to Group 3 as confirmatory. In the risk category, risk categorization was category 3, negligible risk potential on the basis that the task could possibly improve piping reliability; however, if the task were not undertaken, risks from piping ruptures should remain about the same as presented in the reactor safety study.

COMMISSIONER AHEARNE: Is that saying that it is concluded that pipe breaks are not serious?

MR. AYCOCK: No. It is saying this task should not



1 affect the current pipe failure.

2 COMMISSIONER AHEARNE: It is saying risks of  
3 piping ruptures should remain about the same as RSS. Is  
4 there latent there or implicit there "and that's not very  
5 serious"?

6 MR. AYCOCK: I don't think so.

7 MR. CASE: Is there an implication in what you say  
8 that you think the probability of pipe failure is low  
9 enough now?

10 MR. MURPHY: Based upon the analyses in the  
11 safety study, pipe failures did not contribute greatly to  
12 risk. I don't want to say it was negligible, but other  
13 events dominated risk calculated in the safety study other  
14 than pipe rupture. By maintaining it at the present level,  
15 we are having contributors larger than pipe rupture.

16 COMMISSIONER AHEARNE: Pipe rupture per se is  
17 not a major high risk item?

18 MR. MURPHY: That's correct.

19 COMMISSIONER AHEARNE: So the pipe cracking --  
20 is pipe cracking pipe rupture? Or is this catastrophic?

21 MR. CASE: It is catastrophic.

22 MR. AYCOCK: The steering committee conclusion was  
23 although development of criteria to optimize piping design  
24 is desirable, it is not necessary to assure adequate protection  
25 from pipe breaks; that is current requirements generally

jg-7 1 provide the adequate protection.

2 COMMISSIONER AHEARNE: To make sure I understand,  
3 you are talking about catastrophic breaks, not cracks?

4 MR. AYCOCK: Correct.

5 COMMISSIONER AHEARNE: The conclusion is that  
6 the RSS estimate shows that it is of significantly  
7 low contribution to overall risk that even were the criteria  
8 such that to reduce that that would not be a significant  
9 improvement?

10 MR. CASE: That's essentially the argument. We,  
11 too, think they are generally okay although we may need  
12 improvement. There are particular areas where we think  
13 more work should be done than others in pipe crack  
14 criteria. In general we think we are about okay.

15 CHAIRMAN HENDRIE: It would always be nice to have  
16 better designed methods of criteria and so on; but I must  
17 say things like section 3 --

18 VOICE: I think I have something to say.

19 MR. CASE: This is Mr. Hou.

20 CHAIRMAN HENDRIE:--represent a pretty high  
21 development of the art.

22 MR. HOU: For the plan against a pipe rupture,  
23 we have a long-term program and a short-term program.  
24 This A-18 is actually a short-term program. So it will not  
25 significantly affect the planned current design. So the

jg-8 1 conclusion in there is about right.

2 COMMISSIONER AHEARNE: Is the long-term program  
3 on one of these tests?

4 MR. HOU: We already have a request to the  
5 reactor safety research that involves various aspects  
6 like jet forces, pipe waste mechanisms, break mechanisms,  
7 and break probabilities. That will have more effects.

8 MR. MATTSON: The long-term mechanism is looking  
9 to the kinetics of pipe breaks to take account if possible  
10 some day it breaks.

11 COMMISSIONER BRADFORD: What kind of a program --  
12 what am I doing wrong when I read through last year's report  
13 and there's no task action plan at all associated with  
14 this item? What is it you are talking about that isn't  
15 attached to the task action plan but is a program?

16 MR. MATTSON: Harold, let me jump in. I think  
17 this one did not have a task action plan written by the time  
18 that one went to Congress. I think we were in the process  
19 of writing some. This one was written subsequently. It  
20 does exist in this report.

END10

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1 CHAIRMAN HENDRIE: There is a later edition  
2 of the list with the task action plan. I have the same  
3 book you have.

4 MR. DENTON: All the A's now have, — I believe,  
5 Mike detailed implementation plans and schedules?

6 MR. AYCOCK: With the exception of the recently  
7 evaluated A's.

8 CHAIRMAN HENDRIE: Onward.

9 MR. AYCOCK: Let's go to A-19, entitled "Digital  
10 Computer Protection Systems." The purpose of this task is  
11 to consolidate and develop standard review procedures for  
12 the review of digital computer protection systems. It was  
13 grouped in Group 6 as guidance. It was assigned to Risk  
14 Category 4. That is not directly relevant to risk. The  
15 Steering Committee conclusion was based on the fact that  
16 digital computer protection systems are being discussed on  
17 a case-by-case basis. We will provide licensing efficiency.

18 CHAIRMAN HENDRIE: Next.

19 MR. AYCOCK: Next is A-20, "Impacts of the  
20 Coal Fuel Cycle."

21 CHAIRMAN HENDRIE: Any further question?

22 COMMISSIONER AHEARNE: How did it get on there?

23 CHAIRMAN HENDRIE: I told you this was the  
24 confoundest grab bag of odds and ends.

25 MR. CASE: It's fair to say at the time this was

bw 1 something that had to be done in each application. It was  
2 a Board order to do this. It affected the efficiency of the  
3 licensing process.

4 CHAIRMAN HENDRIE: It was part of that broader  
5 description of the thing that came in the licensing process.

6 MR. AYCOCK: A-21 is main steam line break,  
7 evaluation of environmental conditions for equipment  
8 qualification. It involves a review and evaluation of  
9 analytical methods, assumptions and related experimental  
10 conditions for the qualification of safety-related equipment  
11 located inside containment during or following a main steam  
12 line break.

13 It was assigned to Group 2. The risk category  
14 was Category 3, negligible risk potential, on the basis that  
15 main steam line break results in a small release, compared  
16 to core meltdown accidents and further considering heat  
17 capacity of the equipment, it is unlikely that it will  
18 exceed qualification values during relatively short duration  
19 high temperature excursions following a large main steam  
20 line break.

21 The Steering Committee conclusion was based on  
22 a NRR Staff best estimate evaluation that indicated that  
23 the thermal response of essential equipment will remain  
24 within the qualification temperature of the equipment.

25 Therefore, the issue did not involve a major

bw 1 reduction in the degree of protection.

2 COMMISSIONER AHEARNE: This best estimate, was  
3 that a written calculation?

4 MR. AYCOCK: Yes, it was. We will ask Pat  
5 Baranewsky.

6 MR. BARANEWSKY: That was a calculation performed  
7 by the Staff; that's correct.

8 CHAIRMAN HENDRIE: Let me ask for safety-related  
9 electrical equipment, at least that located within contain-  
10 ment, there continues to be an item on the unresolved safety  
11 issues list entitled, "Environmental Qualification of Safety-  
12 Related Electrical Equipment; A-24 item; so it would seem to  
13 me that at least the electrical gear that would be of  
14 interest in the case of the main steam line break is pulled  
15 in and is covered elsewhere?

16 MR. CASE: Right. This test provides an input  
17 to the other test. This provides a temperature input to  
18 A-24.

19 MR. MATTSON: This provides the input to A-24.  
20 The judgment here is that we already expect what the  
21 temperature input is going to be on the basis of previous  
22 best estimate calculations. Pat can describe -- this is a  
23 task that's almost done, also. This A-21.

24 MR. BARANEWSKY: Yes.

25 CHAIRMAN HENDRIE: Maybe you better leave it on



bw 1 and complete one. I am looking desperately for generic  
2 safety issues we have completed.

3 MR. BARANEWSKY: The final results are expected  
4 to be either equivalent to or lower than this best estimate  
5 prediction that we made about a year ago.

6 CHAIRMAN HENDRIE: Is it coming out much different  
7 than the -- is it coming out any higher than the LOCA  
8 environmental conditions?

9 MR. BARANEWSKY: The task action plan is going  
10 to develop the methods and assumptions for making  
11 calculations. I can't give you a spectrum of analyses for  
12 all the plants on the final models that we think are  
13 going to be acceptable. I can tell you from the preliminary  
14 results that it's very close to the LOCA, maybe a few  
15 degrees higher in temperature, but the effect on the component  
16 would be essentially the same through heat transfer  
17 arguments which we feel we have pretty strongly come on now.

18 COMMISSIONER AHEARNE: Al, you had thought that  
19 would be limit?

20 MR. KENNEKE: As a general matter in connection  
21 with the environmental qualifications.

22 MR. MATTSON: We have discussed whether that  
23 connections should put this on the list also. Maybe this  
24 serves to illustrate the way we are using our definition.  
25 The definition says you are likely to have to take an action

bw 1 as a result of the outcome -- the expected outcome of this  
2 task. The expected outcome of this task is to demonstrate  
3 conclusively that the position we have taken for over a  
4 year is adequate.

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1 MR. AYCOCK: The steering committee conclusion is  
2 that the issue involved confirming credit given at this time.  
3 That is, the Staff believes current positions to be adequate.  
4 Therefore, the actions are not likely.

5 COMMISSIONER AHEARNE: The purpose had two pieces.  
6 The equipment and operator actions. Your risk category  
7 analysis and conclusion speaks only to the first.

8 MR. AYCOCK: Yes. Denny? Tom?

9 VOICE: On the risk, perhaps we can get the people  
10 from reactor safety study. As we review plans for mitigating  
11 the consequences of the steam line break, we assume no  
12 corrective operator action is taken any sooner than 10 minutes  
13 after the event and he must have sufficient information. Our  
14 judgment is that that's an acceptable criterion.

15 COMMISSIONER AHEARNE: You are saying even given the  
16 10-minute time period, that the data has indicated that as far  
17 as the valves are concerned, that they are sufficient?

18 MR. NOVAK: Yes. Not to belabor the point, these  
19 valves are only called on after engineered safety equipment is  
20 assumed to have a single failure. This equipment is used as  
21 a backup only in that event. We understand that equipment and  
22 we think it's reliable for the function it's going to perform.

23 MR. AYCOCK: A-23 regarding containment leak testing  
24 is to clarify application of Appendix J to 10 CFR —

25 COMMISSIONER AHEARNE: That's a current regulation?



cmw

1 MR. AYCOCK: Regarding containment leak testing,  
2 and to resolve any conflicting or impractical requirements.  
3 This task is in fact complete.

4 It was assigned to Group 6, which is improving  
5 guidance; Risk Category 4, not directly relevant to risk.  
6 It's viewed as licensing efficiency.

7 MR. DENTON: This one has caused the need for  
8 exemptions in some areas. It's one in which we have given  
9 standards our proposed rewrite of Appendix J to eliminate  
10 that kind of problem. It should be moving back down to you  
11 as a proposed change.

12 CHAIRMAN HENDRIE: It's a cleanup.

13 COMMISSIONER AHEARNE: When you say "complete," you  
14 mean as far as NRR is concerned it's complete?

15 MR. DENTON: Yes.

16 COMMISSIONER AHEARNE: It's now transferred to  
17 standards?

18 MR. DENTON: Yes.

19 COMMISSIONER AHEARNE: And was originally on there  
20 to improve the efficiency of licensing?

21 MR. DENTON: Yes.

22 CHAIRMAN HENDRIE: 24 is on the Staff list. So far  
23 we haven't debated whether they improperly put any of these  
24 things on the list. I would just as soon go through it the  
25 other way first and then we could see if we want to go back.

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COMMISSIONER AHEARNE: That's fine.

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MR. AYCOCK: A-25, nonsafety loads on Class I-E

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power sources. The purpose of the task is to assess whether

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or not the reliability of Class I-E power sources is

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significantly affected by allowing the sharing of these

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sources by loads that perform safety functions and loads that

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perform normal plant functions.

8

MR. DENTON: Why don't we ask Mr. Calvo to explain

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this?

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MR. MATTSON: Jose Calvo had to go to the doctor

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this afternoon. I-E is the safety grade. It's a nomenclature

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that derives from the national standard on electrical

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equipment. For this discussion it's equipment you rely on

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for safety systems.

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MR. AYCOCK: It was assigned to Group 4 as a possible

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relaxation of requirements. There's also a portion of it

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that could be characterized as confirmatory. Risk category

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was Category 4, not directly relevant to risk.

19

COMMISSIONER AHEARNE: Could I have an explanation

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of that? Let us suppose that the -- having the loads running

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other systems, that those loads would cause these power sources

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to fail, that would not be a relevant risk?

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MR. MURPHY: Basically, the categorization was not

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directly relevant to risk. Obviously, almost everything on

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this list, if you stretch it far enough, is risk related to

cmw 1 some extent. This task action plan was developed — was  
2 to develop acceptance criteria; and those in and of themselves  
3 are not directly related to risk. What we said in our  
4 write-up was depending on what comes out of that criteria,  
5 that there may be an improvement in the reliability of the  
6 systems and therefore have an effect on risk; but you can't  
7 quantify that until you know what improvements are coming out.

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1                   COMMISSIONER AHEARNE: So the particular task is  
2 to establish acceptance criteria for these power sources;  
3 is that correct?

4                   MR. MATTSON: We already have that. It is to  
5 make sure they are the right acceptance criteria as we see  
6 more and more safety loads being necessary to be driven by  
7 some of the power sources; and to do a reliability study  
8 to underpin, if you will, criteria that grew up without  
9 reliability studies in the past. It is a fine tuning of  
10 what we already have with the expectation that there will  
11 be a relaxation in requirements, those requirements being  
12 for isolation devices and that sort of thing.

13                  COMMISSIONER AHEARNE: Except Roger, you said  
14 with the expectation of a relaxation?

15                  MR. MATTSON: Yes.

16                  COMMISSIONER AHEARNE: The steering committee  
17 conclusion is that current practice is adequate?

18                  MR. MATTSON: Current practice is adequate for  
19 safety. It may be overkill. This is one that's being  
20 done under contract at Oakridge, about a year for  
21 completion. We fairly well have it in hand at this point.

22                  COMMISSIONER AHEARNE: You don't have a concern  
23 that at the moment you may be placing too many nonsafety  
24 loads on these power sources?

25                  MR. MATTSON: No.

jg-2

1 MR. AYCOCK: There may be a fine point here.  
2 The current practice we are referring to is the practice  
3 of allowing connecting nonsafety loads on Class 1-E  
4 safety power sources with current requirements for proper  
5 isolation and so on. This test is expected to confirm the  
6 accuracies of that practice.

7 There is another aspect: it is which particular  
8 isolation devices do you allow? Such isolation devices  
9 as fuses and circuit breakers are not allowed by the  
10 current regulatory guidance. This is the relaxation area.  
11 Is it possible to go back and allow fuses and circuit  
12 breakers as isolation devices?

13 MR. MATTSON: Part of the thing we shouldn't  
14 lose track of is that there are four or five electrically  
15 oriented task action plans. One has been elevated to the  
16 A list and put in the safety issue related category.

17 All of these are mered together in a rather  
18 broad ranging program speaking to electrical reliability  
19 in general. This is just one aspect of it.

20 CHAIRMAN HENDRIE: Further?

21 MR. AYCOCK: Move to --

22 CHAIRMAN HENDRIE: A-26 is on the list. I  
23 recommend we move to A-27.

24 MR. AYCOCK: A-27 reload application guide is  
25 to update and formalize review procedures for licensee

jg-3

1 reload submittals.

2 CHAIRMAN HENDRIE: If he doesn't come in and  
3 drop his application on your foot, there's not much of a  
4 safety problem associated with spreading out the papers.  
5 I am prepared to pass on that one.

6 MR. AYCOCK: A-28 increase in spent fuel storage  
7 capacity. This task is intended to develop consistent  
8 acceptance criteria regarding the use of high density  
9 storage racks in existing spent fuel storage pools. It  
10 is viewed as improving guidance. It was assigned to  
11 category 3, negligible risk potential, on the basis that  
12 risk associated with accidents occurring in the spent fuel  
13 storage pool were conservatively estimated in the RSS  
14 to be less than .1 percent relative to those overall  
15 risks predicted in the study.

16 The steering committee conclusion is this task  
17 involves the revision of existing guidelines to incorporate  
18 insights gained in the case by case reviews of applications  
19 for increased spent fuel storage pool capacity.

20 CHAIRMAN HENDRIE: Haven't we don't enough of  
21 these by now that the task must be near done?

22 MR. AYCOCK: It is near done.

23 CHAIRMAN HENDRIE: Maybe we could have a class  
24 of these that we declare to be the really central issues  
25 and along about January 20, just before we got to testify,



jg-4 1 we can announce they have been deleted.

2 COMMISSIONER AHEARNE: I think the record ought  
3 to show the Chairman made that as a facetious comment.

4 (Laughter.)

5 CHAIRMAN HENDRIE: True. Further discussion  
6 on this one? I think it is a different category.

7 Okay. A-29.

8 MR. DENTON: This is back on page 11.

9 CHAIRMAN HENDRIE: Back on the enclosure.

10 MR. STELLO: This is looking at ways to provide  
11 high assurance other than protecting against agents  
12 of sabotage in nuclear facilities. We currently believe  
13 that the program we have in place derived principally  
14 from 7355 and a bunch of other regulations. It provides  
15 that high assurance, but clearly there could be others  
16 and more efficient ways in which to accomplish that same  
17 objective.

18 This is an item that has been around for some time.  
19 It is an item which the ACRS brings up from time to time  
20 and we believe is worth looking into, but clearly is not  
21 what I would consider to be an unresolved safety issue.

22 COMMISSIONER AHEARNE: So then, Vick, would it  
23 be correct to say that you believe that the 7355 meets the  
24 needs as far as can be seen? It is always worthwhile to  
25 continue doing some level of investigation, but as far as any

1 major requirement, the current regulation meets it?

2 MR. STELLO: That's my view, yes.

3 MR. CASE: There may be better ways. More cost  
4 efficient ways.

5 COMMISSIONER AHEARNE: I am trying to draw the  
6 distinction, though, between an issue that was never  
7 important and one that is important, but we think we have got  
8 adequate means of meeting it although obviously there may be  
9 better ways. But the ways of meeting it are now adequate.

10 MR. CASE: Yes.

11 MR. KENNEKE: Shouldn't there be a category  
12 eliminated from the discussion and framed broadly enough  
13 to cover the whole category? It seems like that is not  
14 really an issue as such.

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END-13

bw 1 CHAIRMAN HENDRIE: It's like the flaw detection,  
2 the long-range improvement of flaw detection.

3 COMMISSIONER AHEARNE: It's sort of geared to  
4 the research program.

5 MR. CASE: Gentlemen, it's very important to  
6 the ACRS this program be identified and have visibility as  
7 being pursued. They believe that what we are doing here  
8 satisfies their labeling this thing as a generic issue in  
9 each one of their letters. So it is important from that  
10 standpoint to have this identified the way it is.

11 MR. KENNEKE: Aren't you then letting the  
12 ACRS demand drive your response to the 210 question? I  
13 think that's the distinction.

14 MR. CASE: This is not included in my response  
15 to the 210 question.

16 MR. DENTON: It drives the category A's.

17 COMMISSIONER AHEARNE: It was.

18 MR. CASE: It was because of their insistence on  
19 the importance of getting something going. It's another  
20 factor we took into effect.

21 CHAIRMAN HENDRIE: That's another area. That is  
22 a point. There are a number of items of this character  
23 that the ACRS has always labeled as generic issue to be  
24 dealt with and has urged the Staff to get on with it. A  
25 number of improvements sorts of propositions. They will



bw 1 classify them as generic issues. They are not in my view  
2 necessarily section 2108 items.

3 COMMISSIONER AHEARNE: Are you saying that the  
4 ACRS doesn't accept 7355 as meeting their concerns?

5 MR. CASE: No, I wouldn't say that. It's sort of  
6 like their feeling on 5046 the ECCS criteria. They have  
7 written letters saying they think that's adequate, yet they  
8 also write letters saying they think we ought to consider  
9 doing more.

10 MR. DENTON: Improve it.

11 COMMISSIONER GILINSKY: Well, I think it would  
12 be more satisfactory if the protection was inherent in this  
13 design.

14 CHAIRMAN HENDRIE: Next item?

15 MR. DENTON: Next is A-30 on page 12 of the  
16 enclosure.

17 MR. MATTSON: This is a Task Action Plan tht is  
18 in response to an issue raised by an ACRS consultant,  
19 Mr. Epler from Oak Ridge National Laboratory, having to do  
20 with the validty of the single-failure criterion as an  
21 adequate assurance of reliability of the DC power system.  
22 Basically, what we have got is redundant separated DC power  
23 systems. We apply single-failure criterion to those  
24 redundant systems and say one is there when you need it.

25 Mr. Epler and others in reading licensee event

bw 1 reports and studying consequences and events scenarios,  
2 say, "But what if you failed them both, shouldn't you move  
3 to a reliability-based or a probability-based assessment of  
4 reliability for DC power systems, rather than the single-  
5 failure criterion?"

6 You may recall about a year and a half ago we  
7 sent a paper up here as to the status of the use of the  
8 single-failure criterion in a number of places throughout  
9 the regulations and in our review process. This was one  
10 area where examination continues. What is being done under  
11 the Task Action Plan is a reliability study of DC power  
12 systems to look at event reports, to look at mean time  
13 between failure of components, and that sort of thing, to  
14 determine in a probabilistic sense from operating experience  
15 exactly what is the reliability of these systems and does  
16 the single-failure criterion as a licensing tool assure the  
17 kind of reliability that you need for accident situation?

18 COMMISSIONER AHEARNE: How long has that review  
19 been ongoing?

20 MR. MATTSON: That's a sticky point, Commissioner.  
21 The ACRS put a lot of pressure on this one. I believe about  
22 a year ago we said we'd finish it in about a year. We're  
23 not finished yet. I would hope in this fiscal year it's going  
24 to finish. I don't know the current status today. It's  
25 moving along. It's in the power systems which is a highly

1 impacted branch in the OL review process. They have too  
2 few people to do the work. This is one that's slipping,  
3 frankly.  
4           You see today that in our judgment it didn't belong  
5 on the unresolved safety issue list. We are satisfied  
6 with our current criteria. We are satisfied that these  
7 systems are acceptably reliable, but we will continue to  
8 press for an answer for the ACRS. We are breaking new  
9 ground. We are moving to that reliability-based licensing  
10 process in pieces here and there. We have other priorities  
11 to get on with first.

12           COMMISSIONER AHEARNE: In the preliminary review  
13 of licensee reports of failures, what does that tend to  
14 show?

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rc 1 MR. MATTSON: Well, when we went to the ACRS the  
2 first time, we had a probabilistic study that made us look very  
3 good. Since then, we have done more probabilistic studies and  
4 my recollection is that research has said we are on the fringe  
5 between negligible and an important potential contributor  
6 to risk, that is something between 1/10 of a percent and 1  
7 percent.

8 Joe, is that correct?

9 VOICE: That's correct.

10 MR. MATTSON: While our first analysis a year ago  
11 gave us more comfort than the one today, I think there's still  
12 from the risk type analysis a fair support for the present  
13 position. We are making the judgment at this point that it is  
14 not -- we are not likely to change our criteria.

15 Of course, part of that judgment has to be colored by  
16 the fact of are we capable today of moving to unreliability  
17 based licensing criteria and implementing them in the licensing  
18 processes.

19 MR. KENNEKE: Roger, what's the connection between  
20 your statements here and your review that you are carrying on  
21 now of the use of WASH-1400? Isn't this particular issue one  
22 of the ones that's giving you some indigestion? Is there  
23 any connection with the decision as to whether it is an  
24 unresolved safety issue or not?

25 MR. MATTSON: I don't think so, but I am not sure I

rc 1 understand your question, Al.

2 MR. DENTON: I think Al is referring to the fact that  
3 in our dragnet of the uses of 1400, this was one of the places  
4 where 1400 was possibly misused in one of the earlier reports.

5 MR. MATTSON: I don't remember my definition did  
6 that, but maybe one of the others did.

7 (Laughter.)

8 MR. DENTON: The conclusion was, nonetheless, even  
9 though the absolute values have been cited, that the staff's  
10 conclusions on the first principle remain the same about the  
11 issue.

12 COMMISSIONER AHEARNE: What I was trying to get at,  
13 though, was you have now gone through a bunch of accident  
14 reports or, at least, begun to collect accident or failure  
15 reports and are you finding that the single failure criteria  
16 was not anywhere near as adequate a protection as you thought  
17 it was? That's really the question.

18 CHAIRMAN HENDRIE: Let's ask it another way: How  
19 much DC blackout have we had?

20 MR. SIELLO: I can't recall any instance where both  
21 batteries were lost. Give me a few moments. I will be  
22 leafing through this. I might want to change it later. I  
23 don't remember seeing it.

24 CHAIRMAN HENDRIE: It sounds like zero or some small  
25 number of hours against several hundred plant years of

rc 1 operation.

2 MR. MATTSON: Yes.

3 CHAIRMAN HENDRIE: That suggests to me that it is --  
4 you know, that whatever data is available suggests a fairly  
5 small increment. Wag your hand there if you find an instance.  
6 Why don't we move ahead.

7 John?

8 MR. AYCOCK: A-32 is evaluation of overall effects of  
9 missiles. The purpose is to improve and enhance the current  
10 licensing review process by assessing the overall and  
11 structural local response from impacts of missiles generated by  
12 tornadoes, turbine failures, aircraft impact or by other  
13 accidents external to the nuclear facility.

14 It was assigned to Group 3 which was confirmatory.  
15 The risk category assigned it to a category 3, the negligible  
16 risk potential on the basis of a bounding calculation. They  
17 showed it was less than 1 percent of the reactor safety study  
18 risks.

19 The steering committee conclusion is that current  
20 criteria are believed to provide substantial safety margins  
21 against a broad spectrum of missile hazards. This task is  
22 expected to confirm that existing conservatism.

23 CHAIRMAN HENDRIE: If we -- we might back off a  
24 little bit from things like -- some of the things like  
25 tornado missiles.



rc 1 MR. CASE: This is the structural effects of missiles  
2 given a strike. There's another task that deals with the  
3 probability of a strike, from tornadoes in particular. It is  
4 just the structural part.

5 CHAIRMAN HENRIE: I know.

6 MR. DENTON: This was one where we were reprogramming  
7 manpower. We did give the responsibility to this one to  
8 Standards. Gunner Arnot is here.

9 MR. ARNOT: Good afternoon. I am Gunner Arnot from  
10 Standards.

11 Task action A-32 uses as its inputs at various points  
12 the two task action plans related to turbine missiles and  
13 tornadoe missiles. This particular task, A-32, addresses  
14 itself to the structural effects only, not to the missiles,  
15 the probability of occurrence.

16 It takes a given load on what we would estimate to be  
17 the structural barrier and then the objective at that point is  
18 to take our analytical techniques that we currently use,  
19 assess them against some test programs which have recently  
20 been run and are currently being run, and find out how  
21 conservative are we in our calculations of the response of this  
22 barrier.

23 We feel we have quite a bit of conservatism in this;  
24 and, as a matter of fact, we can probably shave it when we do  
25 some more comparison of test results with the current

rc 1 analytical approaches being used.

2 Fundamentally, this program is to advance the state  
3 of the art, refinement of structural analysis techniques on  
4 barrier behavior when struck by a missile. We consider we  
5 don't have an immediate safety concern in this area because we  
6 feel we have sufficient margin. The question is quantifying  
7 that margin to some degree.

8 CHAIRMAN HENRIE: The missile spectrum against which  
9 one designs for the class-one tornado includes a 4000-pound  
10 automobile at what velocity?

11 MR. ARNOT: There's a variety of tornado missiles  
12 which are being reviewed at this time.

13 COMMISSIONER AHEARNE: What is the aircraft impact?  
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cmw 1 MR. ARNOT: Currently we were not including it in  
2 this action plan. We can't call it a generic —

3 COMMISSIONER AHEARNE: What is your criteria of the  
4 number of plants that are required to be generic?

5 MR. ARNOT: Personally, I don't have one. I think  
6 this is well within any criteria one would establish, not to  
7 worry about it. But as drafted, the plan does not include it  
8 because we don't, in the foreseeable future, have any that I  
9 understand are going to use an airplane crash as a design  
10 criteria. Being from standards, I may not have the latest  
11 word on that, but that's my understanding.

12 (Simultaneous discussion.)

13 CHAIRMAN HENDRIE: The point about when you get a  
14 plant which has managed to locate itself closest to an airport,  
15 so that you want — look at the aircraft impact, they  
16 immediately get fairly plant specific in the sense that you  
17 immediately want to find out what the traffic at the airport is  
18 and what fraction of it is big, medium, small, general.

19 COMMISSIONER AHEARNE: That's going to the  
20 probability of it.

21 CHAIRMAN HENDRIE: No. That's going to the effects  
22 of the impact as well. That is, you want to examine on a  
23 plant-specific basis and I don't see that a generic set of  
24 criteria for structural response to aircraft are going to be  
25 of much use to anybody. So it really doesn't fall in the



cmw 1 generic. It may be a safety problem for a given plant, but  
2 in that case you will want to look at the kinds of aircraft  
3 and where they are coming from.

4 COMMISSIONER AHEARNE: My only point, Joe, and it  
5 doesn't take exception to this, but if I understand correctly,  
6 you have two categories of tasks. One is determining what is  
7 the probability that there will be a hit and the second, which  
8 is that task, given that there is a hit, what is the  
9 structural effect of that hit.

10 If those tasks are useful, then the question of how  
11 close the plant is to the airport comes into the first  
12 category and has nothing to do with given that it's hit by  
13 an airplane.

14 CHAIRMAN HENDRIE: Sure it does. Different airports  
15 will have different kinds of track. The specific missile that  
16 you have to consider in terms of structural effects may be  
17 different from -- for plant to plant.

18 COMMISSIONER AHEARNE: Sure, but that has to do with  
19 any aircraft impact. There will always be a specific airplane.

20 CHAIRMAN HENDRIE: No. It won't be specific. The  
21 missile which the aircraft represents will be  
22 characteristically different from plant to plant.

23 COMMISSIONER AHEARNE: I was just speaking -- if  
24 there's an envelope of parameters that the structural effect  
25 will examine, a missile is -- I imagine that's a generic word

cmw 1 which ends up being a set of characteristics applied to it  
2 for the transfer of the impact. It's just a combination.

3 CHAIRMAN HENDRIE: In fact, we had a set of planes  
4 full of antisubmarine weapons as I remember it. Onward.

5 MR. DENTON: A-33. That is the treatment in the  
6 environmental statement of accident risks.

7 MR. CASE: I had a lot of volunteers this morning  
8 to cover the NEPA ones.

9 COMMISSIONER AHEARNE: Could you say -- you say  
10 it's an environmental issue. Was this for the improvement  
11 in the licensing review? Was that the origin?

12 MR. DENTON: Let me ask Dale Bunch to describe that  
13 task.

14 MR. BUNCH: Basically, that has two purposes. One  
15 is to take a look at what we have learned in the last 100 or  
16 so statements for LWRs and see what additions we should make  
17 to that proposed annex issued in 1971 regarding the treatment  
18 of accidents in NEPA statements. The second is to develop  
19 some sort of --

20 CHAIRMAN HENDRIE: I think we are going to overtake  
21 the Staff. On converging paths we will see you down the  
22 trail a ways.

23 MR. BUNCH: The second was to develop a document we  
24 could use given some sort of generic document that was  
25 providing a base for the commonly asked questions.

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1 CHAIRMAN HENDRIE: A-34.

2 MR. AYCOCK: This is instruments for monitoring  
3 radiation and process variables during accidents. The purpose  
4 is to develop acceptance criteria to support implementation  
5 of Revision 1 to Regulatory Guide 1.97 dealing with  
6 instrumentation for light water cooled nuclear power plants  
7 to assess plant conditions during and following an accident.

8 It's viewed as improving guidance. The risk category  
9 was Category 4, not directly relevant to risk, in that it was  
10 procedural.

11 The basis for the risk categorization was that the  
12 task action plan dealt with the development of criteria and  
13 procedures which, if subsequent action is taken, might result  
14 in some unquantifiable improvement in safety.

15 The steering committee conclusion was that this task  
16 is intended to increase the efficiency and consistency of the  
17 licensing process by developing implementation criteria for  
18 a Regulatory Guide that is already in effect.

19 COMMISSIONER AHEARNE: Do you mean the Guide is  
20 already in effect? So you are using these kinds of acceptance  
21 criteria and you are now trying to -- this task is to codify  
22 those acceptance criteria?

23 MR. CASE: Let me see if I can explain. In its  
24 review of this Guide by the RQC, it recommended an  
25 implementation schedule which was in effect, all of it for new



cmw 1 plants and some portions of it for existing plants.

2 Now, in order to implement this schedule, one of  
3 the better ways to do it was to take individual lead plants  
4 and work it out with those plants, the details, and then  
5 have all the rest of the plants follow that guidance. That  
6 was the purpose of this task action plan, was to take some  
7 lead plants, work out the implementation on those plants,  
8 and then have others follow it.

9 Now, it's fair to say that this guide has met with  
10 considerable resistance from the industry.

11 On the other hand, it has had a considerable  
12 impetus behind it from the ACRS. Our efforts to implement it  
13 haven't been completely successful, but we are still working  
14 on it.

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15 Fred, do you want to add to that?

16 VOICE: No, sir, I don't have any other specific  
17 comments.

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1 COMMISSIONER AHEARNE: Why has the ACRS been pushing  
2 on it?

3 VOICE: The ACRS feels there is a need for this  
4 instrumentation to follow an accident if the accident were to  
5 occur. They were pushing very hard for the regulatory guide.  
6 They had that on one of their lists of issues that needed to  
7 be addressed.

8 COMMISSIONER AHEARNE: In the absence of the  
9 instrumentation, what happens?

10 MR. HEBDON: Well, the plants are already reviewed  
11 and the plants are assessed.

12 COMMISSIONER AHEARNE: The ACRS's concern is you need  
13 the instrumentation for some reason.

14 MR. CASE: You need the instrumentation because you  
15 have expectations on how an accident sequence might happen in  
16 the real world. We have an ECCS system coming on. We have  
17 the containment pressure reducing and those sorts of things.

18 The purpose of this guide is to provide  
19 instrumentation that would detect whether or not that is  
20 happening.

21 That is, you ought to have a pressure gauge inside  
22 containment that would not simply go off scale if it went  
23 above the containment pressure, but could read two or three  
24 times above design pressure.

25 COMMISSIONER AHEARNE: The purpose of that is for after

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1 the accident, reconstruction of accident analysis, or is it  
2 for control of other equipment?

3 MR. CASE: It is for control of other equipment for  
4 emergency planning, things like that.

5 COMMISSIONER AHEARNE: So it could be critical to  
6 reducing the hazards associated with the accident?

7 MR. CASE: Yes. It didn't follow what you would  
8 normally expect an accident as severe as this to follow.

9 COMMISSIONER AHEARNE: The issue is not that we don't  
10 know what ought to be done? The regulatory guide lays that out?  
11 It is getting the plants to follow that?

12 MR. CASE: Well, it is a little bit of both, I think.  
13 Primarily the latter; but I don't think the regulatory guide  
14 was completely specific as to what kind of instruments, where  
15 to place them?

16 MR. HEBDON: There are both technical issues and  
17 philosophical issues that need to be resolv-d as to how to  
18 implement the reg guide. So there is really both aspects  
19 involved.

20 COMMISSIONER AHEARNE: Are there major technical  
21 issues?

22 MR. HEBDON: No. It is not any major technical  
23 issue.

24 COMMISSIONER AHEARNE: The major problem is getting  
25 the plants to do it?



1 MR. HEBDON: That's correct. I don't think the  
2 technical issues are any more complicated than any of the  
3 technical issues.

4 MR. DENTON: I just received a letter from industry  
5 this week once again reiterating the high cost and low value  
6 they attach to this effort.

7 CHAIRMAN HENDRIE: There are questions like should it  
8 be seismically qualified instrumentation; should it be -- that  
9 is full cap One instrumentation -- should it be redundant; how  
10 redundant?

11 MR. CASE: I don't think we have gone that far, have  
12 we?

13 MR. HEBDON: The reg guide has positions on whether  
14 it should be redundant, whether or not it should be Category 1;  
15 those types of things.

16 Their positions are there.

17 There are some additional amplification that I think  
18 is needed on the specifics of how we are going to apply those  
19 various positions.

20 COMMISSIONER AHEARNE: I guess I wouldn't call it an  
21 unresolved safety issue. It may be an issue that ought to be  
22 addressed at some time.

23 MR. CASE: If we had a category called unresolved  
24 philosophical issues, I would put this one in it.

25 CHAIRMAN HENDRIE: Along with seismic scram.

industry?

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1 MR. CASE: Yes.

2 COMMISSIONER AHEARNE: My point is it might be an  
3 issue that more leverage ought to be applied to.

4 CHAIRMAN HENDRIE: It just doesn't fit the right  
5 mode for unresolved safety issues. We may not be doing it  
6 all, but we know what we do.

7 MR. DENTON: A-35.

8 MR. AYCOCK: The adequacy of off-site power systems.  
9 The purpose of the task briefly is to assess the need, if any,  
10 for upgrading the off-site power sources and its interface  
11 with the on-site power system at nuclear power stations.

12 It was in Group 1. It was in Risk Category 4.  
13 A statement in there is -- or in the risk report was that if  
14 results of the task are applied in such a way that improvements  
15 in the reliability of off-site and on-site power result, then  
16 significant but presently unquantifiable safety improvements  
17 are possible.

18 COMMISSIONER AHEARNE: Do we rely on off-site power  
19 to meet any of the safety loads?

20 MR. CASE: No. But we think probably that off-site  
21 power is more reliable than on-site power. We wish it to be  
22 as reliable as possible.

23 COMMISSIONER AHEARNE: But it is not the --

24 MR. CASE: But you take into account the fact it  
25 might fail by having diesels.

1 CHAIRMAN HENDRIE: Take the last ditch. It also  
2 has the feature that it is capable of providing more bump to  
3 the thump and you can run things like boiler feed pumps and  
4 things like that that are great to have if you need a lot of  
5 water to keep things cool and so on; but if you take the  
6 off-site power and wipe it out in toto, you are still in  
7 principle at least -- you have two separate and independent  
8 on-site emergency systems.

9 COMMISSIONER AHEARNE: When you say in principle?

10 CHAIRMAN HENDRIE: Well, those are the Commission's  
11 regulations.

12 NOW you know if you take me out to a given plant and  
13 try to point out complications in that principle, why, I'd  
14 say there weren't some, but that's a detailed review, an  
15 implementation matter, not in the nature of an unresolved  
16 safety issue.

17 There's always been a lot of argument in fact about  
18 whether the Staff, in reviewing a plant, should have anything  
19 to say at all about the off-site power system; and there are a  
20 number of people -- I think I have more than half of my weight  
21 on that side of the fence that would say we require emergency  
22 power systems to protect the safety of the public. We require  
23 them to be redundant.

24 We go to some difficulty to separate some -- work  
25 hard to separate the independent systems, avoid them from



1 channeling disturbances from one to the other and so on.

2 Having done that, I think there is a reasonable basis  
3 to say keep your hands off the commercial power; but --

4 MR. CASE: The other side of the argument is given  
5 that off-site link being very unreliable, you may want to  
6 augment the on-site power system more than two.

7 CHAIRMAN HENDRIE: Yes. But then there come back  
8 these comments which say yes, but you do have to have the  
9 off-site link because you are making power and you have to  
10 get it off the site somehow.

11 You can indeed bring power in; and all of these big  
12 stations are connected in multiple ways to the grid. As  
13 long as you have that there, why not do what is reasonable to  
14 make sure that it is -- without being safety grade all the way  
15 down the line -- is as available as good engineering practice  
16 and commercial power engineering would make it; and then the  
17 argument comes now what does that mean, how far shall we push  
18 on that.

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rc 1 MR. KENNEKE: Couldn't this come under the type two  
2 limit of the definition, though? Or is it not quite that  
3 significant? It says that it would be significant but  
4 unquantifiable.

5 CHAIRMAN HENDRIE: It is going to be unquantifiable  
6 because you are going to have a tough time making an off-site  
7 power system that the staff will give you tinker's damn worth  
8 of credit on on any LOCA calculations or accidental  
9 calculations.

10 COMMISSIONER AHEARNE: I am puzzled by how that  
11 statement Allen has picked up, significant safety calculations  
12 are possible, if we don't really require it for the safety  
13 system to run the safety loads. If you made the 100 percent  
14 reliable of off-site power?

15 MR. CASE: Then you'd never need on-site power.

16 MR. DENTON: Let me ask Roger or Mr. Wenzinger to  
17 elaborate on this?

18 COMMISSIONER GILINSKY: Why is it not directly  
19 relevant to risk?

20 MR. MURPHY: Basically, I will try to respond to both  
21 questions at the same time. The reason we have a statement that  
22 unquantifiable safety improvements could result is because when  
23 you are doing a probabilistic analysis for the risk, you have  
24 to consider the probability of losing both the off-site and  
25 the on-site to get into an accident sequence where there's a

rc 1 problem.

2 If you can improve -- let me digress for a moment to  
3 say that the loss of all AC power coupled with the loss of an  
4 auxiliary feed water system for the use of a pressurized water  
5 reactor in the safety study was the dominant contributor to  
6 the risk. Obviously, if you can lower that contribution, it  
7 has a significant effect on risks. This is the reason why we  
8 say that it could be significant.

9 The reason we say it is not directly relevant to  
10 risk at the present time is because the Task Action Plan is not  
11 aimed at changes in the plant but rather changes in procedures  
12 in house, changes in paper; and you can't quantify it this  
13 time what the results -- you need the results of this Task  
14 Action Plan to see how they are implemented. Then you can go  
15 back and find out this contribution to risk; but, at the  
16 present time, it is more proper and you have to wait to see the  
17 implementation of those procedures before you can have it  
18 directly relevant to risk.

19 COMMISSIONER GILINSKY: It sounds like you are saying  
20 that the approach is not directly relevant to dealing with the  
21 reduction of risk but the problem -- but there is a safety  
22 problem?

23 COMMISSIONER AHEARNE: It almost sounds like he's  
24 saying this isn't the right task, but the right task would be a  
25 higher priority?



rc 1 MR. CASE: I don't think he's saying that.

2 MR. DENTON: I think he's saying if you could  
3 significantly find a way to reduce off-site power, it would  
4 reduce the risks.

5 MR. MATTSON: A-44 is the new B item that got raised  
6 up to the list that is in the new list. That is the loss of  
7 all AC power, station blackout. It is an unresolved safety  
8 issue. This particular one, the adequacy of off-site power  
9 systems in that larger program I described earlier, research  
10 said that is paper procedure oriented and doesn't come straight  
11 to the question.

12 On the question of station blackout being the  
13 major -- or the dominant contributor to PWR risk, there is an  
14 unresolved safety issue identified for that topic.

15 MR. KENNEKE: Why didn't you pull 35 into 44?

16 MR. MATTSON: Ed Wenzinger is here. He can describe  
17 the kinds of things we hoped to polish off in A-35. We don't  
18 propose to stop work on everything but what's in the unresolved  
19 safety list. There are things that have to be done here that  
20 are important. They are just not of the safety significance  
21 as A-44.

22 MR. CASE: If you pull everything together, it  
23 becomes unmanageable.

24 Ed, why don't you tell them what's in this task?

25 MR. WENZINGER: There are basically two parts to this

rc 1 program. One looks at off-site power and its availability.  
2 Basically, it looks at whether or not the power is going to be  
3 there or not, given such a thing, for example, as turbine trip  
4 or some other disturbance out on the grid. Basically, looking  
5 at the reliability, how likely is it that off-site power will  
6 be available?

7 CHAIRMAN HENDRIE: It is a system stability?

8 MR. WENZINGER: Off-site power systems stability;  
9 that is correct. This task also looks at a couple of items  
10 that are more hardware oriented, however. When power goes  
11 away, it doesn't always go away all together. It doesn't  
12 simply go to zero.

13 There are conditions known as degraded voltage  
14 conditions. The voltage could, perhaps due to some off-site  
15 deficiency, degrade not to zero, but to some greater such as  
16 60 or 70 percent, in which case, it is conceivable that safety  
17 related equipment might not operate correctly.

18 Part of this task is to complete work on providing  
19 under-voltage sensors in the various safety buses so that if  
20 such an under-voltage occurs, a switch can be made to on-site  
21 power sources.

22 Another aspect of off-site power, of course, is the  
23 frequency. The frequency conceivably can decay at a fairly  
24 rapid rate if there is an extreme lack of generation in the  
25 grid. That could affect, in PWRs, the primary pumps in such a

1 manner that you conceivably could slow them down faster than if  
2 they were disconnected from the grid. That's not a  
3 particularly serious safety concern. However, it could result  
4 in going below a 1.5 DMB for a few seconds or so. Since it  
5 isn't such an extreme item, it isn't considered particularly  
6 of concern to safety.

7 The other is developing test procedures for on-site.  
8 Diesel generators in particular. That's the implementation of  
9 Reg Guide 108. Those latter three are all under way.

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1 MR. CASE: Part of it is to provide an input for  
2 the station blackout. There are other parts of the task  
3 that for convenience are put here.

4 CHAIRMAN HENDRIE: I really think in terms of  
5 power supply questions, that the station blackout comes  
6 squarely to the issue and that questions of whether you can  
7 improve the off-site power system again falls into that  
8 category of things that are nice but not necessary.  
9 It just doesn't have to be, again, the right dimensions.

10 COMMISSIONER AHEARNE: Joe, was that an accurate --

11 MR. MURPHY: Yes. Part of the problem is there  
12 are several task action plans that sound almost alike.  
13 They deal with interrelated and entwined items. I think the  
14 blackout fits the number of the problem.

15 CHAIRMAN HENDRIE: Why don't we try 36?

16 MR. AYCOCK: Control of heavy loads near spent  
17 fuel.

18 This one principally involves evaluating  
19 provisions for handling heavy loads near spent fuel pools  
20 inside or outside containment of operating reactors.

21 CHAIRMAN HENDRIE: You notice this is without  
22 regard to the unit of origin of the spent fuel.

23 COMMISSIONER AHEARNE: Yes.

24 MR. AYCOCK: This will be done by determining  
25 what specific measures are being employed at operating

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1 facilities and whether any additional measures are needed.

2 It was assigned to group 2. It was a risk  
3 category 3, negligible risk potential on the basis that  
4 dropping of heavy leads in spent fuel pools presented  
5 a negligible risk impact compared to other risks or  
6 risks associated with core melt down accidents.

7 The steering committee conclusion was that some  
8 design provisions and procedures for handling heavy loads  
9 are in place at operating plants although not necessarily  
10 documented in submittals to the staff.

11 In addition, specific interim measures such as  
12 tech spec limitations are in place at some plants.  
13 Therefore, it is unlikely that a heavy load handling  
14 accident that significantly damages spent fuel will occur.

15 COMMISSIONER AHEARNE: Could I ask it in several  
16 pieces?

17 First, let us assume just for the purpose of  
18 the incident in question that a heavy load handling  
19 accident that both significantly damaged spent fuel may  
20 occur? If that were the case, would this be a high priority  
21 issue?

22 MR. CASE: On a given plant?

23 COMMISSIONER AHEARNE: Just a high priority issue?  
24 On all plants? Let's just assume --

25 MR. AYCOCK: If you had no protection now?

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1 COMMISSIONER AHEARNE: Yes. In other words,  
2 let me assume that both your first two statements were  
3 not correct.

4 MR. DENTON: Let me answer it this way: we would  
5 be concerned about heavy load accidents and it is more like  
6 A-12 in which we have not looked at the paper to see how  
7 it all comes together, although in our judgment it was  
8 unlikely to present problems.

9 COMMISSIONER AHEARNE: All right. Then your  
10 first part is that in some plants these procedures are in  
11 place, but they aren't documented?

12 MR. DENTON: Let me ask Mr. Neighbors to  
13 address the details.

14 MR. NEIGHBORS: I think it would be fair to say  
15 that probably all the plants have procedures for handling  
16 heavy loads. Now, we don't have the documentation  
17 for all the plants, but there are many plants where we have  
18 reviewed limitations on them, tech spec restrictions.  
19 There are some plants we know that -- for instance in the  
20 spent fuel pool, that appear to be a problem because they  
21 are set down in certain areas that would not be affected  
22 by fuel. However, what we are trying to do here is to review  
23 current procedures which is a standard review plan and  
24 revise that as necessary to incorporate all the criteria  
25 that we have in-house. Then we plant to look at the operating



jg-4

1 plants and we have some submittals from each of the plants  
2 giving us the details of their load handling facilities  
3 and their design features. At this time we have not  
4 reviewed all of these things. We have a lot of documentation  
5 that has not yet been reviewed.

6 COMMISSIONER AHEARNE: Are there any -- do the  
7 tech specs that are in place regarding this -- the heavy  
8 load handling capacity, do they provide the protection that  
9 you feel is adequate; and so are you reviewing it from  
10 the standpoint of seeing whether those should be relaxed?

11 MR. NEIGHBORS: The tech specs that we required,  
12 for instance, may prevent the use of heavy loads over the  
13 spent fuel which means at some time in the future they got  
14 to provide us with an analysis which shows that they can  
15 adequately handle the heavy loads. Some of the tech spec  
16 requirements may relate to the decay of the fuel, where you  
17 have enough decay and you could drop a heavy load onto the  
18 fuel without significant consequences.

19 MR. DENTON: Let me ask on this: are the plants  
20 at which we are concerned about this problem, do they have  
21 tech spec limitations presently that prohibit the  
22 transfer of fuel or is that only some of the plants?

23 MR. STELLO: Some of them.

24 MR. NEIGHBORS: I can't say all the plants have  
25 tech spec prohibitions.

COMMISSIONER AHEARNE: If you are concerned about

them, why don't you have it? There may be some plants

where the configuration is such that you can't get from

here to there.

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END-19

bw 1 CHAIRMAN HENDRIE: At some place down the chain of  
2 plants, those problems begin to get -- or potential problems  
3 begin to get some attention. It seems to me there's some --  
4 some of the earlier layouts you may have to go over the  
5 pool.

6 MR. DENTON: Then you look at the capability of  
7 the crane-handling equipment.

8 MR. KENNEKE: Is it always a case-by-case specific  
9 combination of controls?

10 MR. NEIGHBORS: We may have a generic criteria,  
11 but I think in the end it will be on a case-by-case basis  
12 for each plant, because each plant is different.

13 COMMISSIONER AHEARNE: The generic criteria may  
14 be for the future?

15 MR. NEIGHBORS: For the current, too, but we will  
16 have to go back and see how they match?

17 CHAIRMAN HENDRIE: But not implementable necessarily  
18 on all present plants.

19 COMMISSIONER AHEARNE: Does this come under your  
20 second category, changes most likely to be made?

21 MR. CASE: I think it's a little bit of both.  
22 I would look at it more in the first category. There's  
23 a reduction of risk -- reduction in protection out there, but  
24 we don't think it's major. The same discussion we had on  
25 A-12, I think. That started out the discussion this



bw 1 afternoon. It's the same --

2 COMMISSIONER AHEARNE: Gee, if it's that--

3 (Laughter.)

4 CHAIRMAN HENDRIE: I don't think that was a good  
5 thing to say.

6 MR. DENTON: I think it was more like -14.

7 CHAIRMAN HENDRIE: Are you sure it isn't an  
8 environmental issue?

9 MR. KENNEKE: Have we come up with any so far  
10 that come under step 2 of the definition?

11 MR. CASE: My answer would be station blackout  
12 and ATWS. You might get different answers from different  
13 people. Which came under step 2, station blackout and AWS.

14 CHAIRMAN HENDRIE: Shall we go to 37?

15 MR. AYCOCK: A-37 is turbine missiles.

16 COMMISSIONER AHEARNE: 37 and 38 are the two  
17 probability events that go along with the previous  
18 descriptions?

19 MR. AYCOCK: Correct.

20 The purpose of A-37 is to assess the methods  
21 currently used to estimate the probability of damage to the  
22 essential systems of a nuclear power plant by missiles from  
23 the main turbine, to quantify the effect of the various  
24 steps that might be taken to reduce this probability. Also  
25 to recommend specific requirements for the fabrication and

bw 1 operation of the main turbine which will assure that this  
2 probability is sufficiently small.

3 It was assigned to Risk Category 3, negligible  
4 risk potential on the basis of a calculation that indicated  
5 that it was less than 1 percent of the reactor safety study  
6 risk.

7 The Steering Committee conclusions was that  
8 reviews are currently handled on a case-by-case basis to  
9 determine that the probability of damage due to turbine  
10 failure is acceptably low. The task will provide more  
11 uniform and specific guidance for evaluating turbine designs.

12 COMMISSIONER AHEARNE: You are saying it is  
13 handled on a case-by-case basis. Do you mean a plant  
14 by plant?

15 MR. AYCOCK: Exactly.

16 COMMISSIONER AHEARNE: I thought that was one of  
17 the issues in the VEPCO case. I thought the issue was that  
18 it wasn't.

19 MR. CASE: I don't think we can talk about it.

20 MR. KELLEY: The VEPCO decision you are referring  
21 to, I think that was uncontested.

22 COMMISSIONER AHEARNE: This was the issue where  
23 the Appeal Board --

24 MR. KELLEY: Go and develop the record a little  
25 more.

bw 1 COMMISSIONER AHEARNE: I thought the Appeal Board  
2 said that it wasn't handled in that particular case.

3 MR. KELLEY: I am a little uncomfortable. I  
4 don't have it in front of me.

5 MR. CASE: I know what it said and what we said  
6 in response. My question is, can I talk about it here?

7 MR. KELLEY: Well, at this stage of the game, is  
8 there still a live contested proceeding or is that  
9 proceeding terminated?

10 MR. CASE: I —

11 COMMISSIONER AHEARNE: If this is North Anna.  
12 the Appeal Board took jurisdiction unto itself.

13 MR. KELLEY: The Appeal Board did?

14 CHAIRMAN HENDRIE: Does the question have to be  
15 discussed in the context of a specific case?

16 COMMISSIONER AHEARNE: I really —

17 MR. CASE: Based on the specific case as to what  
18 this says. I will say this: I think those words are  
19 correct.

20 COMMISSIONER AHEARNE: Well, I would assume they  
21 wouldn't be there, if you didn't think they were correct.

22 CHAIRMAN AHEARNE: Well, we have a basis for  
23 handling — for believing we understand how to handle the  
24 turbine missile problem in case reviews; and the proposition  
25 here was to improve the background and knowledge on



bw 1 probability estimates and all kinds of things, which is fine.  
2 but I don't perceive it to be the Staff's position that  
3 they don't feel perfectly able to deal with turbine safety  
4 problems connected with turbines on any case that comes  
5 along.

6 Is that a fair characterization?

7 MR. DENTON: Fair characterization.

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1 CHAIRMAN HENDRIE: 38.

2 MR. AYCOCK: 38 is tornado missiles. The purpose is  
3 to assess the spectrum of possible tornado-generated missiles  
4 which should be considered in the design of a nuclear power  
5 plant. It was grouped in Group 4, categorized as relaxing  
6 requirements. Category 3 in the risk study, negligible risk  
7 potential. The basis being the probability of a tornado-caused  
8 core melt sequence is very small compared to other potential  
9 core melt sequences.

10 CHAIRMAN HENDRIE: 39 and 40 are on the list, so we  
11 have now completed the original A's.

12 There are some more A's now, but they have become  
13 A's by virtue of this exercise, virtue of being promoted.

14 What happened to A-41?

15 MR. AYCOCK: A-41 no longer exists.

16 CHAIRMAN HENDRIE: There must be another method of  
17 dealing with these problems.

18 (Laughter.)

19 COMMISSIONER KENNEDY: It may be the one we should  
20 have been spending more time with.

21 MR. AYCOCK: A-41 was a long-term consideration of  
22 seismic design criteria. It became a user request to research  
23 for long-term research in that area.

24 CHAIRMAN HENDRIE: Why -- what was it again?

25 COMMISSIONER AHEARNE: Why did it disappear?

1 CHAIRMAN HENDRIE: Is it in there?

2 Tell me what it is again.

3 MR. DENTON: We have a seismic-related one that's in  
4 here as a USI. Now, that's a more short-term program. A  
5 longer-term look is the research one.

6 COMMISSIONER AHEARNE: I think the Chairman's point,  
7 if it was once there, or ought to be in there, there ought to  
8 be an explanation.

9 CHAIRMAN HENDRIE: Apparently it came in after the  
10 report to Congress last year and is disappearing before the  
11 next report.

12 COMMISSIONER AHEARNE: It is like a shooting star.  
13 Flashes briefly.

14 CHAIRMAN HENDRIE: Came out and never got a chance  
15 to be duly recognized and accorded the dignity which it might  
16 otherwise have had.

17 MR. DENTON: I think you are correct, we should drop  
18 the letters and you and the ACRS and everyone should get  
19 together and have a common list.

20 CHAIRMAN HENDRIE: There is A-42.

21 COMMISSIONER KENNEDY: Perhaps we could give that  
22 one a number.

23 MR. DENTON: Having gone through these, there were a  
24 total of 10 that were in Research Category 1 or 2 that  
25 didn't make the list. Five of them we discussed already

a 42?



1 because they are the same as some of the A's.

2 Now we are prepared to go through the five that are  
3 on the research list as a 1 or 2, but not on our list as an A.

4 I think these five will complete the presentation.

5 CHAIRMAN HENDRIE: They are B30, B-34, B-65, B-63  
6 and B-64.

7 CHAIRMAN HENDRIE: Let us hasten forward.

8 MR. AYCOCK: B-? on design basis floods and  
9 probability.

10 The purpose of this task was to prepare a paper for  
11 presentation to the ACRS which they had requested detailing the  
12 bases for design bases flood events used by the NRC Staff in  
13 case reviews.

14 The risk categorization was Category 1, potential  
15 high risk on the basis that detailed probabilistic analyses  
16 have not been performed, but preliminary analyses indicate that  
17 risk associated with flooding may be significant at some sites.

18 MR. DENTON: Maybe on these we should let research  
19 have its --

20 CHAIRMAN HENDRIE: In the interests of time, let's  
21 see if substantial discussion is in fact needed.

22 COMMISSIONER AHEARNE: This was driven by the ACRS  
23 asking you to --

24 MR. CASE: Tell us how you do it, Ted.

25 COMMISSIONER AHEARNE: What was the ACR's response

1 after you told them?

2 MR. DENTON: Let me ask Bill Bivens.

3 MR. BIVENS: I am Bill Bivens.

4 We prepared the briefing for the ACRS at principally  
5 Dr. Okrent's request. It described both in a paper and in  
6 a personal presentation to them our bases; and to the best of  
7 my knowledge, there was no formal documentation of their  
8 response.

9 They quit asking questions and we quit answering  
10 them.

11 (Laughter.)

12 MR. DENTON: We used the same approach as EPA uses,  
13 where the deterministic method, but because of the ACRS  
14 interest we did send a user request to Research to see if there  
15 could be developed any statistical techniques that might  
16 improve our presentation.

17 COMMISSIONER AHEARNE: Why is this not classed as  
18 a complete task?

19 MR. AYCOCK: It is complete.

20 COMMISSIONER AHEARNE: Oh, it is?

21 CHAIRMAN HENDRIE: Howard?

22 MR. DENTON: Thenext one in the B's is B-34, which is  
23 back on page 13 of Enclosure 2, occupational exposure.

24 Bill Kreger, I guess, will discuss that.

25 MR. KREGER: B-34 was a task we put on a long time

1 ago when it was recognized that occupational radiation exposure  
2 in nuclear plants was rising steady year by year, and we put it  
3 on to identify those items that the Staff was concentrating  
4 on in trying to give guidance to the applicants for things that  
5 would reduce exposure in -- generally speaking, in small  
6 increments; but the task essentially listed each of those  
7 areas that the Staff either had technical assistance contracts  
8 out on or had requested research from the Office of  
9 Research.

10 Right now the B-34 shows the item that we have out  
11 in research and technical assistance contract for identifying  
12 the exposure related to inspection items that are required by  
13 the Commission, but in the interests of safety, but may  
14 potentially create more occupational exposure than potentially  
15 they save public exposure, if an accident were to occur; so  
16 we are identifying those items, we are getting a measure of  
17 the exposure related to them and then working with  
18 probabilistic analysis faster that data is in.

19 We are going to try to see whether safety risk and  
20 occupational risk are public risk through safety and  
21 occupational risk caused by safety items can be balanced.

22 MR. DENTON: So we think this is an important issue  
23 to continue to work on, but not an unresolved safety issue.

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LT 1 COMMISSIONER AHEARNE: Well, this is related to  
2 the discussions we have been having over the last several  
3 months, isn't it?

4 MR. DENTON: Yes.

5 COMMISSIONER AHEARNE: And will continue. It's the  
6 BEIR report, issue, et cetera. This at least to me would  
7 have the character of A, being quite important; B, definitely  
8 having the potential of being a safety issue; C, we don't  
9 know whether we are going to change it or not.

10 There are a number of people who have raised  
11 issues regarding it; and I therefore in my own working  
12 definition would definitely class it as an unresolved  
13 safety issue.

14 MR. CASE: The unresolved safety issue is more  
15 whether the limits should be changed?

16 COMMISSIONER AHEARNE: Yes. If the limits are  
17 changed in one direction, it could then have -- lead to  
18 changes being required on a number of plant.

19 MR. CASE: But the purpose of this task is to  
20 develop procedure, designs, what have you, to make exposures  
21 as low as reasonably achievable. So this task, I think,  
22 is independent of what the limits should be. Am I saying  
23 that right?

24 MR. KREGER: Yes. I think so. We characterized  
25 it as a B because it wasn't due to affect large amounts

LT 1 of exposure. These items were already pretty much in line  
2 at most plants. We feel these items we are addressing will  
3 essentially in small increments enable the plants to lower  
4 exposure.

5 Now, the ACRS had it as a generic safety issue under  
6 their item 2-C-6 of maintenance and inspection. They just  
7 decided because of most of the things in maintenance inspection  
8 that were being looked at, the guidance was pretty good, they  
9 just decided in the last couple of weeks to -- the quote I  
10 have is that it would be agreeable to recommend that this  
11 item is resolved from their standpoint.

12 We still feel it should be a category B item  
13 because it -- while it doesn't affect large increments of  
14 exposure, it does affect exposure in finite increments  
15 potentially.

16 COMMISSIONER AHEARNE: You are saying then that  
17 this is not the issue of what should the levels be?

18 MR. KREGER: That's correct.

19 MR. DENTON: That kind of question, of changing  
20 the regulations, does not really appear on these.

21 MR. KENNEKE: What if BEIR said the estimates were  
22 all wet and Mancuso was right and the risks are 10 times  
23 higher?

24 MR. CASE: This one should say you should put 10  
25 people to doing the task one person does.

LT 1 COMMISSIONER AHEARNE: Is another way of answering  
2 always yes, that you have to wait until a resolution of  
3 that -- of what should the levels be before you can  
4 implement anything under this task?

5 MR. KREGER: I would say not. The reason I would  
6 say not is because at 500 man rem per plant even if BEIR  
7 or anything else were to come out with a factor of 10  
8 change in the risk estimators, we still might have to conclude  
9 that the plants at 500 man rem are ALARA on a cost/benefit  
10 basis.

11 MR. KENNEKE: The concern would be then for the  
12 acceptability of the risk to individuals as opposed to the  
13 group?

14 MR. DENTON: What Bill is trying to say apart from  
15 whatever the limit is, he's doing what he can to prevent  
16 hideout in crevices, design, this sort of thing, regardless  
17 of the regulatory level.

18 COMMISSIONER AHEARNE: Or indeed the risk.

19 MR. KENNEKE: This is a man rem-oriented task. If  
20 later someone should decide that the whole estimates of risk  
21 per unit it does are a factor of 10 off, you would then  
22 invent a new generic issue you would deal with as of that  
23 time.

24 As of now --

25 MR. KREGER: I think the staff pointed out in paper



LT 1 415 on additional measures to reduce risk that even with  
2 a factor of 10, change in the risk estimators, work in a  
3 nuclear plant up to 5 rem a year is still a relatively  
4 safe occupation.

5 MR. KENNEKE: Assuming the numbers are right.

6 MR. KREGER: I say even with a factor of 10 change  
7 in the risk estimators. That was in SEKI-415. We said what  
8 would it mean if the risk estimators changed by 10 in terms  
9 of the risk to the most exposed worker, those people in the  
10 category of at 5 rem per year.

11 COMMISSIONER AHEARNE: I think I am satisfied on  
12 the basis of at least -- if my understanding is correct,  
13 that you are not addressing the levels in this task but  
14 rather whatever levels are, you are trying to improve the  
15 procedures that the operators use.

16 MR. KREGER: Yes.

17 MR. DENTON: The next issue is B-55 on page 14.

18 Mr. Stello?

19 MR. STELLO: The safety concern is the -- let  
20 me state -- perhaps I ought to state the safety concern  
21 two ways.

22 Our concern over the operation of the valves with  
23 respect to inadvertent blowdowns of BWRs had led us to take  
24 a real good hard look at the operability of these valves and  
25 decide whether something need be done. There is a related

LT 1 concern that research had related to these valves regarding  
2 the potential for simmering and heating up the pool temperature  
3 to high levels.

4 I will speak to both issues in that the solution,  
5 I think, will handle both problems.

6 We have been discussing with the General Electric  
7 Company for some time what can be done to improve the  
8 reliability of the valves. We have been considering whether  
9 or not we might want to impose additional tech spec  
10 requirements to have the valves checked periodically depending  
11 on their failure rates and what have you and have been  
12 looking at that question for some time.

13 The General Electric Company has had a rather  
14 comprehensive program under way at the same time to look at  
15 what they could do to improve the reliability of the valves  
16 and have — included fixes which will considerably improve  
17 valve reliability with regard both to inadvertent blowdown  
18 and simmering.

19 They will be changing the throat design, putting  
20 literally kits in the valves which will improve the  
21 reliability of the valve, raise the set points which will  
22 avoid inadvertent blowdowns, and assure receding.

23 We at the momont are still looking at the  
24 question as to whether we need really to do anything at all,  
25 whether the results of what's going on has already improved

LT 1 the reliability of the valves or whether we need do more; and  
2 if do more, what is it.

3 Our concern over the relative magnitude of the  
4 safety problem is not very severe. There obviously have  
5 been a great number of inadvertent blowdowns in BWRs what  
6 the valves malfunction. Clearly, the plants with respect to  
7 a malfunctioning valve are safe.

8 I think they have had a total of about 50 such  
9 blowdowns since they have been in operation, and in all cases,  
10 we have not had any major problems. We don't put this in  
11 the category of a major problem.

12 The RES problem perhaps Joe might want to get into  
13 it in more detail with respect to the potential for simmering,  
14 receding the program that is under way will handle that  
15 problem as well.

16 While I have the microphone, I was looking through  
17 this report and wanted to go back to that issue. I said  
18 I didn't think and couldn't recall there were any situations  
19 where both DC power supplies were lost. There are none,  
20 but I feel obligated in reading Epler's letter again --  
21 because that's where I thought something was read about  
22 -- I will read a sentence out of context in his letter.

23 It says, "However, two events could be categorized  
24 as incipient." Two battery failures.

25 The events he's referring to, one of them was a



LT 1 situation where several bas cells were found in both batteries  
2 and questioned how well they would have done their job.  
3 In one other case, during a testing sequence, someone had --  
4 no, excuse me. The other one I believe related to a plant  
5 design which had two batteries which were being charged and  
6 on test together. That was allowed because it was a  
7 three-battery system. Those batteries, I think, went out  
8 simultaneously. I don't believe they failed as such.

9 (The reporter changed paper while the meeting  
10 continued in progress.)

11 VOICE: Following the publication of the reactor  
12 safety study and the suggestion that this was a high-risk  
13 contributor, the staff went to each of the operating  
14 reactors, examined the method of testing and the frequency  
15 of testing. One of the concerns was that the methods of  
16 testing did not check each check valve.

17 In other words, there was a test that said the  
18 line is not leaking but it didn't necessarily mean that you  
19 didn't have a failed check valve. It just said one of them  
20 was working properly.

21 Through our review, we were able to identify  
22 changes in these test procedures which would result in  
23 checking each individual valve to assure its isolation  
24 capabilities and then to review the frequency of this testing.  
25 We considered that resolved in this response.

LT 1 COMMISSIONER AHEARNE: You identified ways of  
2 making sure both were checked. Has that been implemented?

3 VOICE: Yes, it has.

4 MR. CASE: Research has raised a question. Couldn't  
5 we further reduce risk by optimising the test frequency? We  
6 are looking at that. If it can be done, it will be done.

7 We don't think it rises to the dignity of an  
8 unresolved safety issue.

9 CHAIRMAN HENDRIE: The last?

10 COMMISSIONER AHEARNE: B-64. The final one on  
11 decommissioning of reactors. The purpose of the task is to  
12 improve guidance for decommissioning reactors and replacement  
13 of major pieces of equipment; develop expected cost and  
14 funding alternatives for equipment and facility  
15 decommissioning; and some tasks include consideration of  
16 occupational radiation safety.

17 It was assigned to category two, that is potential  
18 low risk in the draft risk report on the basis of the potential  
19 for reduction of occupational exposure during decommissioning.

20 COMMISSIONER GILINSKY: Why are we talking about  
21 improving guidance? Is there a guidance for decommissioning?

22 MR. CASE: Not as such, as I understand.

23 You talked about it at the meeting this morning.

24 Roger.

25 MR. MATTSON: There is some guidance but it's

LT 1 limited.

2 COMMISSIONER GILLINSKY: We are talking about a  
3 rulemaking.

4 MR. CASE: I suppose it could include ALARA.

5 The issue you are going to consider in rulemaking  
6 is the — should the detailed procedures for decommissioning  
7 be available at the time of licensing? Should the costs be  
8 set aside in a fund?

9 CHAIRMAN HENDRIE: I thought it was going to cover  
10 all of this.

11 CHAIRMAN GILLINSKY: It seems to me that is an  
12 unresolved issue. It's certainly a safety issue. It certainly  
13 rises to the level that gives you concern in the licensing  
14 of reactors.

15 MR. CASE: That may be so. Without arguing that  
16 point, it's not an NRR responsibility to do. It shouldn't  
17 be on our list in any event.

18 COMMISSIONER GILLINSKY: This isn't an NRR list.

19 MR. CASE: That is true.

20 COMMISSIONER GILLINSKY: It's an NRC list.

21 CHAIRMAN HENDRIE: I think he said it's on our list  
22 but not necessarily on his.

23 COMMISSIONER GILLINSKY: Maybe he's right.

24 MR. DENTON: I think we had a question of should we  
25 be looking to making decommissioning easier.



LT 1 COMMISSIONER GILINSKY: Maybe the purpose is too  
2 narrowly laid out here. Maybe the purpose ought to be to  
3 figure out how to handle the Commission.  
4 MR. CASE: To me that doesn't ring as an unresolved  
5 safety issue. Maybe it does to others.  
6 COMMISSIONER GILINSKY: It rings like that to me.  
7 MR. DENTON: Isn't it more in the sence of high  
8 level waste?  
9 COMMISSIONER GILINSKY: It's in that direction.  
10 COMMISSIONER AHEARNE: I guess my concern is mixed.  
11 It's on the NRC list.  
12 MR. KENNEKE: But 210 relates only to reactors.  
13 MR. CASE: Thank you, Al.  
14 COMMISSIONER GILINSKY: This is decommissioning  
15 a reactor. It certainly relates to reactors.  
16 MR. KENNEKE: That's why I asked. They say it's  
17 covered under this. It doesn't sound like a description --  
18 that it ought to be. It only seems to hint.  
19 MR. CASE: The only action plan we have --  
20 COMMISSIONER GILINSKY: Maybe you haven't been  
21 creative enough. You know if you look upon this list as  
22 mortgages have been taken out in licensing reactors, then  
23 I would think that that would be on it.  
24 MR. DENTON: I am not sure I would because reactors  
25 have been decommissioned. There have been half a dozen

LT 1 decommissioned.

2           They may not have been the optimum way of doing  
3 it. Certainly it's not in the societal risk of accidents --  
4 reactor accidents are usually thought of. It's more the  
5 occupational exposure aspects.

6           COMMISSIONER AHEARNE: Were they decommissioned  
7 under the NRC?

8           MR. DENTON: I don't think there has been one under  
9 the NRC.

10           COMMISSIONER GILINSKY: Also, they were small  
11 reactors that operated for variable periods of time.

12           MR. CASE: The problem is the decommissioning of  
13 reactors is a part of the standards program for developing  
14 decommissioning guidance for everything.

15           COMMISSIONER GILINSKY: You are saying it's so  
16 big it ought not to be on the list?

17           MR. CASE: I will take a real broad view. If the  
18 purpose of Congress is to make sure important things are  
19 being looked at, that purpose has been satisfied for  
20 decommissioning even though it is not on this list.

21           MR. KENNEKE: What is the unresolved safety issue  
22 vis-a-vis decommissioning?

23           MR. DENTON: That's it. That the principal issue  
24 is you would look at cost and ways to design.

25           MR. KENNEKE: That's not an unresolved safety issue.

LT 1 COMMISSIONER GILINSKY: There may be more than  
2 occupational issues.  
3 MR. DENTON: Could be transportation related.  
4 We don't see in decommissioning the types of public safety  
5 issues involved in reactor accidents.

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1 MR. KENNEKE: This has major pieces of equipment.  
2 Would you expect it to cover things like steam generator replace-  
3 ment?

4 MR. DENTON: Who knows the plan?

5 VOICE: We are addressing the steam generator replace-  
6 ment issue. We currently have one replacement program under  
7 review now. You are taking a major piece of equipment out.  
8 We are considering that sort of like a mini-decommissioning.  
9 It was initially written to address that, but the need came  
10 much sooner than we anticipated and we are now addressing that.  
11 We are addressing that for the Westinghouse plants.

12 MR. KENNEKE: I guess I am not seeing at all what's  
13 left in this one.

14 COMMISSIONER KENNEDY: They are proposing dropping it, aren't  
15 they?

16 MR. KENNEKE: But it would still be B-64 somewhere on  
17 their eventual menu. It looks like this ought to be reexamined.

18 COMMISSIONER GILINSKY: Are we saying this is not an  
19 important issue that is unresolved?

20 MR. DENTON: In my view it is not an unresolved safety  
21 issue.

22 COMMISSIONER AHEARNE: Is there someone here to speak  
23 to the task?

24 MR. CASE: Kreger thought he was done. He went home.

25 MR. KENNEKE: That proves the point.

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1 COMMISSIONER AHEARNE: It is decommissioning.

2 MR. STELLO: Maybe I can speak to it. I probably  
3 was one of the principal proponents in getting it started.

4 Some time ago it became fairly obvious to me in  
5 congressional hearings that the way we were going about  
6 decommissioning required an awful lot more effort in answering  
7 some of the questions that were before us, including those that  
8 Ed's already mentioned: Should we have a program in place to  
9 require licensees to put bonds or whatever, which was a big  
10 issue with Congress.

11 We started the genesis of taking the real good hard  
12 look at decommissioning through the origin of this task action  
13 plan. Events have now pretty much overtaken what our original  
14 purpose has been. The major program that is under way up at  
15 Standards, which you were briefed on, and we have a very large  
16 program at Battelle looking at costs, looking at ALARA, looking  
17 at residual activity levels after you decommission a site, the  
18 standards that have to be developed from EPA and everything  
19 else.

20 I think all of those, if you remember it was a multi-  
21 faceted program. All of the elements were pulled together  
22 under the direction of Banner Row.

23 I think it is fair to say that right now we ought  
24 to be in a position to just drop B-64 completely, because I  
25 believe the program under way at Standards will do everything

mp3

1 that this would have ever done plus much more.

2 COMMISSIONER AHEARNE: Vic, wouldn't that be an  
3 argument for saying that that category of task is really being  
4 done by Standards?

5 MR. STELLO: That is where it's being done. That  
6 was an explanation of all the events that took place. All of  
7 the concerns raised were not concerns related to unresolved  
8 safety issues. The basic fundamental reason for starting the  
9 task, in my mind, when I began it, was dealing with the  
10 question of how do you put up the dollars for the plants that  
11 are now in operation and those that are going in operation.

12 It does not deal with an unresolved safety issue  
13 in my view.

14 CHAIRMAN HENDRIE: The first thing I am going to do  
15 is get up and see if I can still stand.

16 We have been through the -- now been through all of  
17 the A's and in the cross-correlation, all of the risk  
18 Category Is and IIs. We haven't looked at the ones that are  
19 on the list, taking the point of view, I guess, if the Staff  
20 wanted to put them on we wouldn't have pulled them off. We  
21 have looked at all the ones the Staff didn't put on.

22 There is a certain problem in connection with  
23 shaping up this chapter for the annual report is the reason  
24 that I have kept us so long at it this afternoon. Could we  
25 have an expression of opinion on the on-and-off-the-list



mp4

1 characteristic of the ones we have been across? Do you want to  
2 ask a few questions, John? Why don't I ask you which ones you  
3 would ask the Staff to put on the list in spite of their argu-  
4 ments against it?

5 COMMISSIONER AHEARNE: First I would like to thank  
6 all the members of the Staff for sticking here.

7 CHAIRMAN HENDIRE: I asked them to lock the doors an  
8 hour and a half ago. Have you noticed them clustering, trying  
9 to get out back there?

10 COMMISSIONER AHEARNE: I also think the discussions,  
11 if you are having trouble finding the material, I would just  
12 think that taking the transcript and taking sections out, as  
13 the answers were provided, would go a long way certainly, as  
14 far as I am concerned, at providing a much better explanation  
15 as to why items were dropped out. It is that kind of inform-  
16 ation that I felt -- still feel, believe is needed to be some-  
17 where. I don't know whether the annual report to the Congress  
18 is the right place or an addendum that goes to the Congress.  
19 I think that kind of explanation readily available as to why  
20 an item is no longer in this high priority list is the kind of  
21 information that ought to be more widely available.

22 Having said that, the items that I think should  
23 still be listed, I would still go with A-12, A-17. I would  
24 probably have the A-12 reason is there is still the review.  
25 When the review is completed that would be an appropriate time

mp5

1 to drop it. On the A-17, the Sandia effort, at least in an  
2 interim report, would be an appropriate time to drop it.

3 I have a question on A-16. You might want to keep  
4 it until the test is finished. That might be an appropriate  
5 time then if the test turns out to be as expected, to drop it.

6 A-36 I am a little dubious about. It still has  
7 the characteristics of there are a number of cases that we  
8 still have to examine more carefully.

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1           And then finally on B-34, what you are doing I  
2 have no problem on not having on your high priority.  
3 Someplace we have to, I think, recognize that as far as  
4 the Commission is concerned -- as far as I am concerned -- the  
5 issue of what is the appropriate occupational dose is still  
6 to some extent unresolved.

7           CHAIRMAN HENDRIE: That has some of the  
8 aspects of the decommissioning task he's been talking about.  
9 That is, nobody is saying decommissioning is not an important  
10 subject; but what was said here is it doesn't fit well  
11 the mold for the unresolved safety issue category.

12           COMMISSIONER AHEARNE: That's right.

13           CHAIRMAN HENDRIE: We contemplate rulemaking.  
14 There are decisions to be made. It's being worked on.  
15 It doesn't quit fit the --

16           COMMISSIONER AHEARNE: It's just since we have a listed  
17 item that has sort of the unfortunate short title --

18           CHAIRMAN HENDRIE: Yes.

19           COMMISSIONER AHEARNE: -- I wouldn't want to  
20 dismiss it out of hand without that kind of an explanation.  
21 That's my reaction.

22           CHAIRMAN HENDRIE: Okay. Let's see. Let me go  
23 back and check off. A-12; 16 you weren't sure about whether  
24 you wanted counted in or out.

25           COMMISSIONER AHEARNE: I'll probably not push for it.



2 dd

1 CHAIRMAN HENDRIE: Twelve; 17; 36 you had some --  
2 you wish that one put in?

3 COMMISSIONER KENNEDY: What was your reason for  
4 36?

5 COMMISSIONER AHEARNE: Thirty-six has the  
6 character of there are a number of plants that still have to --  
7 we should find out what can be done about it. We think we have  
8 all the information. It's all been submitted to us. We  
9 are going through that data that has been provided.

10 MR. CASE: I think that's a fair characterization.

11 MR. STELLO: But heavy loads over fuel pools, they  
12 just aren't -- you know -- big safety stuff.

13 MR. GRIMES: From the standpoint -- Brian Grimes,  
14 DOR -- from the standpoint of perspective of class nine versus  
15 class eight accidents, while you can conceive of spent fuel  
16 pool accidents that could exceed, say, part 100 dose criteria,  
17 there still -- they don't present the potential for a very large  
18 risk.

19 COMMISSIONER AHEARNE: They are not class nine,  
20 but at some stage I think we ought to be considering -- concerned  
21 with safety hazards that aren't quite class nine still being  
22 a significant hazard.

23 MR. CASE: I agree. If the probability occurs.

24 CHAIRMAN HENDRIE: I think John's concern with the  
25 item is that it sounded as though it were in transition and

3dd

1 hadn't quite become a moth yet. It was still in the cocoon.

2 MR. KENNEKE: The probability you are talking about  
3 is not a chain of events which defense is generally applied.  
4 It's much more of a direct one -- direct accident.

5 MR. GRIMES: I think we are more likely to go  
6 away from technical specifications than toward more technical  
7 specifications is my own view, once we get the task done and  
8 get satisfied. Everybody's got adequate procedures. We may  
9 go away from --

10 MR. KENNEKE: Well, that's design changes rather  
11 than procedures?

12 MR. GRIMES: No. That would get satisfied with  
13 the analyses and the general level of procedures and decide it  
14 was a low enough probability event that we don't even need  
15 tech specs on the heavy loads.

16 You have to have a combination of fresh fuel and large  
17 load, et cetera, to make it --

18 CHAIRMAN HENDRIE: Well, let me probe up and down  
19 the line. At the moment, John, I will read you yours: 12, 17,  
20 36 ought to go back on the list. For such things in  
21 particular as occupational exposure, decommissioning, and so  
22 on, there needs to be better explanation -- in terms of some-  
23 thing written down and readily apparent to all, an explanation  
24 of why these don't fit the mold of the unresolved -- of the  
25 section 210 item.

4dd 1 Let me probe up and down the table.

2 COMMISSIONER KENNEDY: I would support John's  
3 view except that I would put 36 in the same class as de-  
4 commissioning and the others. There's a little bit of  
5 explanation that satisfies me that it's not -- it ought not  
6 to be included in a significant safety hazard list.

7 I would go along with adding back in 12 and 17.

8 CHAIRMAN HENDRIE: Vic, do you have anything?

9 MR. STELLO: I am very happy with the original  
10 definition.

11 COMMISSIONER BRADFORD: I agree with that. I  
12 wouldn't send that definition to Congress for no other  
13 reason than it's incomprehensible.

14 COMMISSIONER AHEARNE: I didn't think we had gotten  
15 to that issue yet.

16 COMMISSIONER BRADFORD: Okay.

17 CHAIRMAN HENDRIE: There was an elaboration  
18 which was proposed in the OPE paper.

19 COMMISSIONER BRADFORD: That didn't help me.

20 MR. DENTON: You liked the one on the first slide  
21 as I recall.

22 COMMISSIONER BRADFORD: Not coupled with the --

23 COMMISSIONER KENNEDY: Put it back on. Can you  
24 put the first slide back on.

25 COMMISSIONER BRADFORD: -- line that you weren't



5dd

1 too uncomfortable with midway through the afternoon, to the  
2 effect that --

3 MR. DENTON: -- if not resolved it would lead to  
4 difficulty --

5 COMMISSIONER BRADFORD: Yeah. That one doesn't --  
6 one is not comfortable with having --

7 COMMISSIONER AHEARNE: Peter, just for the  
8 purposes -- I agree with you. That's still a question. But  
9 for the purposes of completing this one lengthy session, let  
10 us assume that we get a definition that is satisfactory.

11 COMMISSIONER BRADFORD: And that 12, 17, and 36  
12 are still the only ones --

13 COMMISSIONER AHEARNE: Oh, yes.

14 (Laughter.)

15 COMMISSIONER AHEARNE: I think the issue as far  
16 as the list is concerned, you either have to go through the  
17 whole list again or else you take a position on the items  
18 and then work on a definition.

19 COMMISSIONER KENNEDY: That's the one I don't  
20 understand. I didn't understand it yesterday.

21 COMMISSIONER BRADFORD: Let's take that one, though.

22 COMMISSIONER KENNEDY: I didn't understand it  
23 yesterday. I don't understand it today either.

24 COMMISSIONER AHEARNE: I think we have at least  
25 four of us who don't like the definition.

6dd

1 COMMISSIONER BRADFORD: But like the list?

2 COMMISSIONER AHEARNE: This was just a magnificent  
3 opportunity to review the items. Having reviewed the items,  
4 I feel those ones out to be added to whatever the right working  
5 definition is for that set.

6 COMMISSIONER BRADFORD: This is probably about how  
7 the Supreme Court decides obscenity cases.

8 (Laughter.)

9 CHAIRMAN HENDRIE: Decides what is or what isn't,  
10 and then looks for the underlying principle.

11 COMMISSIONER KENNEDY: Right.

12 CHAIRMAN HENDRIE: I know what I like.

13 (Laughter.)

14 COMMISSIONER AHEARNE: An unresolved safety  
15 issue is something -- an issue affecting several plants which  
16 poses substantive questions about the adequacy of current  
17 safety requirements or plant design?

18 COMMISSIONER BRADFORD: Suppose you added to  
19 that that it involves conditions the Commission does not feel  
20 are acceptable over the full lifetime of the affected plant?

21 MR. DENTON: That's true.

22 CHAIRMAN HENDRIE: Or may not be. Did you hear  
23 that addition?

24 COMMISSIONER BRADFORD: Probably all right.

25 (Laughter.)

CHAIRMAN HENDRIE: Stay away from that sort of thing these days.

COMMISSIONER AHEARNE: -- are not acceptable over the lifetime of the plant.

MR. CASE: It's the same as actions are likely to be taken.

COMMISSIONER AHEARNE: So that if it's the same you wouldn't have any problem with it.

CHAIRMAN HENDRIE: You may think so.

COMMISSIONER KENNEDY: If you think so, I am glad.

CHAIRMAN HENDRIE: Say it again.

COMMISSIONER BRADFORD: And that it's basically the same one that's up there. I don't know whether I am happier with adequacy than I would be with reasonableness, but --

MR. CASE: I like adequacy.

COMMISSIONER BRADFORD: You like adequacy better? Okay. It just then goes on to say that it involves conditions that the Commission does not feel are acceptable over the full lifetime of the affected plants.

COMMISSIONER AHEARNE: Would that say that we have already reached a conclusion that those conditions aren't acceptable?

COMMISSIONER BRADFORD: Over the full lifetime of the plants?



8dd

1 COMMISSIONER AHEARNE: Yes. Your sentence -- your  
2 phrase would say that we have already reached the conclusion  
3 that the condition is not acceptable.

4 MR. CASE: Yes. I think you need a little  
5 subjective or subjunctive.

6 MR. MATTSON: The actions that we had in mind might  
7 have been only actions for new plants. We were not necessarily  
8 prejudicing the backfit decision in our definition.

9 COMMISSIONER BRADFORD: Even as far as your  
10 decision is concerned, Roger, weren't you assuming that  
11 in the older plants, some other action was being taken?

12 MR. CASE: Some compensation but not necessarily  
13 full restoration.

14 COMMISSIONER BRADFORD: But you weren't allowing  
15 the originally troublesome condition to exist unmitigated?

16 CHAIRMAN HENDRIE: Possibly. I think some of  
17 the generic items might very well have come forth with resolu-  
18 tions which say new plants do this. This set of plants in  
19 construction do the other thing. These fellows over here put  
20 on two more guards and a waterboy and those old wrecks on  
21 the end will do anything.

22 COMMISSIONER BRADFORD: You think it's conceivable  
23 that there would be a category in which you said do not --

24 (Simultaneous discussion.)

25 VOICE: Your criteria is a much higher threshold.

9dd

1 CHAIRMAN HENDRIE: You might find that that's  
2 right. You might find it necessary to give exemptions.

3 COMMISSIONER AHEARNE: There's an issue that's  
4 raised that there may be a significant hazard. Your  
5 criteria -- it won't come into that. This criteria, it will.  
6 It will fall in.

7 COMMISSIONER BRADFORD: Mine has that one in it.  
8 Mine goes on from the end of that.

9 COMMISSIONER AHEARNE: Yours raises a higher  
10 threshold. Because to meet yours, not only does it raise a  
11 substantive questions, the Commission must have already  
12 decided that yes, it in fact is a case that must be  
13 corrected.

14 MR. CASE: Your list would be smaller because  
15 of that "and." It has to meet this condition and the "and"  
16 condition.

17 COMMISSIONER BRADFORD: In the Staff's definition,  
18 you said actions will be taken.

19 MR. CASE: Said are likely to be taken.

20 COMMISSIONER AHEARNE: It's that qualifier.

21 MR. DENTON: I think we could put the same "are  
22 likely" back in yours.

23 COMMISSIONER BRADFORD: Yes. You could.

24 COMMISSIONER AHEARNE: With that qualifier, I'd have  
25 no problems.

10dd

1 MR. DENTON: Are unlikely to be acceptable.

2 COMMISSIONER KENNEDY: No. That disagrees with  
3 what Roger was just saying.

4 CHAIPMAN HENDRIE: Provisions which the Commission  
5 feels may not be acceptable but is that --

6 MR. MATSON: You still want an "or."

7 COMMISSIONER GILINSKY: Some of these have  
8 the character that you wouldn't want to continue to fix for  
9 the lifetime of the plant. In other cases, I think the  
10 Staff takes the view that it's okay for a limited number of  
11 plants but we wouldn't want to extend this type of approach  
12 to a larger number of plants.

13 COMMISSIONER KENNEDY: We can tolerate it for the  
14 number of plants we now have, but we can't tolerate it  
15 for the number -- if we were to add the ones now in construction  
16 and those under plan, we couldn't do it.

17 COMMISSIONER GILINSKY: There are some judgments  
18 involved there that would not -- is the total risk close  
19 to the individuals near the plant, but --

20 COMMISSIONER AHEARNE: Putting "it may not be  
21 adequate" probably gets to the life, but there's another  
22 difficulty that Dick and I are having with the substantive  
23 question -- what constitutes a substantive question. In  
24 the earlier definition it was either a risk or a reduction.  
25 We thought the issue was there.



11dd

1 COMMISSIONER GILINSKY: For example, what if  
2 you were putting 2000 backlog safety amendments in DOR?  
3 How would you reach a decision that those were substantive  
4 questions about the adequacy? Substantive is very subject  
5 to interpretation.

6 COMMISSIONER AHEARNE: All of the actions that  
7 I have in mind affect more than one plant. They clearly are  
8 questions, safety questions, substantive questions. They  
9 clearly meet the question regarding plant design.

10 (The Reporter took a recess while the meeting  
11 continued in progress.)

12 COMMISSIONER AHEARNE: We are clearly making people  
13 do something now. We sent out letters saying, "Pick something."  
14 So I could interpret the definition the way we are proposing  
15 it to include just about everything that is outstanding and  
16 ongoing at the moment on plants.

17 COMMISSIONER BRADFORD: Well, you want something  
18 major, of course.

19 CHAIRMAN HENDRIE: Why interpret it that way and  
20 not the previous definition.

21 COMMISSIONER BRADFORD: Well, this definition  
22 seemed to say to me it worked toward the same thing that yours  
23 did. I am not sure.

24 COMMISSIONER AHEARNE: Why do you say difference?  
25 I am curious.

12dd

1 CHAIRMAN HENDRIE: Because it says there are  
2 actions we are likely to take to compensate for a possible  
3 major reduction in protection, unresolved. I don't know where  
4 to go. That's the way I read this definition.

5 COMMISSIONER AHEARNE: With respect to plant  
6 design, there are plant designs which don't meet criteria,  
7 safety requirements which are basic. Retrofitting, going  
8 back, making things up.

9 This seems to me to be -- I haven't made up my  
10 mind what more I need to do on this issue on the plants.  
11 That's the way I read the definition.

12 You get one more test, where I think that when I  
13 do make up my mind what action will be taken -- it will be  
14 likely I will take action.

15 COMMISSIONER BRADFORD: Should it be "or plant  
16 design"?

17 MR. STELLP: If you take out your "or plant design"  
18 I think you start to come a lot closer.

19 COMMISSIONER BRADFORD: Remember, Vic, that this  
20 set of words up here was presented yesterday as being  
21 the criteria through which you came up with the addition.

22 MR. STELLO: No.

23 COMMISSIONER BRADFORD: Yes.

24 COMMISSIONER KENNEDY: The one we used yesterday  
25 is exactly the one we used.

13dd

1 MR. STELLO: The one we had on the first slide  
2 which they still have in there -- let's get the slide for  
3 that.

4 (Laughter.)

5 COMMISSIONER BRADFORD: What purpose was the first  
6 line on the slide you had up a moment ago?

7 MR. STELLO: It was Mike Aycock's paraphrase  
8 of this, which they apparently don't agree with. Mike  
9 prepared the slide.

10 (Laughter.)

11 (Slides.)

12 CHAIRMAN HENDRIE: Almost had a majority of the  
13 Commission voting.

14 MR. AYCOCK: I think what we are trying to do is  
15 characterize what we believe Congress' interests were. That  
16 is substantive questions.

17 COMMISSIONER BRADFORD: What we are trying to do  
18 in this definition --

19 MR. DENTON: A lot of people have had difficulty  
20 with this definition.

21 COMMISSIONER BRADFORD: Well, I have no difficulty  
22 with taking "or plant designs" out. Mike, you put it in; what  
23 do you think it would do if we took it out?

24 VOICE: I don't want to take it out because  
25 of the form which is the application of the requirements that



14dd 1 fall out from this to individual plants as opposed to what  
2 the requirements really should be.

3 COMMISSIONER AHEARNE: You are going in the  
4 direction here of unanswered questions rather than emphasis  
5 on the answered.

6 CHAIRMAN HENDRIE: What about substantive unresolved  
7 questions? You start out unresolved safety issues it light  
8 of affecting several nuclear power plants.

9 COMMISSIONER KENNEDY: That poses substantive  
10 questions on the adequacy.

11 COMMISSIONER BRADFORD: Does that affect your  
12 step 2 up there on the definition since step one is the  
13 place where it's not adequate according to current standards;  
14 but step 2 presumes it's adequate because you are going to  
15 push beyond that?

16 VOICE: ATWS is an issue that poses a question in  
17 my mind about the adequacy of current requirements which  
18 is designing it.

19 COMMISSIONER BRADFORD: I would expect you to say  
20 that that was a cost/benefit decision.

21 CHAIRMAN HENDRIE: May I since the -- since  
22 time runneth on, supper is burned, wives fume, God knows what  
23 terrors await us when we get out of here, let me go back  
24 over and see about the definition.

25 (The Reporter returned to the meeting room.)

14a  
13dd

1           Would the Staff mull a couple of hours? Then you  
2 better come back down and start visiting Commission offices.  
3 I would hope we could come to some agreement on definition  
4 that improves the cheerful feeling about it over here but pre-  
5 serves the decision bases which went into the list; and  
6 we need to work that wording out practically immediately because  
7 the deadlines on this chapter are upon us.

8           I will ask you to mull that for a bit and start  
9 visiting offices. I hope I won't have to convene a meeting  
10 to gather group thinking.

11           Secondly, with regard to the list, we have  
12 Staff's proposed list to which John would propose to add  
13 12, 17, and 36 and Dick would join him in 12 and 17.

14           Let me see how you feel about the list  
15 because we can get that settled and that dictates certain  
16 actions again with regard to preparation.

17           COMMISSIONER KENNEDY: With the rewriting sorts  
18 of notions that John suggested.

19           CHAIRMAN HENDRIE: I want to deal with that in  
20 a second. I want to see what the feeling is on this side of  
21 the table on the list. You said it seemed pretty decent to  
22 you. Would you take it as it is, add John's or Dick's?

23           You'd go along with those? Peter?

24           COMMISSIONER BRADFORD: I'd go along with John's.  
25 I want to chew on 30 for a bit, but I don't want to do it here.

146  
1 add

1 CHAIRMAN HENDRIE: Thirty?

2 Power supplies? Could somebody drop in and try  
3 to chat with you in the next day or two and help that along?

4 COMMISSIONER BRADFORD: I can call somebody.  
5 I can certainly do that.

6 CHAIRMAN HENDRIE: You've got a list. It gets  
7 added to it 12, 17, and 36. You need to square the definition.  
8 Talk to Peter about A-30.

9 The final thing now is that I think we are going  
10 to need some improved disussion of each of the admitted  
11 items in categories A and one and two. Now we have had  
12 extensive -- as John notes, we have had extensive  
13 discussion this afternoon, and the transcript itself may help  
14 considerably in terms of the sort of things that are useful.

15 COMMISSIONER AHEARNE: It would probably in fact  
16 be excellent. It's that kind of explanation that was  
17 presented here that is much more useful, communicates much  
18 better, than a very formal style that sometimes comes  
19 through.

20 MR. DENTON: Now do you want to give that in  
21 the report to Congress or have it available?

22 CHAIRMAN HENDRIE: It seems to me it may be  
23 very difficult to meet the statutory dates if it's in the  
24 report to Congress. Is that true?

25 MR. KENNEKE: It's not required. All that's



15dd 1 being provided are the issues that the Staff had intended  
2 to include.

3 MR. DENTON: We should add the point that it's  
4 been discussed with the Commission and somehow characterize  
5 and put in the report to the Congress some sort of -- you  
6 could say it's documented somewhere.

7 CHAIRMAN HENDRIE: What I was thinking was a  
8 specific backup document.

9 MR. DENTON: By when?

10 CHAIRMAN HENDRIE: Well, that's the next question.  
11 If it's a separate document which would free the report to  
12 Congress, how much is it going to lag?

13 MR. KENNEKE: Obviously the pattern is --

14 (Simultaneous discussion.)

15 MR. KENNEKE: You document the approval of those  
16 that are to be left off.

17 COMMISSIONER AHEARNE: I want a document that we  
18 can send up to Congress that we can have available  
19 to those people who are going to scream with a combination  
20 of indignation and consternation at this substantially  
21 squeezed list.

22 MR. KENNEKE: It need not go over with the 210  
23 package. It can be prepared in parallel.

24 COMMISSIONER AHEARNE: No, but when that  
25 package goes is when those concerns are going to be raised.

16dd 1 At that stage we ought to have something available.

2 MR. DENTON: The easiest would be just to take  
3 the transcript, take the slides, put it together and say,  
4 "This is a record of the decisionmaking process.

5 That's not very polished.

6 COMMISSIONER AHEARNE: That's telling -- that's  
7 a --

8 CHAIRMAN HENDRIE: -- hanging out of it.

9 MR. DENTON: I imagine it would fall to Mike  
10 to pull this together..

11 MR. CASE: If I say too much, you just reach out  
12 and grab me.

13 VOICE: The date of the report has to be the  
14 30th of January. That's what they're shooting the transmittal  
15 to.

16 VOICE: I understand late January.

17 VOICE: Late January?

18 MR. CASE: A good part of that is report  
19 reproduction time. Two or three weeks.

20 CHAIRMAN HENDRIE: One of the reasons for that is  
21 that the annual report is getting to be a real printer's  
22 nightmare, isn't it? Now what I am thinking is if we  
23 separate these explanatory matters into a separate NUREG  
24 document which can go to your lightening --

25 MR. CASE: Well, I have a system -- I couldn't put

17dd 1 it in a transmittal letter. Attach it to the transmittal  
2 letter. Depending on when that goes. I think -- what? Mid-  
3 January, Mike? You could get --

4 MR. AYCOCK: Well, I have one problem.

5 MR. DENTON: It's probably reasonable to expect we  
6 can get a NUREG out.

7 CHAIRMAN HENDRIE: By latter January that could go  
8 either with the package to Congress or close enough thereafter  
9 that -- that clearly is the objective.

10 MR. AYCOCK: Yes.

11 CHAIRMAN HENDRIE: Now if indeed the printing and  
12 editing and so on affairs worked out so it could go in the  
13 chapter itself, why I suppose we could do that, but I just  
14 got a notion --

15 COMMISSIONER AHEARNE: By latter January is just  
16 fine. A separate document is fine. In fact, it might even  
17 be more useful.

18 CHAIRMAN HENDRIE: Well, you won't have to  
19 carry the annual report around.

20 COMMISSIONER AHEARNE: It's just when people  
21 raise the issue, it would be more convenient to have that  
22 separate thing, too.

23 CHAIRMAN HENDRIE: Depending on your printing plant  
24 and how well you are doing, you might even print the  
25 chapter into it and have all the section 210 argument in one



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1 place.

2 MR. KENNEKE: You will need writeups of the  
3 issues that will be added back in.

4 CHAIRMAN HENDRIE: Yes. That's right. That  
5 constricts.

6 Okay.. That means that the writeups on those three,  
7 settling with Peter the A-30, checking with the rest of  
8 us, getting the definition squared away are what you need  
9 to get your 210 chapter.

10 MR. KENNEKE: How about the introductory part of  
11 the report? Looking back over that now in the light of the  
12 comments, there are four pages of introductory material.

13 CHAIRMAN HENDRIE: Let's see. Are you asking  
14 because you had some suggestions about those?

15 (Simultaneous discussion.)

16 CHAIRMAN HENDRIE: In view of the hour, the  
17 weakness of Commissioners, the state of my seat, ask you  
18 to consult with the Staff?

19 MR. KENNEKE: We offer it for whatever --

20 COMMISSIONER AHEARNE: We take it with that in  
21 mind.

22 (Laughter.)

23 MR. KENNEKE: You have a choice of which version  
24 you would prefer. That might be the easiest way to go.

25 CHAIRMAN HENDRIE: How do you mean?

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1 MR. KENNEKE: I think if you take intent and try  
2 to express it a little differently, perhaps --

3 MR. CASE: I must say in all honesty I didn't read  
4 that part, Al.

5 CHAIRMAN HENDRIE: What I would like to do is to  
6 ask the staff authors to read what you have suggested and then  
7 sit down with you and see if you could come to some --

8 MR. KENNEKE: Everyone's objective is the same.  
9 A superb product. I am sure it can be worked out.

10 MR. KELLEY: Can I make a comment about the  
11 definition change? I think if you stayed with the  
12 one people don't like, this wouldn't arise, but as you move  
13 toward the second question, you have Peter's piece in there  
14 or something. You have to make sure, I think, that your  
15 definition is compatible with continued operation of plants.  
16 That begins to sound like, "Here is a list of problems; it  
17 was sufficiently ominous and serious sounding so one wonders  
18 why we have reasonable assurance of safety that operating  
19 plants are operating."

20 COMMISSIONER BRADFORD: The safety issue is ominous  
21 itself.

22 COMMISSIONER AHEARNE: I think you will find that  
23 OPE -- that was one of the objectives in OPE's version, that  
24 we address that a little bit more directly.

25 MR. DENTON: We are really looking hard at

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1 Commissioner Bradford's version.

2 MR. CASE: The specific question I think Jim  
3 is raising, can you make statutory findings of no one to  
4 risk if you have a piece of paper that says the Commission  
5 believes that this condition -- whatever it may be -- may not  
6 be acceptable for the lifetime of the plant; and you have to  
7 issue a license for four years.

8 COMMISSIONER BRADFORD: I can ask that question  
9 just as fast, though, under item one of your definition.

10 MR. CASE: I don't think you can ask it as  
11 fast.

12 (Laughter.)

13 COMMISSIONER BRADFORD: A possible major  
14 reduction in the degree of protection in the public health  
15 and safety?

16 MR. KENNEKE: Slower.

17 (Laughter.)

18 COMMISSIONER BRADFORD: Anyway, I was speaking  
19 for emphasis.

20 COMMISSIONER AHEARNE: I assume it's a semantic  
21 question we are arguing. Because if there really was  
22 substantive risk, it would be shoved out.

23 MR. KELLEY: It should be shut down.

24 COMMISSIONER BRADFORD: Two other quick things.

25



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1 One, it would help people like me if on the  
2 descriptions of these issues you can make sure that somewhere  
3 in there there is a paragraph that stated rather clearly  
4 what they were. If you compare A-1 with A-2, you will  
5 see the difference. You can read all the way through A-1  
6 without knowing a thing about what waterhammer is. A-2  
7 starts right off by stating more or less --

8 CHAIRMAN HENDRIE: What the problem is.

9 COMMISSIONER BRADFORD: Somebody could just  
10 skim them.

11 The second is I want to make sure I understand  
12 the item in the second paper that says issues determined to  
13 be unresolved safety issues pursuant to section 210 will  
14 be given priority in terms of allocating those NRR resources  
15 for generic technical activities.

16 That means -- that doesn't mean that you are  
17 talking about deviating from the budget?

18 MR. DENTON: It means we will take the -- I think  
19 it's 51 manyears in the '79 budget and put it on these un-  
20 resolved safety issues.

21 We expect it will cover all of those and a few  
22 more.

23 COMMISSIONER BRADFORD: I see.

24 MR. DENTON: It would mean pulling people off the  
25 Bs and Cs and Ds that some people are now working on, and it

22dd

1 would keep the same amount of manpower.

2 COMMISSIONER BRADFORD: It's an allocation within  
3 what's available for NRR?

4 MR. DENTON: And it doesn't work perfectly because  
5 of the disciplines involved. We would tend to push it up  
6 again to develop safety issues as far as we could.

7 MR. CASE: I guess I want to make one point here.  
8 I hope you agree. It's certainly conceivable you will find  
9 some issue involving the efficiency of the process. Some  
10 plants can't get licenses until something is done on the  
11 environmental side. It would have a higher priority then.  
12 As high a priority.

13 COMMISSIONER AHEARNE: Depends on how serious  
14 you end up thinking some of the issues are.

15 MR. KENNEKE: It's not likely to be worked on by  
16 the same people, though.

17 CHAIRMAN HENDRIE: Peter, did that --

18 COMMISSIONER BRADFORD: Yes.

19 MR. DENTON: Once we get the list, we will be  
20 attempting to use money rather than people to solve these.  
21 We have set aside close to a million dollars in our NRR budget  
22 to allocate on this list once we get it straightened out.

23 CHAIRMAN HENDRIE: Okay. I thank you very much.

24 A long afternoon, but I think we have settled a rather important  
25 area or at least got it in shape where I can see how we can get

23dd

1 it settled in a few days.

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[Whereupon, at 5:30 p.m., the meeting was

and 25

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adjourned.]

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