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UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

ADVISORY COMMITTEE ON REACTOR SAFEGUARDS

242nd MEETING  
OPEN SESSION

Room 1046  
Nuclear Regulatory Commission  
1717 H Street, N.W.  
Washington, D.C.

Friday, June 6, 1980

The Committee met in Open Session, pursuant to recess,  
at 2:25 p.m.

BEFORE:

- Dr. Milton S. Plesset, Presiding
- Dr. J. Carson Mark
- Mr. Myer Bender
- Dr. Max W. Carbon
- Mr. Jesse Ebersole
- Dr. Stephen Lawroski
- Dr. Harold W. Lewis
- Mr. William M. Mathis
- Dr. Dade W. Moeller
- Dr. David Okrent
- Mr. Jeremiah J. Ray

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DR. Paul G. Shewmon

Dr. Chester P. Siess

Mr. Harold Etherington

Mr. James M. Jacobs

Dr. William Kerr

Mr. William Fraley

NRC STAFF PRESENT:

Mr. Richard Savio

Mr. Thomas G. McCreless

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OPEN SESSION

DR. PLESSET: We're going to have an open session to discuss auxiliary feedwater and its seismic capabilities. This is just a short session.

MR. BAER: Let me start with a bit of an introduction about our longer-term plan regarding decay heat removal systems. The Task Action Plan IIE 3.2 and 3.3 will involve a study of an alternate decay heat removal system. The ACRS review of the draft Action Plan commented that there is a need to look at all decay heat removal requirements in a comprehensive manner. The staff agrees with this comment and plans to interpret Task Action Plan II E 3.2 and 3.3 in a broad manner to encompass the breadth of treatment that we think is desirable and that we believe the ACRS think is desirable.

We plan to meet with the appropriate ACRS subcommittee to go over with them all aspects of the problem. Collectively, we're going to define the objectives for decay heat removal systems. Then, the functional requirements we expect to be moved, and then design of the candidate systems, and evaluate them. We anticipate that this is going to be a two to three-year program total, at the end of which there will be firm recommendation leading to possible requirements for additional decay heat capabilities, not only on new plants but, to some extent, on older plants.

The immediate problem is what to do during this two to

1 three year period about those plants that do not have fully  
2 seimically qualified auxilitary feedwater systems. And we have  
3 some concerns about these plants, and I've been assigned by  
4 Roger Mattson to look at some methodology trying to provide some  
5 guidance for the Division of Licensing, from the Division of  
6 System Integration and Division of Engineering so that they can  
7 take some appropriate action on these plants. We're hopeful  
8 that we can show that there's a reasonable basis for allowing  
9 at least some of these plants to continue to operate during  
10 that period, and what we're trying to do is develop a methodology,  
11 a risk assessment type methodology, to be used to decide whether  
12 or not there's a reasonable public health and safety to allow  
13 these plants to continue to operate.

14 Gary Hollahan who works with me has been working on  
15 this, and really just for a matter of a couple weeks; his father  
16 is very ill and he was called away. During Subcommittee I gave  
17 a presentation using his slides and gave the general idea of  
18 what he's doing but not all the details.

19 I do want to emphasize, after the Subcommittee's presen-  
20 tation, someone pointed out to me that I probably didn't emphasize  
21 the fact that this methodology, if it works, is still going to  
22 require judgment; it's not going to give a black and white answer.  
23 And our goal is to try and do something in the next two to three  
24 months. There's no use taking three years to judge whether  
25 it's safe to allow these plants to continue to run. So the effort

1 will have to be rather brief.

2 Basically, the overall scope of effort is to identify  
3 those plants and those pieces of equipment in the auxiliary  
4 feedwater system which are not designed to meet Category 1  
5 criteria. The first cut of this was made several weeks ago, and  
6 there appears to be about 10 plants that fall into this class.  
7 Now, that number has to be confirmed. There are a couple others  
8 that have been identified as possibly falling into this category.

9 MR. RAY: Do you mean 10 of those that you've examined  
10 or 10 of the total installations in the country?

11 MR. BAER: I didn't do the examinations. It was 10 in  
12 the country. It was 8 stations, and one of the stations was the  
13 Coney(?) station. So it's a total of 10 plants at the first cut  
14 but that number has to be confirmed.

15 The next step is to evaluate the importance of safety  
16 and that's a risk assessment, and then, recommend appropriate  
17 licensing action.

18 DR. SHEWMON: As part of appropriate licensing action  
19 is it conceivable that they would never need to have an SSE  
20 qualified aux feedwater system if they felt there was a  
21 seismically-qualified other system for removing decay heat?

22 MR. BAER: I certainly wouldn't say never because it's  
23 a crystal ball at this point. But I think that two or three years  
24 hence we're going to say there's got to be additional decay heat  
25 removal capability. It's conceivable that if a plant has, for

46  
1 example, a bleed and feed system that we thought would work, that  
2 might be an acceptable alternative.

3 DR. SHEWMON: The six of the eight or five of the eight  
4 we saw were SET plants, and if they had been part of -- that's  
5 a majority, apparently, of what you're going to be looking at and  
6 probably the basis for my question.

7 MR. BAER: I was told just yesterday by Dennie Allison  
8 that those plants are to have within three years, the SET plant  
9 auxiliary feedwater system, PWR's, pretty much seismically  
10 qualified.

11 We are, as I said, trying to come up with a methodology  
12 to use.

13 MR. RAY: Is it your present thinking or haven't you  
14 gone far enough yet, that this additional cooling capacity be  
15 entirely independent of existing channels of supply?

16 MR. BAER: Going to the long-term approach, that  
17 certainly, I think, will be a candidate system.

18 MR. RAY: But this hasn't been resolved yet.

19 MR. BAER: No. In fact, earlier -- we still want to  
20 meet with the Committee and agree on an objective and function  
21 and then a candidate system. Maybe it's muddled in my mind, but  
22 I've heard objectives quoted that I think some of the systems can  
23 meet and I've heard other objectives that other systems can meet  
24 and I'm not aware right now of any system that might meet every-  
25 body's objective.

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The basic approach that we're trying to develop is to compare the risk of a core meltdown due to a seismic event to the other risks of core meltdown. This is a rational way to make a judgment for this several-year period. And we hope to come up with a two-step process which combines the probability of a given value of g and we planned to use (inaudible) combine that with a probability of a system failure at that particular value of ground acceleration. And it is a combined probability and it includes a redundancy or would consider the redundancy of the equipment. In other words, you don't need -- if you have a system with a fair amount of redundancy, even though it was not seismically qualified in that the probability of component failure need not be extremely low, like  $10^{-4}$  for any particular component, if you allow one to judge that maybe the system as a whole is functioning at  $10^{-4}$ .

MR. EBERSOLE: I've got a problem with redundancy in this respect because this is an assault on a system which is at one point in time, and if you made the systems perfectly identical and perfectly redundant, you could have 60 of them and they will all fail at the same place at the same time. So you don't have the benefit of time spread in the failure mode. And I guess you're talking about functional systems here. You're not talking about trains.

So, redundancy may not be, in fact, as good as single-track systems with immense factors of safety.

1 MR. BAER: If I use the blackboard, maybe I can add  
2 a little bit to what I said. It may be helpful.

3 It's my understanding -- it's certainly going to take  
4 judgment of people knowledgeable on equipment. But my under-  
5 standing is that one -- (inaudible.)

6 Assuming some g value where you're pretty confident the system  
7 fails. And by judgment, you can say this is a 15% probability  
8 failure.

9 Certainly, if one is in this range or above, there's  
10 no need to go to a risk assessment. If the probability of failure  
11 is .5 or .3, you're not going to have enough redundancy to get  
12 to an overall risk.

13 My understanding is that quite often, experts would  
14 look at equipment and judge that this is a pretty high g value  
15 and it's a kind of SSE that we're talking about that's down in  
16 this range, so the probability of failure is moderately low.  
17 And it's at that point that redundancy comes into play, and  
18 the process as we see it right now, and as I said, it's really  
19 only been a couple of weeks, is complicated. So by that time  
20 people are more confident of their ability to judge the struc-  
21 tural integrity of the major components than they are of some of  
22 the auxiliary.

23 We hope to factor this into our event tree type thing  
24 by looking at probability of instrumentation failure and then  
25 whether there's any reasonable probability of operator action



1 saving the day. You have to construct reasonably complete  
2 event trees to do this, and I want to emphasize that this sort of  
3 curve is going to be highly judgmental. I think we see the value  
4 of this approach as being systematic and it leads you to at  
5 least some conclusions that you can justify on a relative basis,  
6 if not on an actual basis.

7 MR. EBERSOLE: I hope this will lead to a kind of a  
8 balanced design which I'll describe roughly as maybe a single  
9 pipe with two pumps and 15 valves and 40 relays, to accomplish  
10 as single function. Because these have different reliability  
11 levels, all of these.

12 MR. BAER: I do want to emphasize that we plan to use  
13 this technique on the existing plants, and we'll first make a  
14 judgment for just this several-year period. I think, Jesse,  
15 you're asking the broader question of what should be long-  
16 term source.

17 DR. OKRENT: Bob, how are you going to do this and  
18 get it down in two or three months? Do you have some resources  
19 lined up?

20 MR. BAER: I hope so. I'm in the awkward position  
21 of heading up a small group that's been assigned to try and  
22 develop a methodology. I can't really say off the top of my  
23 head. AS I said before, we're talking about a two to three-  
24 year period in which we're going to make a final decision.

25 DR. OKRENT: It seems to me if I was going to try to

1 do it in that time period, I would try to get the people who  
2 have looked at auxiliary feedwater systems, because there have  
3 been some people who have looked at them, and then get the LRL  
4 people, who are busy trying to look at all kinds of systems in  
5 a reactor under a research program, and ask some some of them to  
6 put aside what they're doing and work together and come up with  
7 some evaluation.

8 But if you don't do something of that sort, in view of  
9 the fact that you have a considerable number of plants, I don't  
10 see how you'll do it in anything like the time period you're  
11 talking about. That would still make it hard to do I think but  
12 maybe doable.

13 MR. EBERSOLE: Bob, at the risk of giving what might  
14 be called prescriptive suggestions, it seems to me that rather than  
15 just envisioning a gross change in auxiliary feedwater systems to  
16 seismic categorization, that there are some ways around the  
17 problem, and I'll just mention a few of these.

18 One is the concept of providing valving that will provide  
19 low pressure secondary site functions analogous to the SAR's on  
20 a boiler, which permit depressurization on the primary side, and  
21 a little bit of seismic upgrading and electrical qualification of  
22 circuitry, rather than as an interim measure, before one goes out  
23 and in a wholesale way makes seismic aux feedwater systems in  
24 their present configuration.

25 If you were to do this, you would convert the boilers

1 from a system that requires quite difficult evolutions to keep  
2 filled and operating to ones that are quite easily filled when  
3 virtually any source, of which you have many, and you would  
4 preserve the reliability or enhance it a good deal, of the  
5 process of primary/secondary cooling.

6 If you did lose that you would still face the feed/bleed  
7 problem and the electronic aspects of having non-seismic valving  
8 inside containment, which is a modest fix to take care of.

9 MR. BAER: We envision the effort right now, and are  
10 doing the job in a relatively short time period, to try and make  
11 a judgment using the methodology as to when plants are not  
12 acceptable for continued operation. First, we'll try and decide  
13 that some of these plants are acceptable. And I think that both  
14 the suggestions you made, Jesse, make a lot of sense for those  
15 plants that you don't think are acceptable. I think those plants  
16 would then be faced with the decision of either shutting down  
17 or making some sort of a fix that we would find acceptable, and  
18 I think your suggestion is a good one.

19 DR. PLESSET: I think we've had about enough on this;  
20 it was supposed to be a brief presentation. I just want to close  
21 with one remark. You're not alone in the world. You know, there  
22 are these utilities out there; they should know we're concerned  
23 about this problem. They have a responsibility, they should do  
24 a large part of this, and if they can't do it themselves there's  
25 a thing called INPO or whatever you call it; they ought to get

1 onto this problem.

2 It's not just your job; it's their responsibility.

3 MR. BAER: We do expect to have a fair amount of  
4 industry involvement.

5 DR. PLESSET: It's more that that; it's their  
6 responsibility, and I think everybody should make that quite clear  
7 to them, that it is their responsibility.

8 Well, I think we'll have to go on, Jesse.

9 MR. EBERSOLE: I just wanted to say you have a piece of  
10 paper in your hand that says industry has done something.

11 DR. PLESSET: That's fine. I think this is a way that  
12 can get things done --

13 MR. EBERSOLE: It's a measure.

14 DR. PLESSET: Fine. Thank you, Bob. I think we'll  
15 have to go on with our agenda. We're going to go into a closed  
16 session since we have to discuss a lot of delicate dollar matters  
17 and so on. We'll go into closed session.

18 (Whereupon, at 3:00 p.m., a short recess was taken and  
19 the Committee resumed in Closed Session.)

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(Whereupon, the hearing resumed in open session.)

MR. SHROEDER: I would like to give an introduction.

DR. PLESSET: Sure, fine.

MR. SCHROEDER: I am not sure what we came down to discuss quite fits the description you gave it just now, but we wanted to go over with the committee the activities that we have going on in connection with the identification of new unresolved safety issues for our report to Congress. As the committee is aware, we have a statutory requirement to report annually to Congress on the status of the USI's and on new unresolved safety issues identified since the last annual report.

In our report to Congress on Calendar Year 1979, we stated that because of the activities associated with Three Mile Island and the development of the action plan we were not ready at the time of publication of that report to identify new USI's in the annual report, as would be the normal custom.

We committed in the annual report, however, to supply to the Congress a supplemental report by July that would identify new unresolved safety issues.

Well, on formation of the Generic Issues Branch about a month ago, the reorganization we began to turn our attention to meeting that commitment to get a report into the Congress. We set up a group under the direction of Carl Neil's Generic Issues Branch to develop a plan and a methodology for rapid

13  
1 screening and evaluation of a large number of candidate issues.  
2 These were issues coming from a variety of sources, first, of  
3 course the Three Mile Island action plan itself, ACRS letters and  
4 comments, operating experience and a number of suggestions by  
5 individual staff members throughout the past year.

6 This evaluation process was to develop recommendations  
7 for NRR of those issues out of the candidate list that met the  
8 definition of unresolved safety issues that we presented to  
9 Congress a couple of years ago.

10 About mid-May we agreed in-house on a methodology  
11 for this exercise, and the review group started work screening  
12 issues and evaluating them shortly thereafter.

13 By the middle of next week the group will be ready  
14 to present its recommendations on these issues to the NRR  
15 division directors for review and comment, and once we get those  
16 comments worked out and Mr. Denton has had an opportunity to  
17 review the recommendations we will be sending a paper down to the  
18 Commission, probably in late June, with the results of our  
19 study and a description of the methods we use to come up with our  
20 conclusions. And then we will be meeting with the Commission  
21 in early July to get their approval so that we can prepare the  
22 report to Congress and get it in by the end of July.

23 Now that is a very tight schedule that we are working  
24 towards, and one of the things that we don't particularly like  
25 about that schedule is that it doesn't really provide time for an

14  
1 opportunity for meaningful review of our work by this  
2 committee.

3 We would have preferred to be able to get their  
4 advice and comments before we move forward to the Commission and  
5 then the Congress.

6 Today, for example, all we are prepared to do for  
7 you is describe the process that we are using to identify  
8 candidate issues. But I would hasten to add that this is not the  
9 end of the game on this subject. The identification of new  
10 USI's is a continuing activity, and in fact almost immediately  
11 after we issue the July supplemental report to Congress we have  
12 to start work on the next annual report to Congress, and in the  
13 course of that we are going to do quite a bit more than we have  
14 done in this July exercise.

15 We are going to do some refining of the selection  
16 methodology, and we would appreciate any comments you might have  
17 on that.

18 We will be examining in more detail some of the  
19 candidate issues that as a result of this screening, which you  
20 will hear described in just a moment, are being left in the July  
21 exercise for further consideration where we were not able to  
22 decide for sure that they met the USI category. We will be  
23 addressing those again in time for the annual report towards the  
24 end of the year.

25 In addition, we plan to reexamine the earlier list of

1 generic issues that a year or two ago we went through and picked  
2 the USI's out of. We are going to go back and take another  
3 quick look at all of those issues to see if there are any that  
4 we feel in light of today's experience need to be elevated to  
5 the category of USI's.

6 So in that process, beginning in late July, we want  
7 and will request review and comment by the ACRS on our  
8 activities.

9 We would expect to be able to come back to a  
10 subcommittee in August and probably to a full committee in  
11 September for your reactions on that screening exercise.

12 So as I have already said, what we plan to do in the  
13 next few minutes here is to describe the way we are attacking  
14 this for the purpose of the July report to Congress.

15 Hank George from the Generic Issues Branch is going to  
16 make this presentation.

17 Carl Neil, the branch chief, and Mick Aycock, who has  
18 played a heavy hand in this, are here to help answer any  
19 questions you have.

20 Hank?

21 MR. GEORGE: Before I get into some of the specifics  
22 on the process that we were using, I will cover a little  
23 background information. The first such report on unresolved  
24 safety issues was NUREG 0510. This was the first one that  
25 identified the unresolved safety issues. In that there were 17



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identified, which the staff of course is ongoing right now the evaluation and resolution of those items.

In NUREG 0510 we had a definition of the unresolved safety issue. This is one which was developed to satisfy the intent of the Section 210 amendment, the Energy Reorganization Act. This definition did not come exactly from that act. It was one which was initially developed by the staff. The Commission modified it, and this is essentially what was agreed upon by the Commission.

I will point out some important elements in this definition. An resolved safety issue is a matter affecting a number of nuclear power plants. It is generic. It poses a number of questions concerning the adequacy of existing safety requirements. So it is a safety issue.

Important questions imply it is a significant safety issue.

Resolution has not yet been developed, and it involves conditions not likely to be acceptable over the lifetime of the plant.

In implementing, in trying to implement this definition, the staff expanded on what we felt was meant by important questions concerning the adequacy of existing safety requirements.

Now this also was in NUREG 0510 and used in identifying the initial set of unresolved safety issues.

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The first element is that it compensates for a possible major reduction in the degree of protection.

The second element is that it could be an issue that provides a potentially significant decrease in risk to public health and safety.

The real difference between those two is that the first one is really intended to be a deficiency. It is an item that we subsequently find does not really measure up to what we thought we had.

So it could be a significant deficiency. The second item is more forward looking. We find that it is something that may not have been in the design basis. If we include it, there could be a significant reduction in the risk to public health and safety.

DR. SHEWMON: Would you explain number one to me? You are saying some way we have greatly -- in some major way reduced the protection of the public, and now we want to compensate for it somehow.

Give me an example, will you?

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## OPEN SESSION

1  
2 MR. GEORGE: An example could be one where we find  
3 that, for example, instrument air systems which may be used  
4 to support safety-related systems, it may be assumed that  
5 the safety-related systems are independent and redundant,  
6 single-failure proof; and if, in fact, we find that here is  
7 a common instrument air system, that a single failure in  
8 that can cause loss or redundant equipment, we find that we  
9 really didn't do our job well enough originally, that it was  
10 something in the original design basis and we really ought  
11 to go back and upgrade that and improve it.

12 The process that we developed, as Frank indicated,  
13 was one that had to consider a number of constraints. One  
14 is that we have certainly a large number of issues over the  
15 past year. We have a limited time frame available. Another  
16 important element is that what we would have preferred to  
17 do, I guess, is something similar to what was done last  
18 year, and do very detailed risk-base analysis of the issues.

19 Unfortunately, the PAS staff is quite busy and  
20 they were not available on this short a time period to do  
21 this on this large number of issues.

22 This chart here illustrates just kind of the basic  
23 elements, I guess, of the review process that we laid out.  
24 The first element is identifying all of the issues. The  
25 things that were considered at this point were, of course,

1 all of the elements in the TMI action plan, all of the  
2 recommendations made by the ACRS since January of 1979, any  
3 recommendations from the staff, abnormal occurrences over  
4 the past year.

5           So this was the large group of issues that we  
6 started with. It was on the order of 425 issues, although  
7 within that there are certainly some duplications.  
8 Something recommended by the ACRS is also in the action plan.

9           The second step that we had to go through was an  
10 initial screening. What we did at this point was to try to  
11 screen out those items that did not meet some of the basic  
12 elements of the definition of a USI, not considering the  
13 safety significance of the item, just whether or not the  
14 issue is generic, some of those basic elements.

15           If we flip to the next page, you will see what the  
16 initial screening criteria were that we used. Some of the  
17 critical ones, ones that were used quite frequently, were  
18 ones like staff position is already developed. I remember  
19 in the definition it says "for which a resolution has not  
20 yet been developed."

21           There are a large number of items in the action  
22 plan where the fix is identified and it is a matter of  
23 implementation. The issue is not generic. It may have been  
24 specific to just a very limited number of plants.

25           Another item that showed up frequently were some

1 recommendations related to reorganization of NRC. And we  
2 really didn't consider that those type things would have to  
3 be considered unresolved safety issues.

4           Certainly other items were related to number 6  
5 where we already had a USI, and the recommendation was  
6 related to expanding the existing USI to pick up some other  
7 elements.

8           Those are the main ones.

9           DR. SIESS: The two that I am the most interested  
10 in are numbers 5 and 7. I would like to explain why simply  
11 because it is going to take a long time, it is not an  
12 unresolved safety issue.

13           MR. GEORGE: In number 5, it was not so much the  
14 time element as it was -- there really is not an issue  
15 defined. It is just do some additional research in a  
16 certain area, see what we find. But there was not a  
17 specific issue identified.

18           DR. SIESS: What you have there is not right.

19           MR. GEORGE: Pardon me?

20           DR. SIESS: What you have there, in plain English,  
21 is wrong. The first three words say "resolution of the  
22 issue." If an issue is not defined, then it does not exist,  
23 right?

24           MR. GEORGE: Yes, that is probably a poor choice  
25 of words.

1 DR. SIESS: Yes, quite poor.

2 MR. GEORGE: It is more related as someone thinks  
3 they may have a concern --

4 DR. SIESS: Okay.

5 MR. GEORGE: I might point out that we use that  
6 very infrequently. There are only just a few items. We  
7 tried to make sure that other items, other criteria will  
8 screen it out.

9 DR. SIESS: With that clarification, I understand  
10 it. You don't know it is an issue; you just suspect it.

11 MR. GEORGE: That's correct.

12 DR. SIESS: Now, what about 7. The fact that it  
13 requires a policy decision rather than a technical solution,  
14 does it make any difference to the Congress? I know it  
15 might make a difference if you were a technical man and it  
16 was something the Commission had to decide, but your list  
17 does not include matters that have to be decided by the  
18 Commission rather than the engineers?

19 MR. GEORGE: Yes, I think that is right. Number 7,  
20 again, was not used very frequently, which is why I didn't  
21 touch on it.

22 DR. SIESS: Could you give me an example of it?

23 DR. SHEWMON: Let's take instrumentation to follow  
24 the course of an accident, for example, which many of us  
25 thought was the generic issue, yet it is no technical

1 solution. It is the policy of how many instruments over  
2 what scale you are going to require people hang on their  
3 reactors.

4 MR. GEORGE: Yes, but it certainly does depend on  
5 some input from technical individuals, identifying what  
6 parameters they want instrumentation on. There would be  
7 some input, although it may be --

8 DR. SHEWMON: I see. Policy decisions are those  
9 decisions that have no technical content and require no  
10 technical input.

11 MR. GEORGE: That's right. One of them, for  
12 example, that I do recall was a recommendation from the  
13 committee which had recommended some increased involvement  
14 by ACRS in the licensing process, or some recommendations  
15 that were along those lines.

16 DR. SIESS: You see, I would classify a  
17 backfitting decision in many cases as a policy decision.  
18 The technical solution is available, it is known, everything  
19 is known, a decision has to be made to do it on this reactor  
20 or not, or this group of reactors. That is what I would  
21 call policy.

22 MR. GEORGE: That question would certainly be a  
23 policy decision, but if the position is known, that would  
24 have been screened out up here. We would say that is not an  
25 unresolved safety issue because you now have the defined fix.

1 DR. SIESS: I didn't say the position was known. I  
2 said the fix was known, and somebody has not yet decided  
3 whether to put backfitting or not. Backfitting is a policy  
4 decision.

5 MR. GEORGE: That is right. What I was referring  
6 to, I guess, on the position or the fix is the one that  
7 resolves the issue and says this is what needs to be done to  
8 resolve that issue. Once that is agreed upon, we are saying  
9 that is screened out at number 2. Subsequent to that there  
10 be some policy decisions such as backfitting.

11 MR. EBERSOLE: One problem with this method of  
12 resolution is that it tends to cause what were considered  
13 legitimate issues to simply evaporate into space and  
14 disappear, and then regenerate it x years later, because no  
15 historical record was made of their disposition.

16 Do you have a method that will provide that  
17 historical record so that when somebody in the new  
18 generation comes along and raises the question, you can tell  
19 him he doesn't need to worry about it?

20 MR. GEORGE: Let me point out a couple of things on  
21 this. First of all, because it gets screened out here does  
22 not necessarily mean that it is not important or that  
23 nothing needs to be done. In number 2, it could be an item  
24 that is in the TMI action plan, that there is some position  
25 on something that has to be done. In the action plan there



1 is an implementation schedule, so that that is the means  
2 there of getting that item resolved.

3           But it is not one that you need to call it an  
4 unresolved safety issue for because you have the position  
5 defined. We are not saying that it is unimportant if it  
6 gets screened out at this point.

7           MR. EBERSOLE: I guess what I am just looking for  
8 is some kind of continuous record of disposition.

9           MR. GEORGE: Okay. I don't know if Frank would  
10 want to touch on it. There is a new branch within Safety  
11 Technology which I don't exactly remember the name of, but  
12 they do have responsibility for establishing priorities.  
13 Some of the things they will have to consider would be  
14 things that were screened out, that they were not USIs, but  
15 you don't want them to fall in a crack.

16           Some of them could be items like Frank mentioned  
17 where we are not sure yet whether it is USI and we need to  
18 get some more information on the item, and someone is going  
19 to have to follow those also.

20           MR. SCHROEDER: Let me jump in here just with one  
21 clarification, perhaps, on the role of the Generic Issues  
22 Branch. It really has two functions. One is the management  
23 of resolution of items identified as unresolved safety  
24 issues, and correspondingly, the identification of new  
25 ones. But secondly, it has a role to keep track of other

1 generic issues at NRR that are being worked on not by the  
2 task managers in that branch but by the other technical  
3 branches, keep book on what the status of those is so they  
4 don't fall in a crack. That is one of the functions of that  
5 branch.

6           They will be working, obviously, with a heavy  
7 interface with Bob Baer's Safety Program Evaluation Branch,  
8 who will be identifying the need for work on other issues  
9 that don't meet the definition of unresolved safety issue,  
10 perhaps.

11           DR. SIESS: You do have a list of generic issues,  
12 don't you?

13           MR. SCHROEDER: Yes.

14           DR. SIESS: Why don't you examine those to see if  
15 any of those have escalated into --

16           MR. SCHROEDER: As I said a minute ago, we will do  
17 that in our review for the annual report this fall. We are  
18 not attempting to do that in this special July report.

19 There are a couple that have surfaced that are included  
20 here, but we have not made a systematic study of all those  
21 issues in this exercise, but we will in the fall exercise.

22           MR. GEORGE: I will go back one chart just  
23 briefly. The third step in here, of course, is evaluating  
24 safety significance. After going through the initial  
25 screening criteria, it looks like we are ending up with on

1 the order of about 45 issues that appear that they could  
2 satisfy the definition of a USI. We now have to evaluate  
3 them for safety significance to see whether they really fit  
4 within the definition.

5           The result, of course, is identifying USIs, those  
6 items that are not USIs, and items requiring further study.  
7 I will add again that this further study again would have to  
8 be items that someone has to follow and get a little more  
9 information to determine how significant the issue is. At  
10 that point it would either be identified as a USI or one  
11 that is not a USI.

12           In the process that we developed because of the  
13 short time frame, we had to rely on a number of qualitative  
14 or objective-type decisions. What we tried to aim these  
15 towards is looking at something like a simplified risk  
16 assessment formula, I guess you could call it, recognizing  
17 that risk can be affected by any one of these three  
18 factors. Any of the issues that we are looking at, we  
19 wanted to see to what extent they may impact any one of  
20 these factors. We wanted to be careful we didn't fall into  
21 the old trap of just looking at, say, safety functions,  
22 which would be the mitigation function, but also something  
23 that could affect the frequency of accidents or frequency of  
24 transients, or something that is related to consequences,  
25 any of those items.

1           If you flip to the last page in the handout, you  
2 have a figure which more or less illustrates what this  
3 process was. It shows some of the upper elements that we  
4 have already discussed, the input, where the sources were  
5 for those issues, the initial screening; and if it passes  
6 the initial screening, what we would then do is determine  
7 whether it is backward or forward looking-type fix.

8           If, for example, it is one that we identify as a  
9 deficiency, it is one that comes towards the left on this  
10 figure, we would determine whether it is an equipment  
11 concern, operator concern, or one that is related to  
12 emergency reponse.

13           MR. EBERSOLE: I notice you didn't include any  
14 industry input at the top. I wouldn't disagree with that  
15 very much, but it looks like it ought to be there.

16           MR. GEORGE: I am not sure to what extent we had  
17 some industry input under those others.

18           MR. EBERSOLE: I know of one. The tumble-down of  
19 the main steam systems at the B&W plant recently cropped up  
20 as an issue at the moment unresolved, but I am sure a quick  
21 fix will be made of that. Isn't there an industry input to  
22 these things?

23           MR. GEORGE: Yes. Mike, maybe you could address  
24 that section.

25           MR. EBERSOLE: That is not really an unresolved

1 issue. I guess an unresolved issue can be a very short-term  
2 thing which is fixed in a few months.

3 MR. GEORGE: If it is in six months, it doesn't go  
4 --

5 MR. AYCOCK: That's right. We try to keep from  
6 reporting those types of things to Congress. Those are --

7 MR. EBERSOLE: Aren't there any long-term  
8 industry-originated ones?

9 MR. AYCOCK: Many of these issues in the other  
10 issues category, and certainly the abnormal occurrence  
11 category or the ACRS recommendations come from operating  
12 experience, some of which were reported by industry.

13 MR. EBERSOLE: I don't mean operating experience  
14 industry-originated. I am talking about speculative or --

15 MR. AYCOCK: I can give you one example. The one  
16 that Westinghouse reported, I guess it was last fall, with  
17 regard to the possibility of failure of certain control  
18 systems in site containment during a main steamline break  
19 because they are not environmentally qualified.

20 MR. EBERSOLE: But that is in the short-term fix  
21 category, isn't it? I mean that will be fixed without  
22 becoming a --

23 MR. AYCOCK: As far as I know, they did a quick  
24 look, a quick survey from all of the vendors to determine if  
25 they could find any significant problems, and they didn't.

1 I think what we were considering is maybe some more in-depth  
2 study of that particular situation to see if more needed to  
3 be done.

4 MR. EBERSOLE: Just looking at the input here, this  
5 would --

6 MR. AYCOCK: We didn't go to industry and request  
7 do you have any unresolved safety issues that we might ought  
8 to be considering. No, we didn't do that.

9 MR. EBERSOLE: I think that is interesting that  
10 here I don't see any input from industry about an unresolved  
11 safety issue. I guess that really reflects the attitude  
12 that all their plants are that good.

13 MR. AYCOCK: Let me clarify.

14 DR. SHEWMON: If they had an issue, they probably  
15 wouldn't come to the NRC for its resolution.

16 MR. EBERSOLE: I think it would be fair to say  
17 they would recognize it and say it's one that we face  
18 squarely. This merely says they never mention it to you.  
19 That is what this says. This thing says they will never  
20 tell you if they have one.

21 MR. AYCOCK: Part 21 notifications and those types  
22 of things the industry is required to come to us with. If  
23 one involved an issue which was generic and longer term, we  
24 would consider it.

25 MR. EBERSOLE: But look at what this says to me

1 here, if I say that is all the input there is. It says  
2 industry never has had an unresolved safety issue, doesn't  
3 it?

4 DR. SIESS: That is not all the input. I was just  
5 told by Frank this is only the input from the third study.  
6 I asked about the generic items, and he said that would be  
7 looked at in the fall. Is that correct?

8 MR. EBERSOLE: So this is just a partial picture  
9 of unresolved safety issues. Is he telling me that?

10 DR. SIESS: This does not go in the report to  
11 Congress, is that right?

12 MR. GEORGE: That is correct.

13 MR. SCHROEDER: But that other list, of course, we  
14 screened when, a year and a half, two years ago, and  
15 screened out what we thought were the unresolved safety  
16 issues. And this fall we are going to go through that list  
17 again to see if we want to change our view of them.

18 MR. AYCOCK: I might add we have told the industry  
19 recently, at least down at the ANS conference in April, that  
20 we intended to involve them more in the identification  
21 process for this very subject.

22 MR. EBERSOLE: I guess I would sort of endorse  
23 that each time we take up an applicant, we ask of the  
24 applicant, do you have in your background any unresolved  
25 safety issues that you haven't brought before me at this

1 time, and then get a position statement, certification to  
2 the effect that they are being clean.

3 MR. SCHROEDER: That is almost a certification  
4 that they are meeting the law, Jesse. Part 21 requires that  
5 they bring them to us. It hasn't always worked, perhaps.

6 That is all I have got.

7 DR. MARK: I think in connection with the  
8 visitation we just had, there is a letter in your -- it is  
9 not a letter, a --

10 DR. SIESS: It is Recommended Procedures Committee  
11 review.

12 DR. MARK: Do you want to make some comment on it?

13 DR. SIESS: No. If anybody else wants to, fine. I  
14 just thought it could go through the Procedures Committee.

15 DR. SHEWMON: I would like to urge that we do. I  
16 don't understand why Chet thinks it is particularly  
17 irrational now, but I agree with him. It seems to me that  
18 we have had this list, which is to me as a newcomer somewhat  
19 anachronistic, at least the way we handle it now, and I  
20 think it could be folded in with the staff's effort and we  
21 could then go back and comment on it. That would be a much  
22 more logical system, from my viewpoint.

23 DR. MARK: Are there any other comments on this?

24 DR. SHEWMON: It seems to me if we don't do that,  
25 there has also been in your folder off and on over the last



1 six months a memo from me, and then something that John  
2 McKinley put out on when is one resolved. Since we are  
3 exceedingly reluctant to ever let loose of one completely,  
4 the thought was that if we could at least say we think these  
5 are urgent and these will keep very well if we just ignore  
6 them though they are unresolved, that still doesn't address  
7 Chet's part, but it seems to me more rational.

8 DR. SIESS: The question of resolution is  
9 addressed in what I have written, because when it is  
10 resolved, by our previous criteria, did not address the  
11 implementation as thoroughly as it should. I put a lot of  
12 emphasis in here on knowing what the implementation of the  
13 resolution is, the backfitting.

14 Reg. Guide 197 resolved our generic item on  
15 instrumentation to follow the course of an accident, by our  
16 definition. And really, we didn't look at the  
17 implementation when we accepted it as being resolved, and I  
18 think that was one of the --

19 DR. SHEWMON: Did we have a definition of  
20 resolution except --

21 DR. SIESS: When the staff has a position on reg  
22 guides issued, we considered it resolved. That is all  
23 right, except --

24 DR. SHEWMON: The only criteria I remember was  
25 that if less than two people object to it, it is resolved.

1 DR. SIESS: No.

2 DR. SHEWMON: If everybody except one thinks it is  
3 resolved, it is --

4 DR. SIESS: That was a procedural definition. We  
5 would accept something as resolved when a reg guide was  
6 issued, which is quite adequate as long as we agreed with  
7 not only the reg guide but its implementation. A lot of  
8 people on this committee didn't think that reg guide 197,  
9 which didn't backfit, was a resolution.

10 So there is a lot more to this than I wrote down  
11 there.

12 DR. SHEWMON: I would urge it be taken up.

13 DR. SIESS: Staff doesn't know what we are talking  
14 about.

15 (Laughter.)

16 DR. SHEWMON: Frank, when is it that we get to see  
17 this new list? Next month or the month after.

18 MR. SCHROEDER: Are you talking about the list for  
19 the July report to Congress? We will be going down to the  
20 Commission with our paper on it in early July, and we would  
21 expect to make that available at that time to the committee  
22 also, of course, Then I made the distinction that we will  
23 immediately thereafter begin this wider reevaluation of all  
24 the old issues in preparation for our annual report to  
25 Congress which has to go to press late in the year, and for

1 that we will be back to the committee. We would expect to  
2 involve the subcommittee and the full committee in that  
3 exercise beginning in August sometime.

4 DR. PLESSET: Are you ready for a brief recess  
5 until 5 o'clock? We have one other item. So let's have a  
6 ten-minute recess.

7 (Whereupon, at 4:50 p.m., the open session was  
8 concluded.)

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NUCLEAR REGULATORY COMMISSION

This is to certify that the attached proceedings before the

\_\_\_\_\_

in the matter of: ACRS - 242nd Meeting Open Session

Date of Proceeding: June 6, 1980

Docket Number: \_\_\_\_\_

Place of Proceeding: Washington, D. C.

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

Suzanne R. Babineau

Official Reporter (Typed)

*Suzanne R. Babineau*

Official Reporter (Signature)

DEFINITION: UNRESOLVED SAFETY ISSUE\*

"AN UNRESOLVED SAFETY ISSUE IS A MATTER AFFECTING A NUMBER OF NUCLEAR POWER PLANTS THAT POSES IMPORTANT QUESTIONS CONCERNING THE ADEQUACY OF EXISTING SAFETY REQUIREMENTS FOR WHICH A FINAL RESOLUTION HAS NOT YET BEEN DEVELOPED AND THAT INVOLVES CONDITIONS NOT LIKELY TO BE ACCEPTABLE OVER THE LIFETIME OF THE PLANTS AFFECTED."

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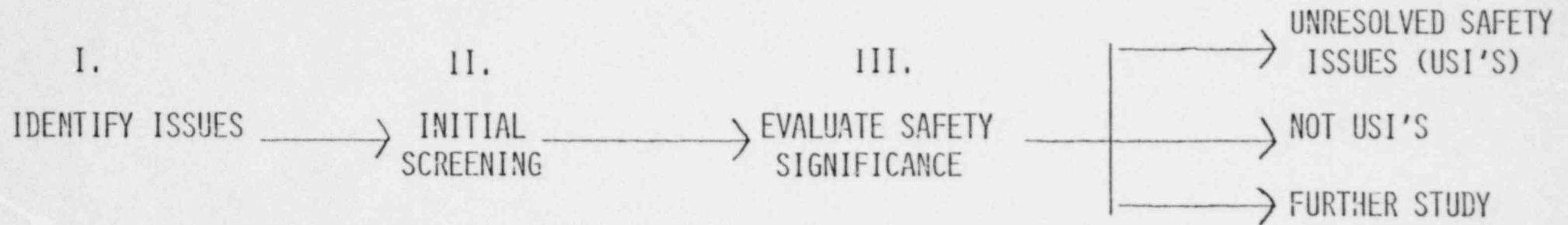
\* FROM THE DECEMBER 13, 1977 AMENDMENT (PL 95-209) TO THE ENERGY REORGANIZATION ACT OF 1974, SECTION 210.

1/2/78  
6/2

MATTERS POSING IMPORTANT SAFETY QUESTIONS

IN APPLYING THIS DEFINITION, MATTERS THAT POSE "IMPORTANT QUESTIONS CONCERNING THE ADEQUACY OF EXISTING SAFETY REQUIREMENTS" WERE JUDGED TO BE THOSE FOR WHICH RESOLUTION IS NECESSARY TO (1) COMPENSATE FOR A POSSIBLE MAJOR REDUCTION IN THE DEGREE OF PROTECTION OF THE PUBLIC HEALTH AND SAFETY, OR (2) PROVIDE A POTENTIALLY SIGNIFICANT DECREASE IN THE RISK TO THE PUBLIC HEALTH AND SAFETY.

OVERVIEW OF REVIEW PROCESS



INITIAL SCREENING CRITERIA - NEW USI

AN ISSUE OR RECOMMENDATION HAS BEEN SCREENED FROM FURTHER CONSIDERATION AS AN UNRESOLVED SAFETY ISSUE IF IT MEETS ONE OR MORE OF THESE CRITERIA.

1. THE ISSUE OR RECOMMENDATION IS NOT RELATED TO NUCLEAR POWER PLANT SAFETY, E.G., TRANSPORTATION OF RADIOACTIVE MATERIALS.
2. A STAFF POSITION ON THE ISSUE OR RECOMMENDATION HAS BEEN DEVELOPED OR IS EXPECTED WITHIN 6 MONTHS.
3. THE ISSUE IS NOT GENERIC.
4. THE ISSUE OR RECOMMENDATION IS ONLY INDIRECTLY RELATED TO NUCLEAR POWER PLANT SAFETY, E.G., RECOMMENDED CHANGES IN THE LICENSING PROCESS, NRC ORGANIZATION, ETC.
5. RESOLUTION OF THE ISSUE REQUIRES LONG TERM CONFIRMATORY OR EXPLORATORY RESEARCH.
6. THE ISSUE OR RECOMMENDATION IS RELATED TO ONE ALREADY BEING ADDRESSED AS A USI AND CAN REASONABLY BE OR ALREADY IS INCLUDED IN THE CURRENT PROGRAM.
7. THE ISSUE OR RECOMMENDATION REQUIRES A POLICY DECISION RATHER THAN A TECHNICAL SOLUTION.



FACTORS AFFECTING RISK

RISK  
(STATISTICAL  
EXPECTATION) = PROBABILITY  
OF EVENT X PROBABILITY OF LOSS OF  
MITIGATION OR TERMINA-  
TION CAPABILITY X CONSEQUENCE

