
In the Matter of:

DISCUSSION OF SECY-80-325 - UNRESOLVED SAFETY ISSUES

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

PUBLIC MEETING

DISCUSSION OF SECY-80-325 - UNRESOLVED SAFETY ISSUES

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

Thursday, October 16, 1980

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

PRESENT:

- JOHN F. AHEARNE, Chairman of the Commission
- VICTOR GILINSKY, Commissioner
- PETER A. BRADFORD, Commissioner
- JOSEPH M. HENDRIE, Commissioner

STAFF PRESENT:

- SAMUEL J. CHILK, Secretary
- LEONARD BICKWIT, General Counsel
- K. KNEIL
- H. SHAPAR
- W. DIRCKS
- E. CASE
- C. MICHAELSON
- E. HANRAHAN
- H. GEORGE

ALSO PRESENT:

- R. FRALEY, ACRS

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P R O C E E D I N G S

1
2 CHAIRMAN AHEARNE: The Commission comes to meet
3 once again on the subject of unresolved safety issues. We
4 met earlier this year on July 17 to discuss proposed report
5 to the Congress identifying new unresolved safety issues.
6 The staff had recommended six such items.

7 As a result of the meeting, we sent a letter to
8 the Congress indicating that the report would be delayed
9 pending further Commission review, and we asked the ACRS and
10 the office headed by Carl Michaelson to examine the list and
11 also to provide advice as to whether they saw additional
12 items.

13 We have received from the ACRS three additional
14 items that they recommend, and from Carl Michaelson, two
15 additional items for further possible incorporation into
16 existing lists.

17 We also now have a response from NRR with respect
18 to those in which NRR agrees with one of the items
19 recommended by the ACRS. It suggests that another is
20 handled by an ongoing program and that a third be deferred
21 pending examination of a contractor's report.

22 Ed suggests as far as the two recommended by
23 Michaelson, to study those and add them to the list to be
24 studied and then to incorporate the comments.

25 We also have a memo from the Director of OPE that

1 Mr. Hanrahan has proposed that we not -- I think this is a
2 correct statement -- that we not include on the list of
3 unresolved safety issues items for which we have identified
4 programs in the Action Plan and focused resources on the
5 resolution, and in addition, has raised, with the great
6 amount of foolhardiness that is characteristic of an
7 analysis, that we ought to reexamine the issue of unresolved
8 safety issues, obviously feeling that the many days spent
9 last time were such an enjoyment that we ought to repeat
10 that.

11 (Laughter.)

12 MR. HANRAHAN: I was not here to enjoy that.

13 CHAIRMAN AHEARNE: Yes, I know. That, in fact, was
14 the first thought that crossed my mind.

15 (Laughter.)

16 MR. HANRAHAN: I noted that tone in your
17 memorandum.

18 CHAIRMAN AHEARNE: But nevertheless, it is
19 probably a point that deserves consideration.

20 The main reason we are here, again, is because
21 Commissioner Hendrie, who had expressed a certain amount of
22 reluctance on the initial six, then when he began to see the
23 growth, suggested strongly that we ought not to go ahead
24 without an additional Commission meeting on this subject.

25 So, before we go any further I will ask

1 Commissioner Hendrie whether he would like to expand on some
2 of the remarks he has made in the past on these issues and
3 focus some of the direction on what we will talk about this
4 morning.

5 Joe.

6 COMMISSIONER HENDRIE: I will make a couple of
7 remarks to the extent that my voice holds up.

8 As several of us commented the last time we met at
9 the table to discuss these things, the proposed list of
10 unresolved safety issues, in spite of the fact that staff
11 has culled them and they apparently meet criteria and
12 definitions, acquire a necessary number of points in various
13 assessments, I cannot get my intestinal gauge to tell me
14 that numbers of them are, in fact, unresolved safety issues
15 in the sense of Section 210.

16 I don't know what to do about that. I suppose I
17 could just shut up and let them be counted -- added to the
18 list, but it has seemed to me worth some more discussion.
19 Things where it seems to me clear enough in a general way
20 what has to be done, where at least the initial outlines in
21 some sense, the long-term direction exists where we are
22 moving in that direction, where we are moving in those
23 directions already but have not accomplished all the things
24 we foresee will have to be done, that does not seem to me
25 the sort of thing you list as a Section 210 unresolved

1 safety issue and carry along for however many years it may
2 take to accomplish the things that you now know you are
3 going to want to do and are finally able to say we have
4 dotted the last "i" and crossed the last "t."

5 I selected long-term upgrading of training and
6 qualifications and operating personnel as an example of this
7 kind of thing.

8 (At 10:17 a.m., Commissioner Gilinsky entered the
9 hearing room.)

10 I know it meets your criteria because you worked
11 hard to scan against those criteria, but it does not seem to
12 me like an unresolved safety issue in the sense of a Section
13 210. I must say I have the same difficulty with operating
14 procedures. There is not a great mystery about what we want
15 to do about training and qualification of personnel, and
16 there is not a great deal of mystery about what we want to
17 do about operating procedures.

18 We want to upgrade the first and review and
19 improve the second, and I think any of us could sit down and
20 this afternoon in a few hours sketch out a general program
21 to go about that. In fact, it has already been done. This
22 work is on its way in a pretty strong way in staff
23 initiatives, and it does not seem to me the sort of thing
24 that one carries on this list in spite of the definition and
25 screening.

1 I also have some concern that as a practical
2 matter, you know, when budget time comes around, you try to
3 figure out what you are going to prepare for a set of smash
4 slides which are really going to grab first the Budget
5 Review Committee and then really grab the Commissioners and
6 then make a big splash with the OMB examiners.

7 I am afraid unresolved safety issues has gotten to
8 the point where it is recognized by enough people so all you
9 have to do is say "new unresolved safety issue," boy, and
10 you have yourself another 20 people and \$10 million. And,
11 you know, if I were a division director I would be out there
12 working that just as hard as I could because it is a lot
13 easier to do it that way than to justify it in other ways.
14 I wonder if there is some of that at interest here.

15 I have some difficulty also with the questions
16 about if you take one thing out of the Action Plan, or two
17 or three as we have here, and put stars on them and say they
18 are Section 210 unresolved safety issues, what does the
19 resource distribution pattern then look like as regards
20 these items and other Action Plan items which I would regard
21 as of equivalent importance?

22 Now, if you tell me that the designation means
23 that they will get resources guaranteed, that suggests that
24 there are other items which in the array of the Action Plan
25 are of equal importance that will not get resources or will

1 not get them in the same measure, and that causes me to
2 scratch my head.

3 On the other hand, if their designation is
4 unresolved safety issues, it does not affect the resource
5 distribution in that fashion. And then, I don't know that I
6 care to hear arguments that say this is the way to really
7 make sure you are focusing and work on these things.

8 Okay, those things sort or come together. It
9 seems to me that some reconsideration of the definition of
10 the criteria are appropriate. Whether we would end up
11 changing them or not, I don't know. I do think some
12 discussion is useful. I think OPE has suggested some useful
13 possible avenues.

14 One final thing that concerns me is what seems to
15 be a tendency to lump everything that we ought to be working
16 on into this category. There are seven new ones proposed
17 and nine others for further study, and thus candidates for
18 adding to the list. That amounts, in effect, if all of them
19 go, amounts to doubling the number of Section 219 unresolved
20 safety issues this year, and I have my doubts that that is
21 either necessary or desirable.

22 CHAIRMAN AHEARNE: All right.

23 Victor do you have any comments you would like to
24 make to start with?

25 COMMISSIONER GILINSKY: No, I am here to hear what

1 staff has to say.

2 CHAIRMAN AHEARNE: Peter?

3 COMMISSIONER BRADFORD: No.

4 CHAIRMAN AHEARNE: All right. I guess what I
5 would first propose is to let Ed have a chance to make his
6 case on a new definition and excluding the Action Plan
7 items, because I think if we change the definition it might
8 affect or may not affect any of the items on the list, but
9 at least it would be nice to know the standard we are
10 applying. Similarly if he convinces us that if it is in the
11 Action Plan, it ought not be on the list.

12 Ed.

13 MR. HANRAHAN: As far as the Action Plan items are
14 concerned, I don't quite see the benefit of adding those to
15 another list when the Commission has already spent a great
16 deal of time in identifying items to be undertaken, going
17 through priority screening on them and allocating and
18 directing resources to be spent on them, and given
19 instructions both to the staff and the boards on how to
20 treat those matters.

21 Now to classify some subset of those as unresolved
22 safety issues has the smack of double counting, to have
23 items carried in two different categories, and I think it
24 provides some confusion, if not for ourselves, perhaps for
25 th boards and others outside. And the law, Section 210,

1 requires a plan and a course of action to resolve these, and
2 this is, indeed, exactly what the Action Plan has done. It
3 has provided a plan and the resources to carry out the
4 resolution and the implementation of these matters.

5 I think I would secondly argue that there is, from
6 my viewpoint, little if anything in the Action Plan that
7 fits the notion of unresolved safety issues. The items that
8 have been proposed, I share Commissioner Hendrie's view on,
9 do not seem to me to fit that definition, at least my own
10 personal definition of it.

11 I think the fundamental difference that we have
12 with the staff on this is that I would feel it ought to only
13 include those items where the adequate protection of health
14 and safety, that level is in question where it is uncertain
15 as to whether that is achieved or not. We have implemented a
16 requirement which we believe covers it, but I am not sure
17 and we need to learn something.

18 We have to develop some knowledge, data and
19 information to understand the phenomenon.

20 CHAIRMAN AHEARNE: But those are two different
21 points. The first point, that you are concerned about
22 double counting, does not address whether or not the item
23 should be on the list from its substantive significance but
24 rather is it on some other list.

25 MR. HANRAHAN: That is right.

1 CHAIRMAN AHEARNE: The second one --

2 MR. HANRAHAN: Should it be on the list at all?

3 CHAIRMAN AHEARNE: That is right.

4 MR. HANRAHAN: That is right, two separate --

5 CHAIRMAN AHEARNE: I guess my own reaction is I am
6 a lot more sympathetic to your second point than your
7 first. I don't myself have any problem with keeping it on
8 two lists. I do not think it will be double resource
9 allocated. I would suspect the same, that resources would be
10 focused on the question, and the fact that it is embedded in
11 a list generated by the review process does not, to my mind,
12 eliminate it from its consideration on the unresolved safety
13 issue list.

14 The second one is a much more significant point,
15 to my mind: does it meet some sort of a criterion that you
16 lay down for what should be --

17 MR. HANRAHAN: It has nothing to do with whether
18 an item is in the Action Plan or not. That is what I am
19 saying.

20 COMMISSIONER GILINSKY: Where does the requirement
21 to present this list to the Congress come from? Is it from
22 the Reorganization Act?

23 MR. HANRAHAN: I believe so.

24 MR. BICKWIT: Section 210.

25 COMMISSIONER GILINSKY: It says the plan has to be

1 submitted to Congress?

2 MR. BICKWIT: Yes, annually.

3 MR. HANRAHAN: I think the fundamental difference
4 is should the definition or the application of the
5 definition -- and I think it is less important whether we
6 rewrite the definition and submit it to Congress as to what
7 our application of the definition is -- should that include
8 items which improve the level of safety where we believe
9 that an adequate level of safety is already achieved.

10 In my mind, it ought to be on generic issues.
11 Now, the problem there is generic issues gets to be a long
12 laundry list of 100 and some items, and they can get diluted
13 there. That is another problem. That list ought to be
14 culled out to those which are only important to safety.

15 The less, I think, in people's mind that they are
16 derived from the thought of safety -- they don't really
17 contain everything in those.

18 COMMISSIONER GILINSKY: I was going to say in some
19 sense our safety budget is a plan to deal with unresolved
20 safety issues.

21 MR. CASE: It could be looked at that way.

22 MR. DIRCKS: We are getting in the business of
23 making lists. I begin to wonder how many lists we are going
24 to keep making. The point that Ed made and Commissioner
25 made that if -- because I was tending to agree that by

1 selecting out certain Action Plan items and putting them on
2 the unresolved safety item list, do we implicitly give more
3 priority to those items on that list?

4 MR. CASE: Let me respond to that. Basically,
5 there is a different management approach applied to
6 unresolved safety issues, different from the approach that
7 is being applied to the TMI Task Action Plan. If it is an
8 unresolved safety issue, it is in a branch with a full-time
9 dedicated task manager for getting that job done, with a
10 line manager responsible for getting all of them done, and
11 an assistant director and a director.

12 COMMISSIONER GILINSKY: Why don't we do that for
13 everything?

14 CHAIRMAN AHEARNE: You don't have enough people.

15 MR. CASE: You don't have enough people

16 COMMISSIONER GILINSKY: We have to pick out the
17 things we think are most important.

18 MR. CASE: Precisely. And it has been our
19 experience, rightly or wrongly, that that management style
20 works better to get issues resolved than appointing a task
21 manager without line responsibility.

22 CHAIRMAN AHEARNE: Ed is answering that in
23 somewhat a different way, but yes, putting it on a list does
24 say that these are more important.

25 MR. DIRCKS: Then it implicitly says other items.

1 CHAIRMAN AHEARNE: Explicitly does, absolutely.

2 MR. CASE: But it does not necessarily mean that
3 there will be a different amount of resources.

4 MR. DIPCKS: But you have not seen the process by
5 which some decisions are made, and these are special items
6 under the Action Plan, and others are less special.

7 COMMISSIONER GILINSKY: I suspect some kinds of
8 problems lend themselves more to this approach than others,
9 and they probably are the ones that can be completed, you
10 know, where you can write out a plan for completing it.

11 MR. CASE: In general where you have a fair idea
12 of what you intend to do and therefore can schedule it out
13 and describe the steps.

14 COMMISSIONER GILINSKY: And these sort of
15 continuing, chronic concerns.

16 MR. CASE: More generalized concerns. As our
17 comment on the ACRS suggestion on the single-failure
18 criterion, the adequacy thereof, our answer to that is where
19 we find specific applications of the single failure are not
20 good enough, then curing that problem would become an
21 unresolved safety issue rather than the whole general
22 problem of the adequacy of the single-failure criterion.

23 CHAIRMAN AHEARNE: Ed, what is your reaction to
24 OPE's suggestion?

25 MR. CASE: Well, way back when when we started the

1 process, there was a considerable staff dialogue, and I
2 think led by me: why put TMI items on the unresolved safety
3 item list? Basically for the same reason he is raising.
4 Basically the purpose seemed to be to single things out and
5 to get an Action Plan going and get them done. And if that
6 were the basic purpose of unresolved safety issues, you
7 already have that purpose, so why do both.

8 But unfortunately, the Congress defined something
9 called unresolved safety issue and said put them on a list,
10 never mind whether you have six or twelve ways of resolving
11 them or management styles; put them on a list. So, I guess
12 it is my thinking that in doing it Ed's way, although
13 pragmatically is equal, in my judgment does not meet the
14 requirements of what the law says. I am indifferent to the
15 way it is done. Let me make that clear.

16 MR. HANRAHAN: I don't think Congress suggested a
17 list. They said develop a plan providing for specification
18 and analysis of unresolved safety issues -- all lower case
19 letters -- relating to nuclear reactors, and take action
20 necessary to implement corrective measures with respect to
21 such issues.

22 Now, the Congress, you know, in the Act and in the
23 legislative history that I have looked at, does not really
24 define unresolved safety issues in a way that you can come
25 away from, as I am sure you probably well know from past

1 experience in this matter better than I do.

2 But it is not a notion of a list. It says a plan.

3 MR. CASE: It says specify, though, and it came in
4 a context where we had a bunch of generic issues without
5 priority established among them, and a history of not
6 resolving them in any short period of time. So, Congress in
7 effect said do something about that.

8 MR. HANRAHAN: I understand that.

9 MR. CASE: Cut that list down to something
10 manageable.

11 MR. HANRAHAN: I was just saying I think the list
12 comes from our own implementation.

13 MR. CASE: Well, perhaps.

14 COMMISSIONER HENDRIE: So does the definition.

15 MR. HANRAHAN: That is correct.

16 COMMISSIONER HENDRIE: They leave it to us to
17 define.

18 CHAIRMAN AHEARNE: I guess what you are saying
19 from your interpretation there that we could go back and say
20 some of the items are incorporated in the Action Plan, and
21 the task actions following on the Action Plan handle some of
22 them.

23 MR. HANRAHAN: And I believe the staff proposes in
24 the annual report to include a chapter on the Task Action
25 Plan and progress made. Everything there fits the

1 definition of Section 210. You know, it does not fit
2 specifically the way we have gone about it over the last
3 year or two, but it does fit the legislative definition.

4 CHAIRMAN AHEARNE: Which way would you come out on
5 it? That is, taking Action Plan items, and Ed's point
6 basically is going back to the Congress saying that some of
7 these issues which arise in this sort of significance here
8 is one way they are handled. They are in the Action Plan
9 and the Action Plan allocation of resources, and here are
10 these other items which are not embedded in the Action Plan,
11 and then here is the separate --

12 COMMISSIONER GILINSKY: I was hoping all these
13 expressions of views would cancel each other out.

14 (Laughter.)

15 I wouldn't have to face the question.

16 I think that if we are singling out -- if we are
17 saying there is this list of important items, then if we are
18 saying others of them are in the Action Plan list, I think
19 we pretty much have to say which ones are where and are
20 comparable. If we are just going to reference the Action
21 list as including a whole bunch of other items, I wonder --

22 MR. HANRAHAN: You have established priorities.

23 COMMISSIONER GILINSKY: I don't have a clear view
24 of it, to tell you the truth, and a definite suggestion to
25 make. But I do think, at least by the beginning of Joe's

1 remarks, I do think I understand the gist of them and I
2 think I have said similar things in the past, that there are
3 different sorts of safety issues, there are hardware issues,
4 there are general concerns and you cannot lump them all
5 together and just put them on a list,, because you are going
6 to handle them differently and their significance is
7 different.

8 I don't know whether that is any particular help.

9 CHAIRMAN AHEARNE: I would guess the resolution of
10 this meeting is really going to be we are going to have to
11 go back and think on a number of things.

12 Joe.

13 COMMISSIONER HENDRIE: What was the --

14 CHAIRMAN AHEARNE: It is basically proposing to
15 take, I think, the first five items out and say that they
16 are incorporated in the Action Plan.

17 MR. CASE: The staff's original proposal.

18 CHAIRMAN AHEARNE: Yes.

19 COMMISSIONER HENDRIE: Now, let's see. What was
20 the seventh item? That is, out of the array of things
21 proposed by the ACRS.

22 CHAIRMAN AHEARNE: Control system reliability.

23 COMMISSIONER HENDRIE: From Michaelson's office,
24 control system reliability?

25 CHAIRMAN AHEARNE: Yes.

1 COMMISSIONER GILINSKY: If I can just add a
2 thought here, I am concerned that we have a number of
3 different tracking systems, really, and where an issue falls
4 depends in part on history.

5 CHAIRMAN AHEARNE: Yes.

6 COMMISSIONER GILINSKY: That does not seem to make
7 a lot of sense to me.

8 CHAIRMAN AHEARNE: We are driven to some extent --

9 COMMISSIONER HENDRIE: It has a patchwork feeling
10 to it that makes me uneasy. It may all work out just fine,
11 but --

12 MR. HANRAHAN: I cannot be sanguine about that.

13 MR. DIRCKS: The point Ed made -- I don't know
14 whether he made it or not, but maybe I will make it for
15 him. We are getting awfully detailed about what list
16 something falls in basically because of some definition. I
17 think the work is going to be done.

18 CHAIRMAN AHEARNE: The only really important
19 issue, I believe, is for us to try to make sure that we
20 understand what are the significant problems that have to be
21 worked on, and that adequate resources are placed on that
22 work. So, for example, I find it interesting that in all of
23 the suggestions that have come up, I don't find anyone
24 commenting on the other organization system saying that is
25 not a problem.

1 The debates are how I want that to be addressed,
2 where is that to be addressed; but everyone agrees here are
3 problems that have to be worked on. For myself, all I am
4 concerned about is here are the important problems and what
5 are the resources for it?

6 We have this other layer -- it is sort of a
7 translation. We have to translate something we have
8 requirements on the outside to translate into, and at least
9 there are a number of groups that are interested in our
10 operation which utilize what we do not put on the list as a
11 very significant factor in a number of the licensing
12 hearings.

13 MR. CASE: Yes, indeed.

14 CHAIRMAN AHEARNE: So we are not, I think,
15 completely free just to say, well, we will look inwards and
16 not worry about what list something is on.

17 MR. DIRCKS: That is true, but underlying it all
18 is the work that it requires.

19 CHAIRMAN AHEARNE: If he were to come in or Ed
20 were to come in and say we don't have the resources to work
21 on the problem, we are not going to work on these problems,
22 or if, say, Carl raises an issue and NRR comes back and says
23 there is a big debate, one person saying that is a problem,
24 the other person saying absolutely not a problem, that would
25 be some significant resolution to work out.

1 COMMISSIONER GILINSKY: Also, it seems to me -

2 MR. CASE: You have to recognize that you avoid
3 that debate, if there is one, by saying okay, I will not
4 argue, but as you come to priorities, then I will argue.
5 That is where the debate is.

6 COMMISSIONER GILINSKY: That gets settled, I
7 assume, in the budget. I mean that is the list of lists,
8 isn't it?

9 MR. DIRCKS: The operational plan --

10 COMMISSIONER GILINSKY: But we do need to have --
11 I mean the requirement set by the Congress for the list,
12 which obviously we have to comply with, we ourselves ought
13 to have a piece of paper that lists the things we think are
14 important. You ought to have that, we ought to have it.
15 Other people ought to have it. Obviously we will have all
16 different sorts of problems on it. Problems don't all come
17 in neat packages. But we do need to have sort of a
18 continually updated and rolling list of what we think is
19 important.

20 MR. DIRCKS: Important items.

21 COMMISSIONER GILINSKY: Just to do our work, and
22 it ought not to be that you say, oh, yes, that one came up
23 in '78 and therefore it is some other list, and the TMI
24 items -- well, I don't know.

25 MR. KNEIL: Mr. Chairman, in connection with

1 responding to the Bingham Amendment, we are proposing a plan
2 to resolve the question that you are addressing here, the
3 various lists, and we are developing a plan to bring the
4 various lists together.

5 COMMISSIONER GILINSKY: A list of lists.

6 MR. KNEIL: Right. To maintain a list and to
7 prioritize a list.

8 COMMISSIONER GILINSKY: There is something called
9 the book of lists which I saw in a bookstore. I don't know
10 whether any of our lists qualify for that, but we certainly
11 ought to try to get them in.

12 (Laughter.)

13 MR. KNEIL: We are trying to take the lead in
14 developing a plan which will resolve that, and then the
15 lists we have will be generally available and people will be
16 able to focus on them and agree with them or take issue with
17 them.

18 MR. CASE: In terms of priorities.

19 MR. KNEIL: Right.

20 CHAIRMAN AHEARNE: Let me, if I could, try to
21 focus back for a minute on the issue Ed has raised. If we
22 go forward to an unresolved safety issue list to the
23 Congress, should we or should we not incorporate in that the
24 items drawn on the TMI list?

25 COMMISSIONER WENDRIE: I have to ask a question

1 first.

2 CHAIRMAN AHEARNE: All right.

3 COMMISSIONER HENDRIE: Karl, you have a crowd out
4 there called the generic -- what is it -- Generic Issues
5 Branch?

6 MR. KNEIL: Generic Issues Branch, yes.

7 COMMISSIONER HENDRIE: And you have USIs and assign
8 task managers among your staff, and there are task action
9 plans. There are a great number of generic issues, you
10 know, that start at some pretty interesting things and
11 trickle off to, I don't know, better ways to count the
12 numbers of toasters that might be used in the year 2010 from
13 the standpoint of demand forecasts, environmental reviews
14 and so on; great stuff, maybe next year. How about that.

15 Now, all of that comes under your purview in
16 generic issues, right?

17 MR. KNEIL: In the sense of monitoring and
18 coordinating, that does, yes.

19 COMMISSIONER HENDRIE: And so you sort of have to
20 sort out which of these get more and which get less
21 attention and time.

22 MR. CASE: That is a forthcoming job.

23 COMMISSIONER HENDRIE: Now, where does the great
24 Action Plan fit on this?

25 MR. CASE: Not at all.

1 COMMISSIONER HENDRIE: That is, Karl does not have
2 any special responsibility for tracking the Action Plan.

3 MR. KNEIL: We are monitoring the Action Plan. We
4 are contributing to and monitoring the Action Plan.

5 MR. CASE: In case anybody says what is the status
6 of something.

7 COMMISSIONER HENDRIE: Are you the monitor for NRR?

8 MR. KNEIL: We are the monitor. There are three
9 organizations that have the responsibility, and we work
10 together, MPA and us, Generic Issues Branch, and Harold
11 Denton's staff, and we have a system where we are going to
12 publish every three months a list of all the tasks in the
13 Action Plan and what their status is and who is responsible
14 and what the schedules are. That will be coming out every
15 three months. Part of that is already available. It has
16 not been published yet because it is not complete, so you
17 will be able to readily find any task and what its status is.

18 MR. CASE: It is a reporting function.

19 MR. KNEIL: It is a reporting function, that is
20 correct.

21 MR. CASE: Not a management function.

22 COMMISSIONER HENDRIE: Okay. I am trying to sort
23 out what becomes, for instance, of the staff effort on
24 long-term upgrading of training and qualifications of
25 operating personnel if that item stands simply as one of the

1 Action Plan significant headings as it does only as against
2 being both Action Plan and designated USI.

3 Now, if it gets designated a USI, you will have a
4 task manager for it.

5 Now, what will get done or not done that would get
6 done or not done if it were not a USI -- can you help me to
7 see the difference in the way this one would get treated,
8 for instance?

9 MR. KNEIL: All right, I will give you my personal
10 views on that. I think it is a management function.

11 COMMISSIONER HENDRIE: I have given you mine.

12 (Laughter.)

13 MR. KNEIL: It could be designated USI without
14 putting a task manager from my branch. I do not think it is
15 essential -- at the moment all the USIs in my branch, for
16 task managers in my branch, they report to me, but I do not
17 think that is an essential feature of it. But more
18 importantly, I guess, my perception of work on generic
19 issues by the staff is that when the generic issue is put in
20 a line branch, it may or may not get done because it is
21 subservient to work that has higher priority, whereas in our
22 branch it has first priority and, you know, we work
23 full-time at the job.

24 So the line branches have major responsibilities
25 in operating reactors and in reviewing case work, so that

1 generic work tends to get the short shrift on that.

2 MR. CASE: Thus the reason for the branch.

3 MR. KNEIL: That is right.

4 MR. DI'CKS: The case we jurt mentioned, say the
5 upgrading of operating management, this was singled out in
6 such a startling manner in the Action Plan and we have
7 Hanauer's division basically set up to do this, and I guess
8 four of the six items almost are in Hanauer's division. I
9 don't know what higher management focus could be given.

10 MR. KNEIL: I would agree with that. My
11 discussion is basically in terms of what our experience has
12 been in the past.

13 COMMISSIONER HENDRIE: I agree with you,
14 particularly while over the years we have had many of these
15 generic tasks and in the line branches they do tend to get
16 shoved aside as more pressing things get in, but for items
17 like these, operating procedures, control room design or,
18 let's go back to the first one, long-term upgrading of
19 training and qualifications of operating personnel, if it
20 were a USI and you had a guy who was the task manager on it,
21 he would primarily be monitoring and nagging people,
22 presumably in Hanauer's crowd, the operator training and
23 qualifications crowd, saying get on with it and so on.

24 MR. KNEIL: There are two ways --

25 COMMISSIONER HENDRIE: Each of these things, each

1 of these items that are from the Action Plan and are
2 proposed as USIs, are fairly big pieces of stuff.

3 MR. KNEIL: That is correct.

4 COMMISSIONER HENDRIE: It is not as though a
5 single task manager in your branch is able to make a
6 substantial impression on the job by his own personal
7 efforts in doing the work. The value is more in the
8 monitoring and the keeping up to date on progress and
9 whistling when progress seems to bog down.

10 MR. KNEIL: That is not totally true. The
11 managers we have now are not just program managers; they are
12 technical managers, and to a certain extent, that is the
13 philosophy I think we intend to follow. In other words, we
14 will move people in and out of the branch in terms of their
15 technical interests and capabilities in a specific USI. In
16 other words, they are not just program managers; they are
17 people who are technically either competent or strongly
18 interested in a particular area that a USI addresses.

19 CHAIRMAN AHEARNE: Keeping with that, it might be
20 entirely possible that these three are on the list to have
21 managers in Hanauer's branch.

22 MR. KNEIL: I would think that is a management
23 decision.

24 CHAIRMAN AHEARNE: Yes.

25 COMMISSIONER HENDRIE: Furthermore, when you get

1 one like long-term upgrading of training and qualifications
2 of operating personnel, and you have a whole branch chief
3 over in Hanauer's crowd who has that specifically as, if not
4 his only, at least his major enterprise, so I don't --can
5 one of your task managers be the manager of something which
6 seems to require at least a branch and maybe more elsewhere?

7 CHAIRMAN AHEARNE: I think Ed wants to --

8 MR. CASE: I am not disagreeing with the direction
9 you are going, but one thing you perhaps ought to appreciate
10 is one of the jobs in this task was considering licensing of
11 maintenance personnel, people who are not now licensed
12 operators, to upgrade them and consider this other subject.

13 I would dare say that if the task were in Karl's
14 group, what would you do about presently nonlicensed
15 operators would get higher priority than it would get in
16 Hanauer's group because he sees the need for upgrading the
17 qualifications of existing people. He has a big job to do.
18 And beyond that he has license cases that are dependent on
19 his output.

20 So that is the kind of difference that gets
21 involved in this management style.

22 CHAIRMAN AHEARNE: I think I had better give Peter
23 a chance to comment on this because I at last have to give
24 Karl and Ray and Ed a chance to debate these other three
25 issues.

1 COMMISSIONER BRADFORD: Okay. I won't take long
2 on this one. I would keep any issue that we felt was, in
3 fact, an unresolved safety issue, I would keep that on the
4 210 list as well as the TMI -- I would leave it in the
5 Action Plan and I would keep it on the list. One thing, I
6 don't think that the Action Plan will necessarily carry
7 forward into the future, say, for three or four or five
8 years in the same way that the unresolved safety issue list
9 will.

10 And as the Action Plan loses its sense of being a
11 whole separate document, we would then have in the future
12 either to pick these things up and make them unresolved
13 safety issues or to continue to sort of carry them in some
14 separate account.

15 For another, I am not sure that the Congress, in
16 requiring a list of unresolved safety issues, would --
17 granted we could explain it in a letter to them or
18 something, but would consider it fully consistent with what
19 they had in mind if we had issues that we considered to meet
20 all the earmarks of being USIs but we were not including
21 them in the 210 report on the basis they were off on some
22 other list somewhere.

23 CHAIRMAN AHEARNE: Let me turn to -- what I would
24 like, Ed, is you to give your argument why you did not
25 accept first Karl's and then Ray's points, and then give

1 them a chance to comment on that.

2 MR. CASE: Karl, why don't you do that?

3 MR. KNEIL: The ACRS suggestions first. They
4 proposed three additions: DC power supply reliability,
5 single-failure criterion, and control system reliability.
6 In the first place, we agree that all these are subjects of
7 merit and importance, and the question asked whether or not
8 you are making them an unresolved safety issue hinges on
9 their present status and their attractability.

10 For DC power system reliability, we have a
11 contractor report that has been written and which two drafts
12 have been reviewed -- it is being done by Reactor Safety --
13 and which we will have a draft that has the safety
14 management blessing available for the ACRS review by about
15 November 15.

16 We feel that since this study has been done, it is
17 important to focus on what the results of the study are
18 before we make it a USI or consider making it a USI. The
19 single-failure criterion --

20 CHAIRMAN AHEARNE: Ray, would you like to comment
21 on that?

22 MR. FRALEY: Well, I think you are aware in the
23 Committee's report, they felt that important safety issues
24 should be on the list whether they were going to be resolved
25 in six months or not. The timing they did not think was an

1 appropriate criteria. So, the fact that this is probably
2 going to be resolved within the next few months was not
3 persuasive.

4 They do consider this -- and just let me say that
5 this issue was first raised early in 1977, and the staff in
6 '78 did do a probabilistic assessment, WASH-1400 kind of
7 probabilistic assessment, which was not, you know,
8 dispositive, and agreed that at least one more year's work
9 was necessary. That is now going to be forthcoming, I
10 guess, in the Sandia report.

11 I should not really speak for the Committee, but
12 the Committee doubts that this will be dispositive of the
13 issue even now or when it comes out in November, and that
14 this is an important safety issue. There are many incidents
15 where the DC power supply has been degraded. One of them,
16 in fact, resulted in a fire at a nuclear plant in an
17 emergency diesel engine in the generator, and that these
18 represent enough precursors so that this should be getting
19 fixed, not studied.

20 I think there are a long list of these precursors,
21 if you will, that are enough to say we really need to take a
22 good look at this. In fact, it is my understanding that
23 some utilities have fixed their DC power supplies without
24 benefit of changes in the ACRS requirements, because when it
25 surfaced, they realized there were some problems with those

1 systems and they went ahead and did improve their
2 reliability.

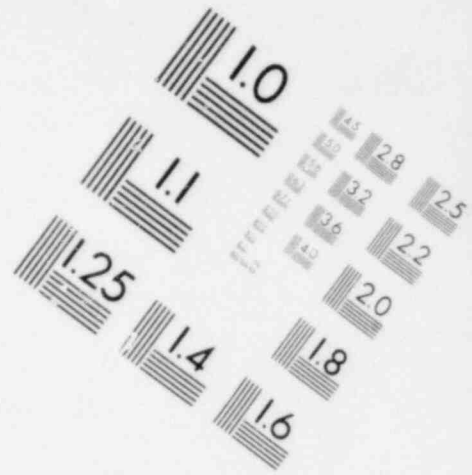
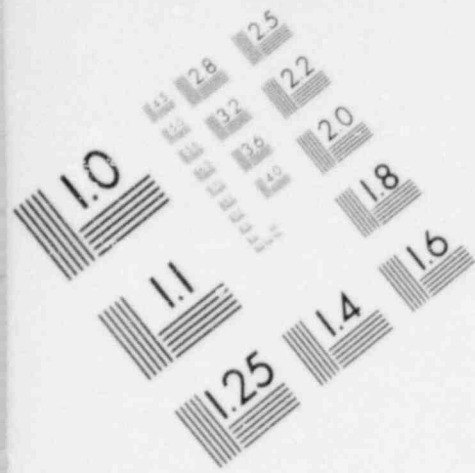
3 But we have not yet seen fit to change our
4 requirements.

5 CHAIRMAN AHEARNE: Any other comments on the DC
6 power supply? Okay, the next one.

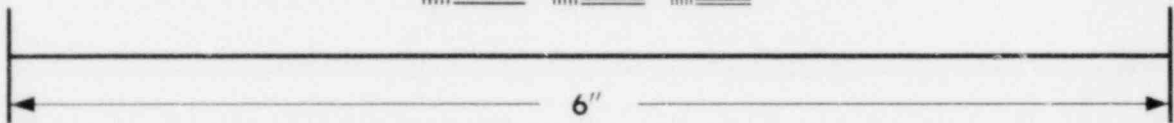
7 MR. KNEIL: The next suggested addition was the
8 single-failure criterion, and I think Mr. Case covered that,
9 the gist of my answer on that earlier effectively. We
10 believe that we should look at systems and determine in
11 which systems the single-failure criterion is not adequate
12 to provide the degree of assurance we require. And when we
13 have identified those systems, then we can proceed to make
14 -- what we should do on those systems as USIs.

15 As a matter of fact, one of the proposed USIs does
16 follow this even without the benefit of IREP. The
17 perception is at the moment that the auxiliary feedwater
18 systems and the requirement for integrity in the steam
19 generators and integrity in the primary loop for natural
20 circulation may not be adequate even with the single-failure
21 criterion, being adequate to assure decay heat removal.

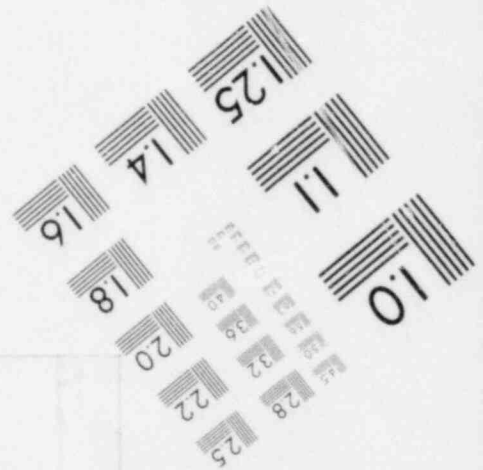
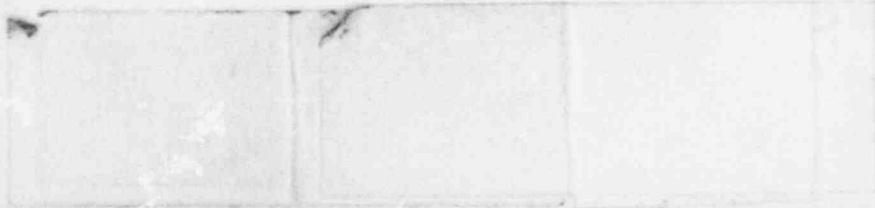
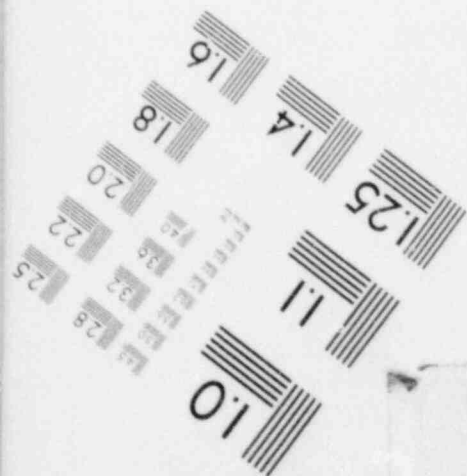
22 So, one of the USIs we have is one to explore
23 alternate ways of decay heat removal. So that is exactly
24 the kind of USI that we would expect to fall out of the IREP
25 studies that are now being done in various systems in

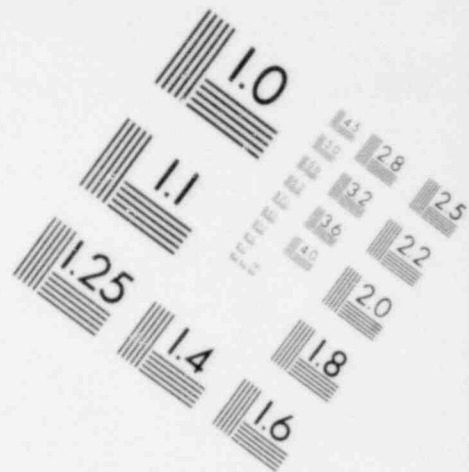
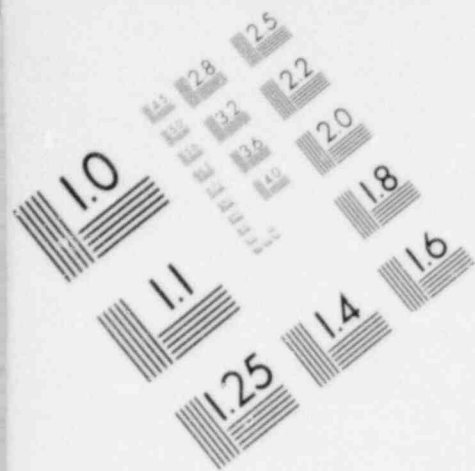


**IMAGE EVALUATION
TEST TARGET (MT-3)**

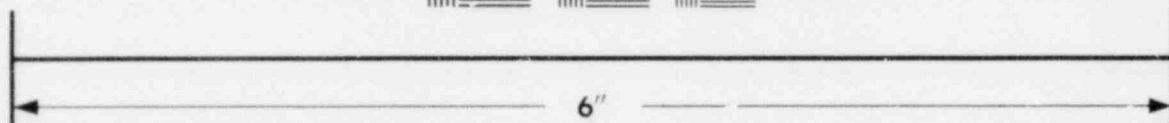


MICROCOPY RESOLUTION TEST CHART

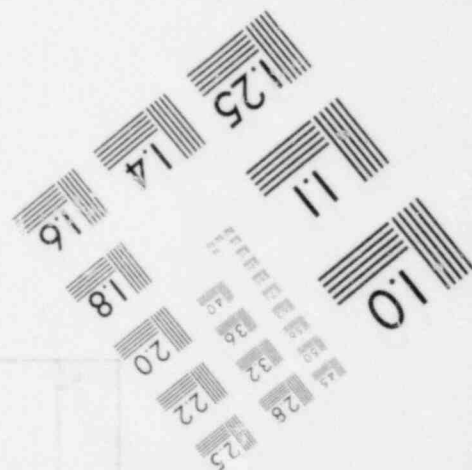
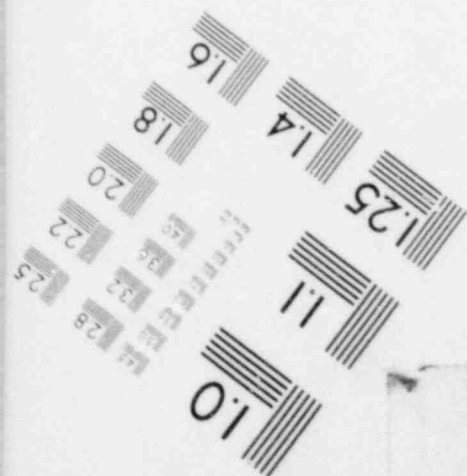




**IMAGE EVALUATION
TEST TARGET (MT-3)**



MICROCOPY RESOLUTION TEST CHART



1 various plants and various designs.

2 CHAIRMAN AHEARNE: Ray.

3 MR. FRALEY: I think, again, the members I have
4 talked to feel the IREP studies will contribute to a better
5 understanding of this problem, but they do not think they
6 will resolve it, for the following reasons. The IREP study
7 is limited in scope. It only looks at 11 plants, not
8 necessarily all of the designs that we need to worry about.
9 We may miss a couple of very critical designs in the IREP
10 studies.

11 Number two, it is not optimized, really, to look
12 at this kind of a failure, and by the various assumptions
13 you make and the criteria that you establish, you may miss
14 this kind of thing or at least de-emphasize it.

15 And third, they don't think the IREP studies have
16 a high enough priority, the same priority that should be
17 associated with this particular item, and that it should be
18 given higher priority, this particular aspect. So, although
19 the IREP studies may help in this area, they feel it
20 warrants high priority attention as a separate item
21 optimized with respect to this matter.

22 CHAIRMAN AHEARNE: Does anybody else have any
23 comments?

24 MR. KNEIL: I could comment a little bit further
25 on that. To me the single-failure criterion is a nice

1 thing. It sort of falls out of systems analysis. If you do
2 analyses on lots of systems, you find that you are
3 single-failure proof. You find out you increase reliability
4 on those systems very significantly.

5 I see no reason to believe and really no promise
6 to show that some kind of further general analysis will come
7 out with some kind of general criterion that you can then
8 reapplly further to assure that additional reliability is
9 achieved in a system.

10 MR. CASE: In other words, it does not look like a
11 double-failure criteria is the answer. There may be places
12 where a single-failure criterion is not good enough and you
13 substitute in specific areas rather than develop some
14 overall criteria.

15 MR. FRALEY: I think in fact that is true that you
16 may want to supplement it, not necessarily abandon it. B . ,
17 for example, common mode failures -- the single-failure
18 criteria has provided systems that are really pretty good,
19 so that it is now the common mode failure that is
20 controlling in many cases, but we don't analyze that.

21 The analysis of ATWS showed that, that when you
22 do, you know, a single-failure random mode analysis, the
23 systems are just swell. When you do a common mode failure,
24 they are not anywhere near that good and they need to be
25 fixed. The single-failure criteria does not require common

1 failure mode analysis.

2 COMMISSIONER GILINSKY: The issue would be, then,
3 where does the single-failure criteria need to be
4 supplemented.

5 MR. FRALEY: That is really the issue.

6 COMMISSIONER BRADFORD: Except to the extent I
7 guess you are talking about the conditions in the operating
8 plants. What you would really be stating is the generic
9 safety issue is -- I guess it is the backfit half of the
10 proposition you stated: that is, where has the
11 single-failure approach led to inadequacies, and what
12 changes need to be made?

13 MR. FRALEY: Well, I think we are finding all of
14 the time that systems that are thought were reliable enough
15 really aren't reliable enough. I mean the auxiliary
16 feedwater system --

17 COMMISSIONER BRADFORD: I understand that. All I
18 am saying is from the point of view of whether or not this
19 is really an unresolved safety issue, I don't think anyone
20 would say that simply the abstract matter of reformulating
21 the single-failure criterion was -- it met the standards of
22 an unresolved safety issue. To put it in terms of its
23 forward-backward distinction, to pick up the backward half
24 of it, what you are really asking is what is there in the
25 plants that is different from what it should be as a result

1 of the single-failure criterion analysis. That would seem
2 to me to be the unresolved safety issue part of the
3 single-failure question.

4 MR. FRALEY: Well, I think we are finding that
5 some of the systems in existing plants are not good enough.
6 They were designed to the single-failure criteria, but we
7 are now determining that they are not really good enough.
8 We need to take another look at them with some other
9 criteria to supplement them.

10 COMMISSIONER HENDRIE: In that case I don't
11 understand --

12 MR. KNEIL: IREP will identify those systems where
13 supplementary fixes are necessary. There is no promise of a
14 general kind of fix, I do not think. I think it is going to
15 be specific.

16 CHAIRMAN AHEARNE: I think that perhaps the most
17 -- is it fair to say that the more important issue you are
18 raising, the ACRS does not think enough resource priority is
19 going to IREP?

20 MR. FRALEY: Well, I think they think that IREP is
21 supposed to solve a lot of problems for us but it is not
22 necessarily optimized to look at any one. This is important
23 enough to have a study that is optimized in this regard.

24 COMMISSIONER HENDRIE: But where would it lead? I
25 cannot understand what the Committee wants out of this. The

1 only way you are going to advance from the single-failure
2 criterion, which is a very useful shorthand method for
3 improving the reliability of systems, the only way you are
4 going to do better than that is to go over to a full-blown
5 risk assessment in which you take account of all manner of
6 things and in all manner of combinations.

7 We have already started on that in the IREP
8 program. Now, if the Committee wants to say, why, you ought
9 to have 3000 people doing IREP on every plant, they can say
10 that, but they know perfectly well it is not practical. So
11 I cannot see what a study of the single-failure criteria
12 would produce other than the perfectly obvious opposition
13 that you ought to go ahead and look at these plants on a
14 risk assessment basis the way we are doing through IREP and
15 the follow-on programs and try to identify the high-risk
16 sequences which ought to be knocked down and pulled down in
17 probability.

18 COMMISSIONER GILINSKY: Let's see. Is it true
19 that the alternative to applying the single-failure
20 criterion is to do a full-blown analysis? It seems to me
21 that --

22 COMMISSIONER HENDRIE: Once you go past the
23 single-failure and say, well, how about a two-failure
24 criteria.

25 COMMISSIONER GILINSKY: Well, that is not what

1 they are saying. I mean it seems to me that they are asking
2 the thing be looked at from a certain point of view, I mean
3 not just doing a grant analysis, but really looking around
4 at it by intuition and their own experience and so on.

5 COMMISSIONER HENDRIE: I am saying we are doing
6 that, and I cannot understand what it is further they will
7 achieve.

8 COMMISSIONER GILINSKY: It sounds as if IREP is a
9 rather grander effort which takes account of -- well,
10 approaches the problem on a broad front.

11 MR. FRALEY: But only for a limited number of
12 plant designs.

13 COMMISSIONER GILINSKY: Well, still.

14 COMMISSIONER HENDRIE: An initial cut.

15 COMMISSIONER GILINSKY: It is a pretty grand
16 effort which is not likely to move along very rapidly, and I
17 am just trying to put my own interpretation on the
18 suggestion here. It may well be that if we asked the
19 question precisely and orient ourselves toward trying to
20 identify places based on our experience, based on judgment,
21 based on intuition where the single-failure criterion may
22 well need to be supplemented, a more selective approach may
23 produce important results in a shorter time scale.

24 COMMISSIONER HENDRIE: I do not think so because
25 the only way you do it short of the quantitative analysis of

1 risk assessment is just on the basis of individual staff
2 members' gut judgments, and then what you will get, they are
3 highly selective judgments in which you will be fixing some
4 -- because some staff members' internals feel that way, we
5 will be spending resources to fix some 10⁻⁷ per unit per
6 year problem and ignoring 10⁻³ per unit year problems.

7 It is precisely that difficulty which the risk
8 assessment methodology gives you a way to handle and to deal
9 with those things. You come to the outliers, the high risk
10 elements first.

11 COMMISSIONER GILINSKY: Intuition, judgment and so
12 on. I think I did not mean that you fix the requirements on
13 the basis of just feeling, but that you try to identify the
14 problems and areas for limited analyses on that bases. I
15 mean we talk about methodology. We are just trying to talk
16 about getting more quantitative about the risks, and it is
17 not as if we are talking about electrodynamics or some
18 methodology. We are just trying to use all kinds of ways to
19 get more quantitative and to identify the risks better.

20 As I hear the difference here -- and correct me if
21 I am wrong, Ray -- on the one hand we are being asked to
22 support an approach that advances on a broad front and is
23 bound to advance slowly, and I think it is something we do
24 want to support and are supporting. But it may well be that
25 a kind of analytical scouting operation may end up gaining a

1 very large fraction of what is eventually going to be gained
2 by this army advancing forward a step at a time.

3 CHAIRMAN AHEARNE: Probably more of a platoon.

4 MR. FRALEY: I think the Committee has certainly
5 supported probabilistic assessment. They are one of its most
6 staunch supporters. But I think if you look at the history
7 of ATWS, you find that sometimes v do in the meantime have
8 to make some deterministic decisions because the technology
9 just has not been developed to the point where you can do
10 things quickly.

11 I think, you know, that was shown in the ATWS case.

12 CHAIRMAN AHEARNE: Let us move on to the control
13 system reliability.

14 MR. KNEIL: In the case of control system
15 reliability, it was an issue that we focused on. The ACRS,
16 I think --

17 CHAIRMAN AHEARNE: You agreed with it.

18 MR. KNEIL: They put a new slant on it, and we
19 thought that that raised its significance to the point where
20 we should adopt it.

21 CHAIRMAN AHEARNE: Okay. Now, they mentioned that
22 reliability of nonsystem information is an important issue,
23 and your comment is that further study --

24 MR. KNEIL: Yes, we agree that should be an item
25 for further study, put that in that category.

1 CHAIRMAN AHEARNE: Are you disagreeing with the
2 concept that reliability of nonsafety system information, as
3 far as the issue itself, do you disagree that it is
4 important?

5 MR. KNEIL: No.

6 MR. CASE: I think he means further study for
7 possible inclusion as a USI.

8 MR. KNEIL: Correct.

9 CHAIRMAN AHEARNE: It is possible to read your
10 comment that you were not really sure that might be a
11 problem.

12 MR. KNEIL: It is our fault in putting it in an
13 ambiguous way.

14 CHAIRMAN AHEARNE: Okay. Now, obviously you could
15 dredge up some recent history.

16 (Laughter.)k

17 CHAIRMAN AHEARNE: Any other comments on control
18 system reliability? Did they adequately address your
19 concerns?

20 MR. FRALEY: As I understand it, they have
21 adequately addressed them.

22 CHAIRMAN AHEARNE: Now let's move into AFOD's
23 comments.

24 MR. KNEIL: The way we understood it, they had two
25 items that deserved further studies rather than they believe

1 should be USIs at this stage, and those items were safety
2 implications of steam generator transients and accidents and
3 piping and use of highly combustible gases, and we agreed
4 that they were items suitable for further study for possible
5 inclusion as USIs.

6 (At 11:14 a.m., Commissioner Bradford exited the
7 hearing room.)

8 CHAIRMAN AHEARNE: Carl, were you saying that they
9 should study them or were you suggesting they go on the list?

10 MR. MICHAELSON: I was suggesting that they go on
11 the list, really, after looking to see whether they might
12 already be covered by an item on the list. If not, then I
13 thought they would belong there. We probably did not
14 articulate adequately on the question of combustible gases.
15 Unfortunately, I cited it only as an example of what was
16 really the unresolved safety issue, and that is how we treat
17 nonsafety grade equipment relative to postulations of
18 failure, when the failure can occur, and finally, failure
19 effects.

20 For instance, the hydrogen piping is
21 nonseismically qualified generally. It may or may not have
22 safety grade isolation. It may not and probably does not
23 have safety grade relief detection. And, of course, the
24 possibility of hydrogen entering the building after a
25 seismic event might lead to some serious challenge in safety

1 grade equipment.

2 So really, the issue is not just hydrogen per se
3 but rather how you treat nonseismically-qualified equipment,
4 and it is a generic issue, in my opinion, the reasons being
5 that we do not have regulatory guidance concerning how you
6 postulate how nonqualified equipment fails during an
7 earthquake.

8 For instance, do you postulate all of it fails, a
9 certain fraction of it fails or none of it fails?

10 COMMISSIONER GILINSKY: When you say how you treat
11 it in a safety analysis?

12 MR. MICHAELSON: In a safety analysis we
13 concentrate on the mitigating equipment and make sure it
14 rides through the earthquake. We do not look at the
15 nonqualified equipment to see if it were to fail in
16 combination. It could then lead to effects on safety grade
17 equipment. We do look at this equipment from the viewpoint
18 of postulating that at any point in time, any one device can
19 fail, even nonsafety, and we look to some extent to be sure
20 it cannot thereby affect safety-related equipment.

21 But we are dealing now with several of these
22 events occurring simultaneously; the question is how many.

23 CHAIRMAN AHEARNE: I am a little confused, Carl,
24 in the sense that you had suggested that specific
25 description you had just made, at least during an earthquake

1 being incorporated into something else. Now are you saying
2 that in addition, that the failure of the
3 nonseismically-qualified equipment not during an earthquake
4 ought to be then a separate --

5 MR. MICHAELSON: No, no. Only the unresolved
6 aspect of the nonqualified equipment, I believe, is only
7 when commonly challenged, like during an earthquake. Its
8 failure singly is generally considered, I think, in terms of
9 pipe break analysis and this sort of thing. But if you were
10 to experience an earthquake, then you ask how many of these
11 postulated failures do I assume?

12 CHAIRMAN AHEARNE: Didn't you say that that aspect
13 would be done under the seismic qualifications?

14 MR. ANEIL: Yes, we said we would include that,
15 yes.

16 MR. MICHAELSON: You know, that is what I think.
17 If it is not there, then I think it is unresolved; if it is
18 there --

19 CHAIRMAN AHEARNE: I think what they said is they
20 will make sure that the task is so written to make sure that
21 is there.

22 MR. MICHAELSON: That is correct.

23 COMMISSIONER GILINSKY: Are you saying this is
24 only a problem during seismic events? It is not a problem
25 in other cases?

1 MR. MICHAELSON: It is, to my knowledge, one of
2 the few common challenges to all equipment simultaneously,
3 and therefore how does it or does it even fail when shaken,
4 as opposed to challenging only a piece of equipment locally,
5 like with a local explosion or local fire or whatever? The
6 earthquake challenges all equipment at the same time. What
7 do you assume about the failure since it is not qualified
8 for the challenge? That is the unresolved issue.

9 I think it can readily be covered by the present
10 issue. Our only effort here was to make sure it was, and
11 then relative to the hydrogen line, much of the problem is
12 the seismic, but not all of it. In the case of combustible
13 gases, there is also the question of loss of off-site power
14 if you already have an existing hydrogen leak which you have
15 not detected and the reason is that you have a large amount
16 of building ventilation which carries it away and makes it
17 undetectable.

18 If you suddenly lost off-site power, then the leak
19 proceeds to accumulate and precipitates an explosion in an
20 area where the vital equipment is located.

21 COMMISSIONER GILINSKY: Which hydrogen are you
22 talking about?

23 MR. MICHAELSON: Makeup tanks, this sort of
24 thing. It is generally on the order of one-inch pipe, but
25 it is fed by a large tank, hydrogen bottles out in the

1 field, and it has to deliver varying flows since it is
2 generally a batch process of filling tanks and so forth. So
3 you cannot put excess flow limitation on it or that sort of
4 thing very readily.

5 The best you can do is put good detection in the
6 building to take care of possible leaks and put good
7 isolation, hopefully safety grade isolation. The
8 difficulty, though, is that a leak little less than, say,
9 full flow cannot be isolated by flow indication since it is
10 a normal condition. It can only be detected by leak
11 detection devices, and they may not even be powered during
12 the loss of off-site power, in which case you do not even
13 know that you should isolate until after, perhaps, it is too
14 late.

15 (At 11:20 a.m., Commissioner Bradford entered the
16 hearing room.)

17 CHAIRMAN AHEARNE: Ed?

18 MR. CASE: We will be looking at this further.

19 MR. GEORGE: If I might add to that, the reason we
20 had that item down on further study is because it is our
21 understanding that the fire protection reviewers have been
22 looking at the combustible lines. One item that was pointed
23 out in a memo from AEOD was that this concern with the
24 detection devices that they may not be qualified is
25 something that we felt needed further looking into because

1 we understand that the fire protection reviewers were
2 considering this issue. And maybe the criteria need a
3 little refining, so we are not sure at this time that you
4 need to make it a separate issue.

5 MR. MICHAELSON: In retrospect, if that were the
6 only issue, I would probably not make it unresolved. It is
7 certainly resolvable. It is unresolved only in that
8 presently there are not requirements to do something.

9 CHAIRMAN AHEARNE: It sounds like it is a problem
10 that could be solved, but we have to make sure that someone
11 is looking at it and solving it.

12 MR. MICHAELSON: Yes. Therefore, the study period
13 is a perfectly good resolution.

14 COMMISSIONER GILINSKY: Following on your earlier
15 item on safety-related equipment, is there some general
16 effort to redraw that boundary between safety-related and
17 nonsafety-related in the wake of our experience?

18 MR. CASE: Do you know, Hank?

19 MR. GEORGE: There is an item in the TMI Action
20 Plan which is to expand the QA list, and it is considering
21 addressing just what additional items may need be added to
22 the Q list, or maybe certain functions for those items need
23 to be added to the Q list. But again, as it is indicated in
24 the Action Plan as to provide reasonable requirements in
25 that area, it really needs to rely on some ongoing studies,

1 particularly IREP, to identify what nonsafety systems you
2 may want to pick up in that category.

3 There is one area, however, which was this issue
4 we were considering adding, and that is -- proposing to add
5 safety implications of control systems because of existing
6 experience, that that is a nonsafety-related area that more
7 attention needs to be given to them.

8 COMMISSIONER GILINSKY: Let me understand more
9 clearly. What is this effort on redefining the list of
10 items or equipment that is subject to QA, which is
11 equivalent to the safety-related designation, is that not
12 true?

13 MR. GEORGE: That is correct.

14 COMMISSIONER GILINSKY: What does that effort
15 consist of?

16 MR. GEORGE: That effort is going to primarily
17 follow on after IREP.

18 COMMISSIONER GILINSKY: Is there anything
19 happening now?

20 MR. GEORGE: Carl is shaking his head no. I
21 believed there were some ongoing efforts right now to
22 improve some of the QA criteria, and with respect to that
23 may pick up some nonsafety -- at least what have been
24 considered nonsafety in the past that are actually parts of
25 some currently recognized safety systems. So there may be

1 some improvement there: as an example, perhaps, instrument
2 air systems.

3 But the longer-term effort in expanding that list,
4 we will wait on IREP.

5 COMMISSIONER GILINSKY: When is IREP supposed to
6 get to the point where you can get useful information for
7 this QA list?

8 MR. GEORGE: The schedule in the Action Plan for
9 starting work on this QA list was about two years.

10 COMMISSIONER GILINSKY: Two years from now?

11 MR. GEORGE: A year and a half from now.

12 COMMISSIONER GILINSKY: It seems like kind of a
13 long time.

14 CHAIRMAN AHEARNE: I think that is what we ought
15 to cover today.

16 COMMISSIONER GILINSKY: I was raising it in
17 context of this list. I feel this is something that ought to
18 be on the list. Go ahead.

19 CHAIRMAN AHEARNE: I think the more important ones
20 are included.

21 COMMISSIONER GILINSKY: When you draw the
22 boundaries, some things are included and some are excluded.

23 CHAIRMAN AHEARNE: The approach we have been
24 taking is to try to identify what items ought to be
25 included. I think IREP is aimed at more explicit items.

1 COMMISSIONER GILINSKY: I am not sure I
2 understand, but why don't we go ahead.

3 CHAIRMAN AHEARNE: Carl, your last item. Could you
4 explain to me what a differential expansion effect to the
5 steam generator is?

6 MR. MICHAELSON: Yes, I certainly can. I did not
7 know we started discussing that item yet.

8 CHAIRMAN AHEARNE: That is the last item.

9 MR. MICHAELSON: No, but I mean had we talked
10 about the steam generator transients already?

11 CHAIRMAN AHEARNE: This is embedded in that whole
12 --

13 MR. MICHAELSON: The differential expansion
14 problem is that which results when having overfilled a
15 once-through steam generator. In the process of
16 overfilling, you cool the tubing much quicker than you cool
17 the shells, because the shell is a massive piece of metal,
18 and this all happens in about a minute. So the tubes cool
19 very quickly. The shell does not cool quickly. So the
20 tubes end up a few inches shorter than the shell, so they
21 have to stretch.

22 The question then is is that stretch uniform,
23 which is the way you usually analyze it, or is it
24 concentrated where there is a defect in the tubing or
25 developing defect in the tubing. That is one of the

1 potential problems in worrying about steam generator
2 overflow.

3 CHAIRMAN AHEARNE: Carl, you do not wish to
4 include this steam generator transient on the unresolved
5 safety issue list.

6 MR. KNEIL: Not at this time. We would add it to
7 the list for further study.

8 CHAIRMAN AHEARNE: Could you say why you don't
9 think it is appropriate to add it now?

10 MR. KNEIL: Okay. I guess it is my view that he
11 really was not proposing to add it. I guess I was confused
12 as to what the proposal was.

13 MR. MICHAELSON: I think I listed two items for
14 addition and two items for thought. This was one of the two
15 items for addition.

16 CHAIRMAN AHEARNE: Yes.

17 MR. GEORGE: I guess it was our understanding that
18 this was one of the two items for consideration. Mr.
19 Ornstein indicated that was correct. He was not trying to
20 say how this fit in with overall risk contribution
21 considering all the other issues. He felt it was an
22 important issue. It had not been considered before. It
23 should be thrown in the hopper and consideration given as to
24 making it a USI.

25 MR. MICHAELSON: I think that is a correct

1 statement, the intention being that you people consider it
2 and then decide is it or isn't it, and you decided it wasn't.

3 MR. GEORGE: Well, I think --

4 MR. CASE: It needed further study, particularly
5 the risk aspects, the risk-benefits, before we could decide.

6 MR. MICHAELSON: My one concern on this issue, of
7 course, is it is not a new one. This has been articulated
8 since ACRS days. It has been going on for two years now, you
9 know, and yet the progress seems to be going slowly. There
10 has certainly been adequate time to consider it one way or
11 the other, and it is not like something out of the blue.
12 There is considerable documentation behind the problem,
13 including ACRS letters.

14 COMMISSIONER HENDRIE: What is the field
15 experience, first of all; and second of all, what does B&W
16 say about it? Obviously, it is an operating condition they
17 had to consider in the design of the once-through
18 generators; and furthermore, it is a condition where in fact
19 we have carried out this experiment.

20 MR. MICHAELSON: I think we are now talking about
21 the total problem of a transient and not just the
22 differential expansion effects as only one manifestation of
23 the transient. The transient as a whole, we have had two
24 recent experiences in which they were both fortunately at
25 Westinghouse plants, which do have a high level trip on the

1 steam generator, even though it is not safety grade.

2 In both cases the feedwater system failed in the
3 wide open valve position, which filled the generator very
4 quickly and reached a high level trip. The transient was
5 terminated and nothing bad happened. The problem, of course,
6 is if you do not have a high level trip.

7 Now, how does this get terminated? Well, it has
8 to be by operator action, and very quick operator action, at
9 that. Combustion plants, some have high level trips, some
10 don't, depending on customer preference.

11 B&W plants do not have high level trips. You fill
12 the generator in about a minute. If you do not terminate
13 it, the water pours down the main steam lines. It pours
14 into the auxiliary feedwater turbines. It causes hydraulic
15 steam hammers. It could be a very devastating event. It is
16 much worse, I think, for a once-through steam generator.

17 So, we have had experiences but we have not yet
18 had experiences wherein there was not a high level trip. I
19 have not searched all the ancient history to see what other
20 close calls occurred. The one I do recall, though, is the
21 Rancho Seco "light bulb" affair where one of the things they
22 thought was happening was they were close to overfilling
23 their steam generator, but they do not believe they actually
24 did, but the failure there was in running back the generator
25 and using auxiliary feedwater to overfill for a longer

1 period of time.

2 The problem here is a direct filling by the full
3 valve wide open position of main feedwater, which is very
4 fast. It involves a lot of complication. There are a
5 number of things you get into besides steam hammers. You
6 get into the problem of the steam lines not being designed
7 to accommodate the water, the weight of the water.

8 Normally when you want to fill a steam line you
9 pin the hangars first to take away the water. I do not think
10 that would necessarily knock the lines down, however, but in
11 conjunction, the weight in conjunction with steam hammer
12 effects could. The auxiliary feedwater system clearly would
13 be lost. You cannot run water down the main auxiliary
14 feedwater system and expect the turbine to continue to
15 function.

16 The question of isolating the main steam lines
17 under this water condition, the main steam line isolation
18 signal may come later when the water is already running down
19 the main steam lines.

20 Now, what effect does that have on ability to
21 close main steam isolation valves? There is a primary side
22 cooldown effect. You are rapidly cooling the primary side
23 from filling the secondary side with cold water.

24 There is a further problem, and that is if you get
25 the water in the main steam lines and open the safeties as a

1 consequence, which is highly likely under these conditions,
2 you now start blowing down the secondary side just after you
3 cool down the primary side considerably already from the
4 cold water addition. So it is a further nuclear transient.

5 These basically are unanalyzed events, and the
6 unresolved safety issue says, then, let's analyze them,
7 let's find out which are real, which are imaginary; let's
8 get on with fixing them.

9 There is a further consideration of what happens
10 if a steam tube ruptures under the circumstance. Again, we
11 have differential expansion, we have steam hammer effects
12 and so forth. If you rupture a tube, now we have a combined
13 primary/secondary side blowdown. Where is the analysis? How
14 do we know how to handle it?

15 Then you get into the question of, well, where are
16 the operating procedures? What is the operator to do if
17 this ever happens? What is next? These are kind of
18 operating procedures which might be classified as unresolved
19 safety issues. They are procedures for very unusual
20 circumstances.

21 Presently there are not procedures for these very
22 unusual combination of circumstances, and yet the
23 probability of that happening, I think, is quite high. The
24 equipment involved has already been demonstrated to fail
25 this way, and it is only a question of when it will happen

1 where they do not have a high level trip.

2 CHAIRMAN AHEARNE: I guess what I would like to
3 do, unless I get significant opposition to this, is to first
4 ask NRR to come back shortly, in the next week, now that you
5 recognize Carl has really proposed adding that, give us your
6 comments on that. I would like Hanrahan to go around to the
7 Commissioners to see if he cannot pull together positions.

8 At least for myself, I have to think through some
9 of the more fundamental questions which relate to the issues
10 we were talking about at the beginning, what is the whole
11 purpose of this document that goes out?

12 COMMISSIONER GILINSKY: Could I ask a question?

13 MR. MICHAELSON: One other point that should be
14 made on this whole transient situation on steam generators,
15 and that is much of the equipment that is causing all this
16 to happen is nonsafety grade equipment, of course. This is
17 the main feedwater control system. And also associated with
18 it is the depressurization system often put offstream will
19 be mainstream isolation valves, which is also nonqualified.

20 Now you get into the question, well, what do you
21 assume about all of this if there is an earthquake? It is a
22 very valid question, the behavior of this system under
23 seismic conditions. You can create these feedwater
24 transients also during an earthquake at a time when you are
25 really not prepared to handle this kind of an event.

1 MR. FRALEY: Mr. Chairman.

2 COMMISSIONER GILINSKY: Go ahead, Ray.

3 MR. FRALEY: Mr. Bender has arrived. He is really
4 here for this afternoon's session. Maybe if you would like
5 a member, he could answer your questions.

6 CHAIRMAN AHEARNE: Mike?

7 MR. BENDER: I had a quick briefing. I don't
8 think I have anything to add, but if you would like to have
9 a Committee member's opinion on anything, I am here to
10 respond.

11 CHAIRMAN AHEARNE: Okay.

12 COMMISSIONER GILINSKY: Why isn't the question of
13 dealing with hydrogen in the containments an unresolved
14 safety issue or proposed to be an unresolved safety issue?

15 CHAIRMAN AHEARNE: Ed.

16 MR. CASE: In the sense it is included in degraded
17 core.

18 COMMISSIONER GILINSKY: I read that section. The
19 word "hydrogen" does not appear.

20 MR. HANRAHAN: My staff had prepared me for a
21 backup position. The only one we had seen was hydrogen
22 control in small containments.

23 MR. GEORGE: I believe we did discuss this at the
24 last Commission meeting, and as we indicated, it was
25 inadvertently omitted out of the SECY paper, the specific

1 reference to it. However, we do say that this item relates
2 to II.B.8 out of the TMI Action Plan.

3 COMMISSIONER GILINSKY: The reference in there --

4 MR. GEORGE: It does specifically --

5 CHAIRMAN AHEARNE: We are supposed to change that
6 in the description.

7 MR. GEORGE: Yes. Well, what we committed to was
8 that in the Commission -- or in the report to Congress, we
9 will add those words.

10 COMMISSIONER GILINSKY: What words, George, that
11 this does include consideration of the adequacy of hydrogen
12 requirement, hydrogen control?

13 MR. CASE: We will make it clear.

14 CHAIRMAN AHEARNE: As best I can recall, the issue
15 at the time was they would propose those words to see
16 whether or not that satisfied --

17 COMMISSIONER GILINSKY: I just wanted to see if
18 everybody remembered.

19 (Laughter.)

20 CHAIRMAN AHEARNE: All right.

21 Anything further?

22 All right. We will use that moment of silence,
23 then, to move this group away. Thank you.

24 (Whereupon, at 11:27 a.m., the meeting was
25 concluded.)

NUCLEAR REGULATORY COMMISSION

This is to certify that the attached proceedings before the

in the matter of: DISCUSSION OF SECY-80-325-UNRESOLVED SAFETY ISSUES

Date of Proceeding: October 16, 1980

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were held as herein appears, and that this is the original transcript thereof for the file of the Commission.

David S. Parker

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