

# UNITED STATES OF AMERICA NUCLEAR REGULATORY COMMISSION

Title: BRIEFING ON STATUS OF IMPLEMENTATION OF THE SEVERE ACCIDENT  
MASTER INTEGRATION PLAN AND STATUS OF LICENSEE PROGRESS ON IPE

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NUCLEAR REGULATORY COMMISSION

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BRIEFING ON STATUS OF IMPLEMENTATION OF THE  
SEVERE ACCIDENT MASTER INTEGRATION PLAN  
AND STATUS OF LICENSEE PROGRESS ON IPE

- - - -

PUBLIC MEETING

Nuclear Regulatory Commission  
One White Flint North  
Rockville, Maryland

Thursday, December 14, 1989

The Commission met in open session, pursuant to notice, at 10:00 a.m., Kenneth M. Carr, Chairman, presiding.

COMMISSIONERS PRESENT:

KENNETH M. CARR, Chairman of the Commission  
THOMAS M. ROBERTS, Commissioner  
KENNETH C. ROGERS, Commissioner  
JAMES R. CURTISS, Commissioner  
FORREST J. REMICK, Commissioner

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STAFF SEATED AT THE COMMISSION TABLE:

WILLIAM C. PARLER, General Counsel

JACK GUTTMANN, Office of the Secretary

JAMES TAYLOR, Executive Director for Operations

ERIC BECKJORD, Director, Office of Research

THOMAS MURLEY, Director, Office of Nuclear Reactor  
Regulation

THEMIS SPEIS, Office of Research

BILL BECKNER, Office of Research

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## P-R-O-C-E-E-D-I-N-G-S

10:00 a.m.

CHAIRMAN CARR: Good morning, ladies and gentlemen.

This morning the Commission will be briefed by the NRC Office of Research and the Office of Nuclear Reactor Regulation on the status of implementation of the severe accident master integration plan and the status of the licensee progress on individual plant examinations, an element of the plan.

The Commission was first briefed by the staff on the plan in June of 1988. Following that meeting, the Commission requested to be kept informed of the status of implementation. This is the purpose of today's meeting. The Commission was last briefed on this subject in April of 1989.

In preparation for this meeting, the staff has provided the Commission with SECY-89-308, Status of Implementation of Integration Plan for Closure of Severe Accident Issues. The plan is a description of all severe accident programs currently being undertaken by the Commission. It describes how the Agency will reach closure on these programs and the interrelationships among the various programs in order

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1 to assure consistency between programs and consistency  
2 with Commission policy and strategic goals.

3 This is an information briefing this morning  
4 and no Commission vote is planned on this issue today.  
5 It is my understanding that copies of the staff slide  
6 presentation and staff's paper, SECY-89-308, are  
7 available at the entrance to the meeting room.

8 I might welcome our new EDO, Mr. Taylor, and  
9 also our new Commissioner, Doctor Remick.

10 Do any of my fellow Commissioners have any  
11 comments they wish to make before we begin?

12 If not, Mr. Taylor, you may proceed.

13 MR. TAYLOR: Thank you, sir. With me at the  
14 table to my left are Bill Beckner and Themis Speis  
15 from the Office of Research, and the Director of the  
16 office, Eric Beckjord, immediately to my right, and  
17 Tom Murley, Director of NRR.

18 The staff, as you indicated, sir, in its  
19 briefing, will indicate the progress that has been  
20 made and quickly I'll mention that numbers of things  
21 have been happening in the staff's plan for severe  
22 accident integration and the work associated with it.  
23 For example, the Mark I containment performance  
24 improvement program recommendations are being  
25 implemented. The IPE process has started and you'll

1 hear more about that. The staff has been working with  
2 NUMARC on the accident management area and shortly we  
3 hope the staff will be ready to make recommendations  
4 for the individual plant examination process,  
5 considering external events and for containment  
6 performance improvement for other containments and Mark  
7 I.

8 Today's briefing is a status report and with  
9 regard -- you will be given the current schedule for  
10 submissions of the individual plant examination  
11 information from licensees and you'll see that  
12 schedule as part of today's briefing. It will cause  
13 us to look at the resources in that area, but the  
14 resources will be part of -- most of the work will  
15 come in the fiscal year '92 budget. So, when you see  
16 the schedule, we'll be looking at that as we plan our  
17 next budget and working with the licensees on those  
18 schedules.

19 With that introduction, I'll now turn it  
20 over to Eric Beckjord, who will proceed.

21 MR. BECKJORD: Thank you.

22 Mr. Chairman, Mr. Taylor has referred to the  
23 progress in the implementation plan and I just wanted  
24 to emphasize that. We've passed a number of  
25 milestones. There are still a number yet to pass.

1 I wanted to comment briefly on the severe  
2 accident research element of this closure plan. We  
3 had a meeting last week of the Severe Accident  
4 Research Subcommittee of the Nuclear Safety Research  
5 Review Committee. We held that in Chicago last week  
6 to go over the work that's underway since the severe  
7 accident research plan was published last April. We went  
8 over the status, the work underway and the plans for  
9 future work with them. I think it was evident to  
10 everyone present at that meeting that we've made a lot  
11 of progress in getting that revised severe accident  
12 research program plan underway.

13 In the near term, severe accident research  
14 is focusing on the mechanisms that could lead to early  
15 containment failure, including direct containment  
16 heating in the case of the PWRs and liner melt-through  
17 in the case of the Mark I BWR.

18 I want to say also that next week we're  
19 holding a two day meeting on direct containment  
20 heating at Annapolis, calling together all of the  
21 research contributors to this effort for the purpose  
22 of evaluating recent information and deciding on where  
23 to focus the work and which set of experiments to do  
24 next.

25 We're continuing to make sure that the

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1 severe accident research effort focuses on the key  
2 issues that come out of this severe accident  
3 resolution plan. I just wanted to make that comment  
4 on the research.

5 Now, Doctor Speis will go through the  
6 progress with you in detail.

7 DOCTOR SPEIS: Thank you.

8 (Slide) Mr. Chairman, Commissioners,  
9 viewgraph number 2 lists the elements of the  
10 integration plan which I will go into some detail.  
11 Basically, I will talk about the status of the  
12 individual plant examination program for both internal  
13 and external events, the containment performance  
14 improvement program for the Mark Is as well as the  
15 work that we have concluded so far on the other  
16 containments. I will talk about the status of the  
17 accident management program. Then I will bring you up  
18 to date with what's going on with the peer review on  
19 NUREG-1150, safety goal implementation and say a few  
20 more things about the severe accident research  
21 program.

22 (Slide) Viewgraph number 3 begins the  
23 status of the individual plant examination for  
24 internal events. Since the last briefing of April  
25 1989, we have issued the final NUREG-1335, which

1 contains the submittal guidance for the individual  
2 plant examinations. We have also issued supplement to  
3 the original generic letter, which started the IPE  
4 clock and contained the Mark I improvements which the  
5 Commission decided should be incorporated with the  
6 IPE, all of them except the hardened vent issue, which  
7 I'll shortly discuss the status with you.

8 (Slide) If we go to page 4, at present we  
9 have under preparation Supplements 2 and 3 with the  
10 original generic letter. One of them will contain the  
11 guidance on all the containments and the other one  
12 will provide additional information on accident  
13 management strategies.

14 The licensee plans and schedules for the IPE  
15 have been submitted and, as Mr. Taylor said, at  
16 present we are going through the development of the  
17 review plan.

18 (Slide) On page 5, I indicate graphically  
19 the submittals as a function of time. Basically all  
20 licensees have responded to the generic letter. As is  
21 shown here, the solid line shows the total IPEs versus  
22 time. The bars indicate the submittals per quarter,  
23 starting from '90, all the way up to '94. You see  
24 that the peak happens at the last day of the FY '92.  
25 That's the date that we requested those submittals be

1 provided to us. In FY -- yes?

2 COMMISSIONER REMICK: Excuse me. Did you  
3 say that all the licensees have responded?

4 DOCTOR SPEIS: Yes.

5 COMMISSIONER REMICK: They have?

6 DOCTOR SPEIS: They all have responded. You  
7 see, all of them will be able to meet the date except  
8 18 of them, which I have on the next viewgraph.

9 So, if there are no questions on this --

10 COMMISSIONER ROGERS: Yes. Do any of  
11 these -- will any of these contain external events or  
12 are these all relative to internal events?

13 DOCTOR SPEIS: One or two will contain  
14 external events.

15 COMMISSIONER ROGERS: One or two will?

16 DOCTOR SPEIS: I should have said that all  
17 of them have opted for a complete PRA.

18 COMMISSIONER ROGERS: Oh.

19 DOCTOR SPEIS: Some of them will do the IPE  
20 that was developed by ECOR, but the insides of the IPE  
21 will default it into a complete PRA. But in the  
22 letters, they all indicate that they will be  
23 submitting complete PRAs to us.

24 COMMISSIONER REMICK: I'm pleased to hear  
25 that.

1 COMMISSIONER ROGERS: Yes.

2 DOCTOR SPEIS: (Slide) On page 6, as I said  
3 already, there are 18 late submittals. I think for  
4 most of them there are very good reasons. Some of  
5 them, they gave no reason at all why they're late.

6 COMMISSIONER ROBERTS: Have you got an  
7 answer why that gives us those 18?

8 CHAIRMAN CARR: What's a good reason?

9 DOCTOR SPEIS: Yes. A good reason is they  
10 want to do some more work, expanding before the  
11 generic letter. For example, to include level 2 and 3  
12 PRA. Another reason is they want to do the work  
13 themselves, the major part of it. Even though we told  
14 them that it's very important that they participate,  
15 some of them wanted to do 80 percent or 90 percent, so  
16 they would need some more time.

17 DOCTOR MURLEY: Another reason, if I might  
18 add, is that some utilities have four, six, 12 plants  
19 and it makes sense for them to do it in series and  
20 then learn as they go and not have to do it all at  
21 once.

22 MR. TAYLOR: That's probably one of the best  
23 reasons for it.

24 DOCTOR MURLEY: Yes.

25 CHAIRMAN CARR: Could we get a list of those

1 guys who are going to be extended?

2 DOCTOR SPEIS: Yes. I can even show it to  
3 you now, Mr. Chairman, if you want to.

4 CHAIRMAN CARR: Okay. Let's look at it.

5 DOCTOR SPEIS: (Slide) Back up slide number  
6 3, please. Back up slide number 3, please. There it  
7 is.

8 COMMISSIONER REMICK: Is Millstone 2 related  
9 to the PRA, doing a PRA?

10 DOCTOR SPEIS: Yes, they're all going to do  
11 PRA's.

12 COMMISSIONER REMICK: No, but is the delay  
13 due to completion of the PRA?

14 DOCTOR SPEIS: I will provide the  
15 information on. I don't know if --

16 MR. BECKNER: I think they're doing four  
17 plants is the reason they're doing them in order.

18 COMMISSIONER ROGERS: What about Vermont  
19 Yankee? That's a single unit plant. But is it  
20 because it's part of the Yankee system or --

21 MR. BECKNER: Yes, I think that's the same  
22 reason. They're doing their own.

23 CHAIRMAN CARR: Well, I don't know about my  
24 fellow Commissioners, but I'd like to see the -- how  
25 about sending us a little note on the reasons that

1 they've all put forward --

2 MR. TAYLOR: We'll give that to you, each  
3 one. There are multiple commonwealth plants too, as  
4 you can see.

5 DOCTOR SPEIS: (Slide) Back to slide number  
6 6, please.

7 As you see, the second bullet down, we're  
8 looking carefully the review process. But when we  
9 discussed the IPE, we had estimated at that time that  
10 it would take about six person months per plant to  
11 review the IPE submittal and that included any  
12 proposed modifications. We're taking a closer look at  
13 that, especially in light that most of the insights  
14 from the containment performance program will be  
15 folded into the IPE program itself. So, we're taking  
16 a closer look at that estimate that we provided to you  
17 a year or so ago.

18 CHAIRMAN CARR: Okay.

19 DOCTOR SPEIS: It is our plan to complete  
20 all the reviews by FY '95, which is one year after the  
21 last arrival basically.

22 COMMISSIONER ROGERS: Just on this, it  
23 looks to me like you've got a great big load there  
24 you're going to have to deal with. To what extent are  
25 you kind of standardizing the format of the

1 submissions and things like this, or that might not be able to  
2 help, but anything that would help us to move through  
3 our reviews of these as quickly as possible, doing a  
4 thorough job, but just so we don't have to spin our  
5 wheels while we're looking at totally different  
6 formats of the submissions or whatever. I don't know.  
7 To what extent can we request that these things come  
8 to us in a way that we can deal with them?

9 DOCTOR SPEIS: Well, we provided the--  
10 there are standard review guides for preparing PRAs  
11 and they all have access to them.

12 COMMISSIONER ROGERS: Well, do you have things  
13 like a format? I mean that's the basic content, but it  
14 could be scattered all over in different ways  
15 sometimes.

16 DOCTOR SPEIS: Yes. In fact, the NUREG that  
17 I mentioned earlier, NUREG-1335, provides that,  
18 provides a detail --

19 COMMISSIONER ROGERS: Suggested format?

20 DOCTOR SPEIS: Yes, sir. Yes, sir. So that  
21 will make things -- in addition to that, we're  
22 preparing review guidance for the staff, to make sure  
23 that they're focusing somewhere important areas. We  
24 have been reviewing PRAs for the last ten years and we  
25 realize that there is no use to -- there are some

1 areas that need more attention than others and we're  
2 trying to distill that knowledge that we have gained  
3 the last ten years and put that forward in the  
4 guidance of the staff.

5 The other thing that --

6 CHAIRMAN CARR: Well, now, the review is  
7 going to be completed in '95. That's including all  
8 the late submittals?

9 DOCTOR SPEIS: Yes.

10 CHAIRMAN CARR: But, as I remember, any  
11 action that the plants turn up that they think ought  
12 to be required, they're supposed to go ahead and do as  
13 soon as they find it.

14 DOCTOR SPEIS: Yes, sir.

15 CHAIRMAN CARR: Okay.

16 DOCTOR SPEIS: If we go -- everything that I  
17 have said so far has been referring to internal  
18 events. Let's go to slide 7 now.

19 COMMISSIONER CURTISS: Before you go on to  
20 the external events --

21 DOCTOR SPEIS: Yes.

22 COMMISSIONER CURTISS: -- one other quick  
23 question on the relationship of the internal to plant  
24 life extension. Will the bulk of the IPE evaluations  
25 and the fixes that might flow from that be completed



1 prior to when we expect to get into plant life  
2 extensions and separately?

3 DOCTOR SPEIS: Yes, sir. Yes. That would  
4 be made very clear in the rule itself or in the  
5 statement of considerations and would have been  
6 discussing with industry. Yes.

7 MR. TAYLOR: That's the plan.

8 DOCTOR SPEIS: That's the plan, to make sure  
9 that --

10 COMMISSIONER CURTISS: Thank you.

11 DOCTOR SPEIS: (Slide) Back to slide number  
12 7 then on external events. We have prepared a draft  
13 generic letter to provides -- puts together the  
14 guidance for external events. We have put it in the  
15 PDR. We have given it to industry for their comments.  
16 We have discussed so far with the ACRS only the  
17 seismic part, preliminary discussions. We have not  
18 sent them the whole package yet.

19 We have had discussions with NUMARC. In  
20 fact, the last two or three weeks we had about three  
21 meetings with them.

22 Basically, we'll be recommending examination  
23 in the areas of seismic and will have two options,  
24 either use the so-called deterministic margin approach  
25 that both we and EPRI has been developing, or a PRA

1 method. In the fire area, we'll --

2 COMMISSIONER REMICK: Before you leave  
3 that --

4 DOCTOR SPEIS: Yes.

5 COMMISSIONER REMICK: -- do you have a  
6 preference there? If they are all doing PRAs,  
7 wouldn't there be some advantage to doing the seismic  
8 PRA versus the margin?

9 DOCTOR SPEIS: Well, some of them might  
10 prefer to use margins. It's easily understood. A lot  
11 of work has been done and the methodology is very well  
12 developed. So, it will be up to them. It's an option  
13 basically.

14 COMMISSIONER REMICK: Do you have any  
15 indication how many will opt for the margins?

16 DOCTOR SPEIS: We have no indication as yet.

17 In the area of fires, again, the option,  
18 it's either a PRA or some more simplified methodology.  
19 NUMARC has volunteered to develop methodology and  
20 then, following interactions with them, hopefully we  
21 can agree on that. But they're a little bit late,  
22 even though they told us they would provide the draft  
23 some time at the end of January, and we'll start the  
24 dialogue with the ACRS. But if, in parallel, the  
25 work, we'll just have to see if we can come up with

1 something soon because our intent is to get this  
2 generic letter out as soon as possible because some  
3 utilities would like to integrate the external events  
4 with internal events. So, we don't like to delay.

5 The only thing that could delay maybe for a  
6 few months is in the area of the seismic, there are  
7 some substantial differences between the industry and  
8 us, especially in the selection of the hazards. This  
9 is the curve that provides the probability versus the  
10 intensity of the earthquake. Our contractor at the  
11 Lawrence Livermore Laboratory has put some hazard  
12 curves and EPRI has done the same thing for industry.  
13 In some areas there are some substantial differences.  
14 So, we'll have to work very hard the next few months  
15 to basically make a decision which way, which curve to  
16 select or maybe both or whatever. So that's a very  
17 difficult area.

18 COMMISSIONER REMICK: In the fire area,  
19 NUMARC hasn't submitted a draft to you yet to see what  
20 they have in mind?

21 DOCTOR SPEIS: No. They will at the end of  
22 January, they promised. But meanwhile, we have put  
23 this draft letter with some open holes basically. So,  
24 our intent has been to recommend to get the package to  
25 the Commission in the spring. But as I say, it's

1 possible that this date could be delayed for a few  
2 months. But as I say, we'll try very hard to come to  
3 grips with some of the difficult issues, especially  
4 the seismic one.

5 CHAIRMAN CARR: Is the intent to do the  
6 seismic and the fire and whatever other hazards come  
7 up at the same time or in the same package, or are you  
8 looking for those as a series submittal?

9 DOCTOR SPEIS: No, in the same package. We  
10 want to get the whole seismic -- excuse me, external  
11 events package, yes, sir.

12 CHAIRMAN CARR: Okay.

13 COMMISSIONER REMICK: Before leaving that,  
14 you talk about screening examination for other  
15 hazards. Could you elaborate a little bit? I'm not  
16 sure I understand what you mean.

17 DOCTOR SPEIS: Bill, do you want to say  
18 something?

19 MR. BECKNER: Basically, the other hazards  
20 are high winds, including tornadoes, floods, external  
21 floods, and military and industrial facilities nearby.  
22 By and large, we feel the design basis protects  
23 adequately in those areas and we're just proposing a  
24 screening to confirm that on a plant specific basis.

25 COMMISSIONER REMICK: Screening by whom, by

1 the licensee or you mean screening --

2 MR. BECKNER: By the licensee.

3 COMMISSIONER REMICK: -- by the staff of  
4 submittals?

5 MR. BECKNER: It's a progressive screening  
6 approach. If you confirm that you indeed meet the  
7 current design basis, that would be it. Then it  
8 becomes a progressive looking at different types of  
9 analyses to try to screen it out, either frequency of  
10 the event or a bounding type analysis. But we believe  
11 that in general the plants are designed very  
12 conservatively in these areas and we're just looking  
13 for isolated things that may have been missed, a  
14 smokestack from a nearby facility that's not nuclear,  
15 that type of thing.

16 CHAIRMAN CARR: Or encroachment.

17 MR. BECKNER: Correct. That's another major  
18 thing, is that the sites have changed over time.

19 DOCTOR SPEIS: (Slide) Leaving the IPE and  
20 going to containment performance improvement program  
21 on slide 8, 19 of the 24 Mark I plants have chosen to  
22 install a hardened vent. The remaining five Mark I  
23 plants have said that there is not good justification  
24 in their minds, so will proceed to give a plant  
25 specific analysis. Of those five, I should say that

1 one of them feels very strong. The other four, they  
2 want to take another look at it. By the way, the  
3 other four Mark Is are the so-called Mark I plants  
4 that have -- in addition to a suppression pool, they  
5 have an isolation condenser.

6 So, we agree with them that it's least cost  
7 beneficial for those plants in relation to the other  
8 ones because they have the diverse or the redundant  
9 availability of water there. So, it's not going to be  
10 as cost effective, but we still feel it's cost  
11 effective, but not as cost effective as for the other  
12 ones.

13 COMMISSIONER CURTISS: The plan for those  
14 five plants is to conduct a cost benefit analysis?

15 DOCTOR SPEIS: Yes. Yes, sir, a plant  
16 specific one.

17 COMMISSIONER CURTISS: Okay.

18 DOCTOR SPEIS: And the four isolation  
19 potential plants are the Oyster Creek, the two Dresden  
20 plants and the Millstone 1.

21 COMMISSIONER REMICK: When you say hardened  
22 vent, I assume this is bypassing their standby gas  
23 treatment with a -- are any of them hardening the  
24 standby gas treatment facility? Nobody is talking  
25 about using the standby gas treatment then as part of

1 the venting?

2 DOCTOR SPEIS: I'm not so sure we have seen  
3 the specifics.

4 COMMISSIONER REMICK: Yes, okay.

5 DOCTOR MURLEY: It wouldn't be practical, I  
6 don't think, to harden standby gas treatment to 20 or  
7 30 psi.

8 CHAIRMAN CARR: So, once we've identified  
9 the four with the isolation condensers, who is the guy  
10 that feels strongly?

11 DOCTOR SPEIS: Fitzpatrick.

12 DOCTOR MURLEY: Fitzpatrick.

13 DOCTOR SPEIS: Of course, for Mark I, the  
14 other improvements were sent to the licensees via the  
15 IPE generic letter.

16 For the other containment types, we have  
17 developed preliminary conclusions. We have already  
18 given them to you in a SECY paper and we're proceeding  
19 to finalize our conclusions and our findings. I can  
20 report at this time that we don't think that there  
21 will be a need for any generic recommendations similar  
22 to those made for Mark I.

23 Here we're talking about nine Mark IIs and  
24 four Mark IIIs. The generic recommendations that we  
25 have distilled from all the studies that have been

1 done will be given to them for their information, to  
2 be considered in the IPE program. For example, for  
3 ice condensers and for Mark IIIs, we'll tell them to  
4 take another look at diverse power sources for the  
5 ignitors. At present, the ignitors are connected to  
6 the diesels, so if you have a station blackout. So  
7 that's one example. Okay?

8 COMMISSIONER REMICK: Incidentally, I was  
9 pleased to read in the SECY document and what you say,  
10 that you are integrating those containment performance  
11 improvements with the IPE process, I sincerely believe  
12 that's the way to do it, unless there's something that  
13 really is outstanding that was identified, and since  
14 you didn't do that, I think it would be a good idea to  
15 integrate it.

16 DOCTOR SPEIS: The other reason is that on  
17 most of these improvements, the risk reduction is not  
18 as strong and as obvious as it was for Mark I plants  
19 and there are many reasons, the volume of the plant.  
20 But I guess the other basic reason is that they're so  
21 different. For example, the Mark IIs, they all have a  
22 different pedestal design. I have to be careful how I  
23 say that word. But again, our initial thoughts are in  
24 the SECY paper that we have provided to you and we're  
25 packaging our final recommendations. They will be



1 going to the ACRS and CRGR and it is our intent to  
2 provide it to you very early next year.

3 COMMISSIONER ROGERS: Well, do I understand  
4 you correctly that you don't really intend to  
5 normalize these plants to one another with respect to  
6 the question of venting the containment, is that it?  
7 In other words, that this would just be part of the  
8 IPE evaluation for each individual plant? In other  
9 words, you won't deal with the venting question --

10 DOCTOR SPEIS: The venting will be in this  
11 generic, the insights to be included as part of the  
12 IPE. For example, tell them that there are benefits  
13 to hardened venting even for Mark IIs and Mark IIIs.  
14 But right now, we don't think we can justify, either  
15 on the cost benefit or -- there are so many plant  
16 unique differences that we cannot be very explicit  
17 about -- you know, "Oh, my God, you should accelerate  
18 this ahead of the IPE," basically.

19 COMMISSIONER ROGERS: NO, no, but I mean  
20 even within the IPE process, you won't focus  
21 particularly on the venting question for Mark IIs.

22 DOCTOR SPEIS: Yes. We will ask them to  
23 explicitly -- that's one of the things that should be  
24 considered.

25 COMMISSIONER ROGERS: Well, it's part of the

1 process. But what I'm saying is that the decision on  
2 whether to vent or not will not be just solely on some  
3 basis in which you look at the Mark II containments  
4 for those nine plants and make a decision or a  
5 recommendation or whatever based on that. It will be  
6 folded into the total IPE process.

7 CHAIRMAN CARR: It's going to be plant  
8 specific.

9 DOCTOR SPEIS: Yes. They have to address  
10 it --

11 COMMISSIONER ROGERS: They have to address  
12 it.

13 DOCTOR SPEIS: -- on a plant specific basis.

14 COMMISSIONER ROGERS: But you won't pull it  
15 out the same way we have in the Mark Is.

16 DOCTOR SPEIS: No. No. No. No. That's  
17 basically what I was saying.

18 COMMISSIONER ROGERS: Yes. Okay.

19 CHAIRMAN CARR: Let me ask you, in the SECY-  
20 89-308 you say the recommendations from the CPI  
21 program, on other containment types it will be broader  
22 than for those, for Mark I plants. What do you mean  
23 by broader?

24 DOCTOR SPEIS: We're not going to have  
25 detailed cost benefit analysis. It will be a kind

1 of -- we have gone through all the PRAs, the NUREG-  
2 1150, the research and we see that there are some  
3 things that make sense to be considered. But they're  
4 going to be very specific, you know, details, valves  
5 and power sources. For example, in venting for Mark  
6 I, we went into great detail and discussed the power  
7 sources associated with the -- it's all going to be  
8 that type of detailed analysis.

9 DOCTOR MURLEY: Broader means, I think, less  
10 specific.

11 DOCTOR SPEIS: Less specific, yes.

12 (Slide) On page 9, the accident management,  
13 again it's one of the key elements for closure. If  
14 you'll recall, the three key closure elements was the  
15 IPE, the CPI and accident management. We have put  
16 together a -- based on discussions with the Commission  
17 before, we have put together a number of strategies  
18 which we are pushing through the ACRS and the CRGR at  
19 the present time, to be sent to utilities for their  
20 consideration now or during the IPE.

21 We have gotten a letter from the ACRS in  
22 essence agreeing with us. They've told us that,  
23 "Maybe you will be confusing the world by calling them  
24 strategies versus emergency operating procedures as  
25 they have been called in the past." I feel the

1 industry understands what we mean but maybe we should  
2 be more careful and come up with one definition. In  
3 fact, industry will have a flexibility of deciding  
4 what to do with these so-called strategies or  
5 procedures that go farther into the severe accident  
6 area. They can either extend the existing emergency  
7 operating procedures or maybe put them some different  
8 place. But again, industry will have that flexibility  
9 to do that.

10 We're working with NUMARC to create the  
11 framework. So, as the information is developed,  
12 either from the IPE or from research in the future,  
13 that information is evaluated for its worth in either  
14 preventing or mitigating accidents basically. That's  
15 the big thing that we're working with NUMARC right  
16 now.

17 The detailed guidance, summarizing all this  
18 work, will be ready in 1991 and we hope that really at  
19 that time we'll be able to endorse the work that  
20 NUMARC is doing with the utilities. That's our  
21 objective.

22 CHAIRMAN CARR: For one, I'd like to see  
23 that sometime before it's 1991. Can you give us a  
24 progress report halfway --

25 DOCTOR SPEIS: Oh, yes.

1 CHAIRMAN CARR: -- or something to find out  
2 where you're going?

3 DOCTOR SPEIS: Yes, sir. In fact, we will  
4 be coming to you before we issue this letter on the  
5 strategies.

6 CHAIRMAN CARR: Okay. That's bullet 2?

7 DOCTOR SPEIS: Yes, sir.

8 CHAIRMAN CARR: We'll see it before it goes  
9 out to industry?

10 DOCTOR SPEIS: Yes.

11 CHAIRMAN CARR: Okay.

12 DOCTOR SPEIS: You have given us guidance.

13 CHAIRMAN CARR: I just want to make sure  
14 you're carrying it out.

15 DOCTOR SPEIS: Yes. No question about it.

16 COMMISSIONER REMICK: Themis, I would  
17 appreciate getting a copy of that NUMARC guidance that  
18 you can provide.

19 DOCTOR SPEIS: Sure.

20 COMMISSIONER REMICK: I have not seen that.  
21 I'd appreciate getting a copy of that to look at.

22 DOCTOR SPEIS: (Slide) On page 10, the  
23 status of the NUREG-1150, the only thing I can say is  
24 it is on course. Our plan is to complete it in mid-  
25 1990.

1                   Mr. Beckjord, do you want to add anything to  
2                   it?

3                   MR. BECKJORD:       Well, the Peer Review  
4                   Committee will be meeting in March to draft their  
5                   paper on the 1150. They may -- it's possible that  
6                   they might issue it in April. It's possible it might  
7                   be, I'm not sure about that. But certainly by mid-  
8                   year, we will have the report.

9                   CHAIRMAN CARR: From what you know already,  
10                  has that been a worthwhile effort?

11                  MR. BECKJORD: Yes.

12                  COMMISSIONER ROGERS: Do you think that  
13                  there's any possibility that any significant new  
14                  guidance might come out of that relative to external  
15                  events?

16                  MR. BECKJORD: Well, I don't want to try to  
17                  second guess. I expect they're going to have some  
18                  things to say. I don't know that it will be about  
19                  external events though. I think it's more likely it  
20                  will be in the severe accident area.

21                  DOCTOR SPEIS:       (Slide)       Page 11, Mr.  
22                  Chairman, safety goal implementation. Our proposal  
23                  basically is in front of the Commission. Meanwhile,  
24                  we are proceeding according to proposals contained in  
25                  SECY-89-102 in a number of areas. For example,

1 there's a listing of generic issues. You sent us back  
2 to make sure that we have further discussions with the  
3 ACRS and make sure that we settle our differences, and  
4 if there are any differences, make sure that we  
5 understand what those differences are.

6 One of the areas that we have been  
7 discussing lately is the concept of adequate  
8 protection as it relates to the safety goal. There is  
9 a -- we put a draft paper together, we sent it to the  
10 ACRS to make sure that they agree or disagree. They  
11 sent us back some comments. That Commission paper now  
12 has been revised and it's on the way to you. It's at  
13 the EDO's office at the present time.

14 Basically, the bottom line as far as safety  
15 goals is that both we and the ACRS agree that they  
16 shouldn't be used to make plant specific licensing  
17 decisions. There's no question about that. But  
18 that's the only thing I want to say at this time  
19 regarding the safety goal, unless there are any  
20 questions.

21 COMMISSIONER ROGERS: How do you think we  
22 will use them though in the aggregate, particularly  
23 with respect to some of the qualitative goals?

24 DOCTOR SPEIS: Well, let me go to the  
25 quantitative. For example, when we get the IPEs back,

1 all of them, evaluate them, the safety goal is there.  
2 You know, the core melt frequency, the larger release  
3 category. If some of the IPEs indicate, or maybe a  
4 number of them indicate that somehow the results are  
5 substantially at odds with the safety goal, we'll try  
6 to address why, in terms of the regulations though.  
7 Maybe there is something peculiar or something unique  
8 or something in the regulations that allowed this  
9 thing to happen or maybe it's something specific to  
10 the plant. Then we will proceed to recommend to you  
11 some changes to the regulations, via rulemaking or  
12 some other way that you people might think it's  
13 worthwhile.

14 But the basic thing that we will address  
15 when we get the IPEs or PRAs, why there are  
16 differences. Okay? But that why will be in relation  
17 to the regulations. We're not going to take that  
18 specific plant and say it meets or it does not meet  
19 some number. That's the bottom line.

20 COMMISSIONER ROGERS: I understand, but once  
21 you have all the IPEs, you'll have the whole  
22 constellation of the United States plants.

23 DOCTOR SPEIS: Right.

24 COMMISSIONER ROGERS: And there they are.  
25 Now, this is -- now we can look at what the



1 qualitative aspects of the safety goals are, whether  
2 we think they're being met or not.

3 DOCTOR SPEIS: Qualitative --

4 COMMISSIONER ROGERS: Well, we had two  
5 quantitative and two qualitative goals or at least one  
6 can talk about them that way. I'm just curious as to  
7 what we're going to do with these things. We've got  
8 all the plants there now. You've got the IPEs, we've  
9 got the whole collection.

10 DOCTOR SPEIS: Well, we feel that even based  
11 on what we know right now that all plants meet the two  
12 quantitative safety goals that are out already, the  
13 health effects safety goals.

14 COMMISSIONER REMICK: Including external  
15 events?

16 DOCTOR SPEIS: Well, maybe I should be more  
17 careful. Is Mr. Wayne Houston here?

18 DOCTOR MURLEY: Well, can I say something?  
19 On the IPE, Mr. Commissioner, I'm not certain yet that  
20 we're going to be reviewing these to the kind of  
21 detail that we can validate the numbers that come into  
22 us. That's not the -- in my mind, that wasn't the  
23 original intent of doing the IPE. It was mainly to  
24 look for --

25 COMMISSIONER ROGERS: Yes. Well, I don't

1 think we can redo the IPEs, no.

2 DOCTOR MURLEY: -- to look for some areas  
3 that they need to improve their plant. So, the  
4 numbers that come in are going to have a wide range of  
5 quality to them. My own judgment, there's big factors  
6 of uncertainty that come in with these numbers. So, I  
7 always get nervous when we start down this path of  
8 trying to compare somebody's analysis with a goal  
9 because I'm quite sure that by judicious use of human  
10 error rates, of common mode failure rates, of seismic  
11 fragility, that I can change a PRA number by some  
12 large factor --

13 COMMISSIONER ROGERS: Yes, sure.

14 DOCTOR MURLEY: -- judgmentally like that.  
15 And so, I think that's what, for some number of years,  
16 has given the staff a lot of trouble in how we do want  
17 to use the safety goals.

18 COMMISSIONER ROGERS: Well, I know, but--  
19 that's right, it's giving us all trouble, but there  
20 they are out there and we're talking about safety goal  
21 implementation. We keep using these words. I think  
22 we have to go back and look at the whole thing. There  
23 it is. It's called a safety goal. We can't just take  
24 a piece of it and say, "Well, we feel comfortable with  
25 doing a measurement or something on that." I think we

1 have to look at the whole thing at this time,  
2 sometime. If not now, when?

3 So, I'm just curious as to how we're going  
4 to try to deal with that.

5 MR. TAYLOR: We're going to have to do a lot  
6 of cross look and see what is the benefit of any  
7 action that we would propose.

8 COMMISSIONER ROGERS: We all agreed, I  
9 think, all along that you don't use these to make a  
10 decision on an individual plant. That's correct. But  
11 now you've got these analyses for every single plant  
12 in the country with varying uncertainties in the  
13 numerical scores that come out and we understand that.  
14 But now, there they are. How do we use these? Do we  
15 put the qualitative goals up there on the wall and say  
16 they look nice and there they are and here we have all  
17 these plants, but there's no way of really, somehow or  
18 other, making a statement about the plants that  
19 assures us that when all is said and done we are  
20 meeting to, within some degree, what those goals are.

21 These are the tough questions. They're not  
22 easy questions. I'm not suggesting they are, but I'm  
23 just asking you to what extent you're going to try to  
24 come to grips with that.

25 MR. HOUSTON: If I may, Wayne Houston from

1 the staff. To try to respond to your question, I  
2 think an aspect of the real answer, perhaps the best  
3 answer to your question is that from PRAs on existing  
4 plants, the kinds of things that we can learn are  
5 places where improvements can be made in the future.  
6 So, I think really what we will see happen in the next  
7 several years, vis-a-vis safety goals, will really be  
8 more directed towards questions associated with  
9 requirements for future plants that we've learned on  
10 the basis of experience and PRA analysis, including  
11 IPE analysis on present operating plants.

12 The IPE program itself will produce Level I  
13 PRAs for all these plants and although it's true that  
14 the total of them may not be completed until 1993 or  
15 4, in the meantime we will have a very large sample in  
16 a couple of years of those analyses. They should  
17 begin to give us the kinds of insights that should be  
18 very helpful in answering some of the key questions as  
19 we face them with respect to requirements for future  
20 plants.

21 So, it's the applicability of the goals to  
22 the future plants that I think is perhaps most  
23 relevant. The questions of whether or not these PRAs,  
24 the IPEs can have a significant effect on operating  
25 plants then has to be subject to the provisions of the

1 backfit rule which is a very different kind of a cost  
2 benefit question than it is for a forward looking  
3 rulemaking activity.

4 COMMISSIONER ROGERS: Well, I'm not entirely  
5 comfortable with that approach, but I'm not sure we  
6 want to get into a debate on it. But it does seem to  
7 me that once we've got an individual plant examination  
8 for every plant in this country, that we should be  
9 asking ourselves whether we feel comfortable that when  
10 all is said and done, that we have satisfied the  
11 safety goals that we wrote down and said are -- not  
12 for future plants, for the plants that we have now.  
13 Future plants is another question in my mind.

14 So, I don't want to duck the first question  
15 by saying, "Well, it's really relevant to the future  
16 plants," because one could immediately interpret that  
17 to say that we are not sure about the present plants.  
18 I think maybe we're not so sure that we -- I think we  
19 feel relatively confident about the present plants,  
20 and I don't think we should duck the issue.

21 MR. TAYLOR: I agree and we do have the  
22 results, for example, in NUREG-1150, which is a very  
23 extensive --

24 COMMISSIONER ROGERS: But it's just that  
25 number that's smaller.

1 MR. TAYLOR: Just that number. But there is  
2 some assurance to be taken out of what is there. We  
3 will get a big broad picture. I think we haven't--  
4 this is -- I think where we see things that may  
5 require further analysis, we may have to go to work  
6 either ourselves, but I don't know that we're in a  
7 position to say specifically what we're going to do in  
8 all cases.

9 COMMISSIONER ROGERS: Well, I just want to  
10 keep pressing on it.

11 MR. TAYLOR: We're going to keep -- right.

12 COMMISSIONER ROGERS: It's not the first  
13 time I've asked about that.

14 MR. TAYLOR: Right. I think there's a lot  
15 of work to be done and we're going to --

16 MR. BECKJORD: It's going to depend a lot on  
17 what comes out of the IPE.

18 MR. TAYLOR: Right.

19 MR. BECKJORD: What the numbers are.

20 MR. TAYLOR: And we will be telling the  
21 Commission and we will be coming to the Commission if  
22 there are any major concerns. As Wayne says, we have  
23 the backfit criteria to help us make our decisions.  
24 If they're in a class of plants we learn something new  
25 that we haven't recognized, we're going to have to

1 address it.

2 COMMISSIONER REMICK: Certainly I think at  
3 the end of this process, the IPE process, we're going  
4 to be in a much better position than we've ever been  
5 in making some subjective judgment. Does it look like  
6 these plants meet the safety goals or not?

7 MR. TAYLOR: Yes.

8 COMMISSIONER REMICK: They're not  
9 quantitative exactly, but we ought to be able to make  
10 some subjective judgment.

11 MR. TAYLOR: We ought to be able to make--  
12 yes.

13 COMMISSIONER REMICK: Better than we've ever  
14 been before.

15 MR. TAYLOR: Right. We're going to have a  
16 lot more knowledge, yes, and information.

17 COMMISSIONER REMICK: Right.

18 COMMISSIONER ROGERS: And then I think we  
19 ought to do it.

20 COMMISSIONER REMICK: Yes.

21 COMMISSIONER ROGERS: Make the judgment.

22 MR. TAYLOR: Sure.

23 COMMISSIONER ROGERS: Not that we can, do  
24 it. I think we need to close a chapter here in  
25 history at some point. Now, we're not ready to do it

1 yet, but I think we have to be prepared to do that.

2 MR. TAYLOR: I think we'd be prepared to do  
3 that.

4 MR. BECKJORD: It needs a little more  
5 effort.

6 COMMISSIONER REMICK: Following up on  
7 Commissioner Rogers' question, you're going to be  
8 getting a lot of information, and I realize some of it  
9 is going to be good, some of it maybe not so good, on  
10 all of the plants. Have you thought about how you're  
11 going to capture relevant, good information so it's  
12 readily accessible to you over a period of time?  
13 You're going to get a flood of information, perhaps  
14 more complete than you've had in recent years of all  
15 the plants. What are you going to do to make sure  
16 that it's not lost? It must be a tremendous pile  
17 of paper you're going to receive.

18 MR. BECKJORD: Well, I'd expect that we  
19 would do -- there'll be a report that comes out  
20 afterward on the insights gained from the IPE, the  
21 same way we've done that on the 1150, only this one  
22 will be much more extensive.

23 COMMISSIONER REMICK: But how about some of  
24 the detailed information that might be in there that  
25 may be more complete than you have on some of these



1 plants based on walkdowns and that that people are  
2 going to do?

3 MR. TAYLOR: We'll retain that, as well as  
4 the licensee I'm sure will retain it.

5 COMMISSIONER REMICK: But no attempt to  
6 capture that, some of it on computer? I realize that  
7 they can't all of it, but any database system you have  
8 in mind?

9 MR. BECKNER: Yes, we definitely have an  
10 effort planned to capture and save both for the end,  
11 but also as the process goes through. If we learn  
12 something from one PRA, we want to be able to make use  
13 of it as we review subsequent. So, we're definitely  
14 planning an effort, which is an overview, to summarize  
15 what's happening and store it in an appropriate  
16 manner.

17 CHAIRMAN CARR: Let's proceed.

18 DOCTOR SPEIS: (Slide) Page 12, Mr.  
19 Chairman, I think we have talked about already.

20 (Slide) Go the last viewgraph, page 13.  
21 This is, again, a summary. It just shows the key  
22 actions. We feel that the program is on course. As  
23 we said already, we want to make sure that the closure  
24 of the severe accident issue takes place before the  
25 license renewal applicants start coming in.

1 MR. TAYLOR: That's our goal.

2 DOCTOR SPEIS: That's the bottom line.

3 MR. TAYLOR: Anything else?

4 DOCTOR SPEIS: No. Again, what we mean by  
5 closure is that all major issues have been examined,  
6 cost effective changes made, if necessary, so we can  
7 be able to confirm the conclusion of no undue risk to  
8 public health and safety from severe accidents.  
9 That's basically, in essence, what we mean by closure.

10 That concludes my presentation, Mr.  
11 Chairman.

12 CHAIRMAN CARR: All right. Any questions?

13 Commissioner Remick?

14 COMMISSIONER REMICK: I have a question in  
15 the accident management area, not surprising. I'm  
16 interested in the accident management training area  
17 that might develop out of that. Is the staff  
18 following or giving any thought to some of the work  
19 that is being done? And I had a briefing within the  
20 last year out in Idaho of some work that I thought  
21 they were exciting, where they can run something like  
22 Relap 5 and with the state-of-the-art simulators--  
23 they weren't able to do it at real time right now, but  
24 thought they could do it eventually -- where you could  
25 extend the capability of some of the state-of-art

1       simulators to be able to run out beyond design basis  
2       conditions and perhaps out to the initiation of core  
3       damage.

4               Is the staff following this? Does anybody  
5       know what the current status is? You need now give me  
6       the status now, but I would like to talk to them  
7       because I found that exciting possibility of extending  
8       the capability of current simulators out beyond where  
9       typically we are now able to do it.

10              MR. SHERON: Brian Sheron from the staff.  
11       We've been following it. It's not an easy thing to  
12       do, going out in an area with these codes primarily  
13       because it's hard to make them run in real time and  
14       still give good results. One of the things that we  
15       are doing that's related right now is the simulators  
16       down at the training center. We are benchmarking  
17       those simulators against these advanced codes, like  
18       relap and track, to make sure that they, in fact, are  
19       accurate.

20              But we did have an effort looking into the  
21       possibility of extending simulators into the severe  
22       accident regime, how far and to what type of events  
23       they could indeed handle.

24              COMMISSIONER REMICK: Okay. So you are  
25       definitely following the progress in that area?

1 MR. SHERON: Yes, sir.

2 CHAIRMAN CARR: Any other questions?

3 COMMISSIONER REMICK: Nothing.

4 CHAIRMAN CARR: Commissioner Roberts?

5 Commissioner Rogers?

6 COMMISSIONER ROGERS: Do you still plan to  
7 rotate the staff reviewers on these IPE examinations,  
8 of our reviews of IPE?

9 DOCTOR MURLEY: We're still going through--  
10 that's the intention, but we're looking at our  
11 resources across the board now. We haven't firmly  
12 decided on the scope and depth that we're going to do  
13 these IPE reviews because there's a lot of other stuff  
14 on our plate right now, quite frankly. That's why I  
15 get a little nervous. I'm sorry if I sound like I'm  
16 backing away from things, but --

17 COMMISSIONER ROGERS: No, no.

18 DOCTOR MURLEY: -- we've got tech specs,  
19 we've got advanced plants, we've got a lot of other  
20 things on our plate.

21 CHAIRMAN CARR: Let me ask a question. My  
22 impression of doing PRAs in the first place was not  
23 the advantage of our review, but was the advantage to  
24 the utility of doing it and learning about their own  
25 plant and correcting what they found wrong. Is that

1 not still the case?

2 MR. TAYLOR: That's the best features of  
3 this program.

4 CHAIRMAN CARR: And I would assume by  
5 getting PRAs on everybody, we'll have some interesting  
6 things to compare with similar plants who turn up  
7 problems that other similar plants didn't turn up.

8 MR. TAYLOR: Yes.

9 CHAIRMAN CARR: So that will raise some  
10 questions. But is that the kind of review you're  
11 talking about, review them for consistency more than  
12 for detail?

13 DOCTOR MURLEY: Consistency, how they  
14 approached it. Did they use standard methods of doing  
15 the analysis and once they found a problem, how did  
16 they actually deal with it? That sort of thing is  
17 what I had in mind. But not necessarily a validation  
18 of each and every number.

19 CHAIRMAN CARR: We don't have that kind of  
20 manpower.

21 COMMISSIONER ROGERS: No. I don't think  
22 there's any possible way we could do that. It would  
23 be enormously --

24 DOCTOR SPEIS: That's why, Mr. Chairman, our  
25 initial estimate of six plants a month is

1 substantially much lower than earlier commitments in  
2 reviewing a PRA which took quite a few man years  
3 basically. Even these six men, because of resources,  
4 we might have to cut it down a little bit.

5 MR. TAYLOR: And we'll be looking at the new  
6 thing, anything they decide has to be done for  
7 appropriate cross plant applicability, as we always  
8 do.

9 COMMISSIONER ROGERS: Yes. Well, this big  
10 pile-up of submittals expected in the last quarter of  
11 '92, would it be helpful to have any of those come in  
12 earlier, to start to spread this out?

13 DOCTOR MURLEY: In fact, we're meeting with  
14 Yankee next week. They intend to submit theirs now,  
15 but we're having a preliminary meeting with them to  
16 see if what they've done is what we had in mind. So,  
17 I view that as a kind of an icebreaker on the kind of  
18 review we're going to do and the kind of study that  
19 the industry does.

20 CHAIRMAN CARR: Let me amplify that a little  
21 bit. I understand you to say that everybody's opted  
22 to do a PRA instead of really the IPE that we looked  
23 for.

24 DOCTOR MURLEY: Some may do both.

25 CHAIRMAN CARR: Yes. Do we require anything

1 in the IPE program that a Level I PRA doesn't do? I  
2 mean we've got 30 or 40 plants out there already with  
3 Level I PRAs.

4 DOCTOR SPEIS: Well, some of them will have  
5 to -- we told them certain things that we want to make  
6 sure that -- in the past, some of these PRAs were done  
7 by contractors and those companies took them and put  
8 them in the shelves. We want to make sure that even  
9 if a PRA has been done, that they take it, they  
10 scrutinize it, understand it, they adopt it. That  
11 will take some time. So, that will take some time.  
12 So, even though they have done a PRA, they still have  
13 to make sure that they know that the PRA really  
14 represents the plant and the sequences.

15 Also, we told them that they have the option  
16 of resolving a number of USIs and GSIs as part of this  
17 examination. We also told them that they should look  
18 at the shutdown heat removal issue because it was so  
19 plant specific. So, we put some additional things  
20 that they'll have to make sure that they consider  
21 before they finalize the submittal to us.

22 CHAIRMAN CARR: And containment also was  
23 included, right?

24 DOCTOR SPEIS: Containment, yes.

25 CHAIRMAN CARR: So that's beyond the Level I

1 PRA for most of them.

2 DOCTOR SPEIS: Yes, sir. Yes, sir, yes.  
3 Not a very detailed -- we told them what type of  
4 truncation they could undertake.

5 CHAIRMAN CARR: But it's not like we're  
6 starting from scratch in a lot of plants.

7 DOCTOR SPEIS: No, no, that's right. In  
8 fact, we feel that maybe there will be 20 or 25 should  
9 be able to come a year earlier, but maybe they're  
10 waiting to see what the staff does with the early  
11 ones. They don't want to be the first ones to face  
12 the music.

13 CHAIRMAN CARR: The first guy that  
14 successfully passes is going to set an example for all  
15 those that are waiting to follow then, huh?

16 DOCTOR SPEIS: That's possible.

17 DOCTOR MURLEY: To some extent I think  
18 that's true, yes.

19 COMMISSIONER ROGERS: Yes. Well, any way  
20 you could smooth that out a little, spread it out, I'm  
21 sure would be very helpful to you.

22 DOCTOR SPEIS: Yes, we agree with you.

23 COMMISSIONER ROGERS: Is there anything new  
24 since our briefing last May by you folks with respect  
25 to schedule and information relative to closure of



1 severe accident issues? Anything since we met last  
2 May that has significance?

3 DOCTOR SPEIS: No.

4 CHAIRMAN CARR: Estimated closure of those  
5 is still June 1995?

6 DOCTOR SPEIS: Yes.

7 CHAIRMAN CARR: Okay.

8 COMMISSIONER ROGERS: That's all I have, Mr.  
9 Chairman.

10 CHAIRMAN CARR: Commissioner Curtiss?

11 Well, I would like to thank the staff for a  
12 very informative briefing. You've made significant  
13 progress toward closure of severe accident issues and  
14 I certainly commend the staff for the progress you  
15 have made.

16 I guess the best news I got here today is  
17 everybody's opting for PRAs. I hope they're opting  
18 for PRA Level III before they're through and we get  
19 all these issues behind us.

20 As you know, we still have work to be done.  
21 The remaining work, we must be diligent in our effort  
22 to control the schedules. The ball's in the staff's  
23 court to make recommendation regarding containment  
24 performance improvement, external events and accident  
25 management. Since all these issues should be

1 considered in conjunction with the IPEs which the  
2 utilities are currently working on, the staff should  
3 work expeditiously so the utilities can consider these  
4 issues in a timely manner.

5 In particular, I really hope we can maintain  
6 a severe accident closure date for the existing plants  
7 of June 1995. I think it's important that the  
8 Commission continue to be kept informed of the status  
9 of the implementation of the plan and I understand  
10 it's going to be semi-annually in April and in  
11 October.

12 Are there any other comments from my fellow  
13 Commissioners?

14 If not, we stand adjourned.

15 (Whereupon, at 11:01 a.m., the above-  
16 entitled matter was concluded.)  
17  
18  
19  
20  
21  
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24  
25

CERTIFICATE OF TRANSCRIBER

This is to certify that the attached events of a meeting  
of the United States Nuclear Regulatory Commission entitled:

TITLE OF MEETING: BRIEFING ON STATUS OF IMPLEMENTATION OF THE SEVERE ACCIDENT  
MASTER INTEGRATION PLAN AND STATUS OF LICENSEE PROGRESS ON IPE  
PLACE OF MEETING: ROCKVILLE, MARYLAND

DATE OF MEETING: DECEMBER 14, 1989

were transcribed by me. I further certify that said transcription  
is accurate and complete, to the best of my ability, and that the  
transcript is a true and accurate record of the foregoing events.



Reporter's name: Peter Lynch

**NEAL R. GROSS**  
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1323 RHODE ISLAND AVENUE, N.W.  
WASHINGTON, D.C. 20005

**COMMISSION BRIEFING ON  
STATUS OF IMPLEMENTATION OF THE  
SEVERE ACCIDENT MASTER INTEGRATION PLAN  
AND STATUS OF LICENSEE PROGRESS ON IPE**

**THEMIS P. SPEIS  
(301) 492-3710  
OFFICE OF NUCLEAR REGULATORY RESEARCH  
U.S. NUCLEAR REGULATORY COMMISSION**

**DECEMBER 14, 1989**

## PURPOSE OF BRIEFING

TO DISCUSS THE STATUS OF THE STAFF'S PLAN FOR  
CLOSURE OF SEVERE ACCIDENT ISSUES ON OPERATING  
PLANTS, AS DESCRIBED IN SECY-88-147, DATED  
MAY 25, 1988.

## ELEMENTS OF INTEGRATION PLAN - SECY-88-147

- o INDIVIDUAL PLANT EXAMINATIONS (IPEs):
  - INTERNAL EVENTS
  - EXTERNAL EVENTS
- o CONTAINMENT PERFORMANCE IMPROVEMENT (CPI) PROGRAM:
  - MK Is
  - OTHER TYPES
- o ACCIDENT MANAGEMENT PROGRAM
- o NUREG-1150
- o SAFETY GOAL IMPLEMENTATION
- o SEVERE ACCIDENT RESEARCH PROGRAM

## INDIVIDUAL PLANT EXAMINATIONS (INTERNAL EVENTS)

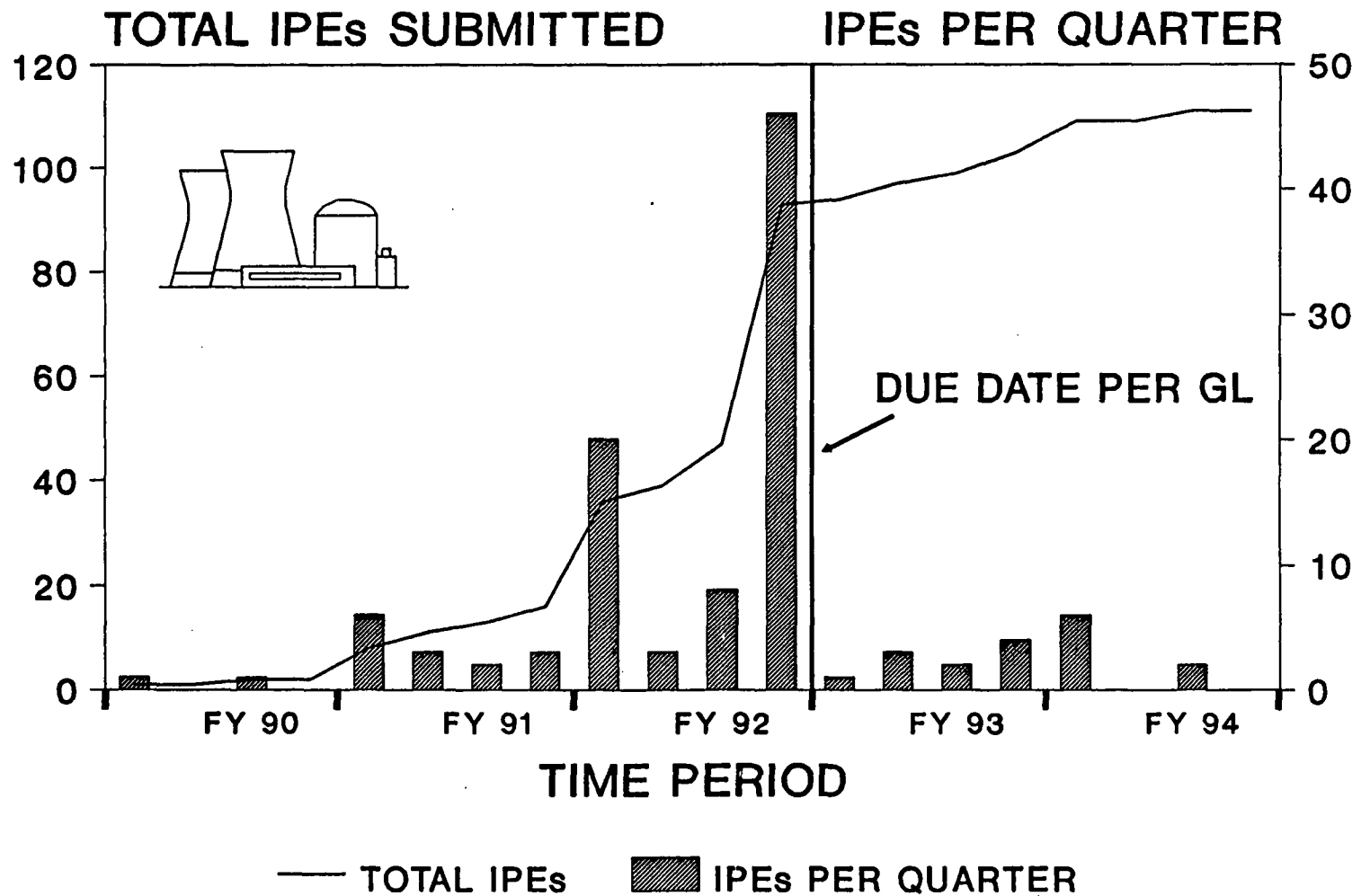
- o NUREG-1335, "INDIVIDUAL PLANT EXAMINATIONS: SUBMITTAL GUIDANCE," AUGUST 1989
- o GENERIC LETTER 88-20, SUPPLEMENT 1, AUGUST 29, 1989:
  - STARTED IPE "CLOCK,"
  - ISSUED MK I IMPROVEMENTS

## INDIVIDUAL PLANT EXAMINATIONS (INTERNAL EVENTS)

- o GENERIC LETTER 88-20, SUPPLEMENTS 2 AND 3  
UNDER PREPARATION:
  - GUIDANCE ON NON-MK I CONTAINMENTS
  - INFORMATION ON ACCIDENT MANAGEMENT  
STRATEGIES
- o LICENSEE PLANS AND SCHEDULES SUBMITTED
- o STAFF EVALUATION OF LICENSEE SUBMITTALS



# IPE SUBMITTAL SCHEDULE



### IPE REVIEW PLAN

- o STAFF CURRENTLY ASSESSING JUSTIFICATION FOR 18 LATE SUBMITTAL REQUESTS.
- o SCOPE AND RESOURCES REQUIRED FOR STAFF REVIEW OF IPE SUBMITTALS UNDER DEVELOPMENT.
- o STAFF REVIEW OF IPE SUBMITTALS TO BE COMPLETED IN FY 1995

INDIVIDUAL PLANT EXAMINATIONS FOR  
EXTERNAL EVENTS (IPEEE)

- o EXTERNAL EVENT STEERING GROUP
- o DRAFT GENERIC LETTER PREPARED
- o DISCUSSIONS HELD WITH NUMARC
- o WILL RECOMMEND EXAMINATION IN AREAS OF:
  - SEISMIC,
  - FIRES,
  - SCREENING EXAMINATION FOR OTHER HAZARDS
- o RECOMMENDATIONS TO COMMISSION SPRING 1990

## CONTAINMENT PERFORMANCE IMPROVEMENT (CPI) PROGRAM

- o MK I RECOMMENDATIONS (SECY-89-017) BEING IMPLEMENTED PER COMMISSION DIRECTION
  - PLANT-SPECIFIC BACKFIT OF HARDENED VENT FOR UTILITIES NOT IMPLEMENTING VOLUNTARILY
  - OTHER IMPROVEMENTS CONSIDERED IN IPE
- o RECOMMENDATIONS FOR OTHER CONTAINMENT TYPES BEING DEVELOPED. PRELIMINARY STAFF CONCLUSIONS:
  - NO GENERIC RECOMMENDATIONS
  - EXAMINATION OF SEVERAL PLANT-SPECIFIC IMPROVEMENTS VIA IPE
  - COLLECTION OF INSIGHTS FOR IPE

## ACCIDENT MANAGEMENT

- o REGULATORY AND RESEARCH ELEMENTS DESCRIBED IN SECY-89-012
- o CANDIDATE ACCIDENT MANAGEMENT STRATEGIES TO BE ISSUED TO INDUSTRY FOR INFORMATION
- o NUMARC DRAFT GUIDANCE TO UTILITIES FOR ACCIDENT MANAGEMENT
  - NRC AND INDUSTRY COMMENTS
  - TRIAL APPLICATIONS PLANNED IN 1990
- o DETAILED GUIDANCE TO BE PROVIDED FOR COMMISSION REVIEW IN 1991 - PRIOR TO ISSUING GENERIC LETTER
- o NRC RESEARCH ON ACCIDENT MANAGEMENT ONGOING

### NUREG-1150

- o COMMISSION BRIEFED SEPARATELY ON NUREG-1150
- o CURRENTLY UNDERGOING PEER REVIEW. EXPECTED TO BE COMPLETED IN MID-1990
- o ISSUE FINAL NUREG-1150 AFTER PEER REVIEW COMPLETE  
CURRENT ESTIMATE FOR FINAL IS 12/90

## SAFETY GOAL IMPLEMENTATION

- o STAFF PROPOSAL FOR SAFETY GOAL IMPLEMENTATION PROVIDED IN SECY-89-102 (MARCH 30, 1989)
- o WE ARE PROCEEDING ACCORDING TO PROPOSALS CONTAINED IN SECY-89-102

## SEVERE ACCIDENT RESEARCH PROGRAM

- o IMPLEMENTING PLAN (SECY-89-123 AND NUREG-1365)  
EMPHASIZING EARLY CONTAINMENT FAILURE ISSUES
- o PLAN TO MEET WITH COMMISSION AGAIN THIS SPRING



## SUMMARY

### KEY ACTIONS FOR CLOSURE OF SEVERE ACCIDENT ISSUES ON OPERATING PLANTS

- o COMPLETION OF IPEs, INCLUDING EXTERNAL EVENTS, IDENTIFICATION AND IMPLEMENTATION OF IMPROVEMENTS
- o IMPLEMENTATION OF ANY GENERIC CONTAINMENT IMPROVEMENTS APPROVED BY THE COMMISSION
- o DEVELOPMENT AND IMPLEMENTATION OF AN ACCIDENT MANAGEMENT PROGRAM

BACKUP SLIDE

IPE SUBMITTALS BEYOND 9/92

RIVER BEND	10/92
MILLSTONE 2	01/93
PRAIRIE ISLAND 1 & 2	02/93
QUAD CITIES 1 & 2	06/93
HOPE CREEK	07/93
NINE MILE POINT 1	07/93
SALEM 1 & 2	07/93
BRAIDWOOD 1 & 2	10/93
FT. CALHOUN	12/93
ST. LUCIE 1 & 2	12/93
VERMONT YANKEE	12/93
LA SALLE 1 & 2	06/94