

# UNITED STATES OF AMERICA NUCLEAR REGULATORY COMMISSION

Title: BRIEFING ON IMPLEMENTING GUIDANCE FOR THE  
MAINTENANCE RULE AND INDUSTRY VERIFICATION  
AND VALIDATION EFFORT

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2 NUCLEAR REGULATORY COMMISSION

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4 BRIEFING ON IMPLEMENTING GUIDANCE FOR THE  
5 MAINTENANCE RULE AND INDUSTRY VERIFICATION  
6 AND VALIDATION EFFORT

7 \* \* \*

8 PUBLIC MEETING

9 \* \* \*

10 Nuclear Regulatory Commission

11 One White Flint North

12 Rockville, Maryland

13  
14 Friday

15 January 29, 1993  
16

17 The Commission met in open session, pursuant to  
18 notice, at 10:00 a.m., the Honorable IVAN SELIN, Chairman  
19 of the Commission, presiding.

20 **COMMISSIONERS PRESENT:**

21 IVAN SELIN, Chairman of the Commission

22 KENNETH C. ROGERS, Member of the Commission

23 JAMES R. CURTISS, Member of the Commission

24 FORREST J. REMICK, Member of the Commission

25 E. GAIL de PLANQUE, Member of the Commission

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**STAFF AND PRESENTERS SEATED AT THE COMMISSION TABLE:**

SAMUEL J. CHILK, Secretary

WILLIAM C. PARLER, General Counsel

JAMES TAYLOR, Executive Director for Operations

JAMES SNIEZEK, Deputy Executive Director for  
Operations

ROBERT BAER, Chief, Engineering Issues Branch,  
RES

RICHARD CORREIA, Security Chairman, NRR

WILLIAM RUSSELL, Associate Director, Inspection  
& Technical Assessment, NRR

OWEN ROTHBERG, Engineering Issues Branch, RES

TOM TIPTON, Vice President, NUMARC

CORBIN McNEILL, President & COO, Philadelphia  
Electric Company

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P R O C E E D I N G S

(10:00 a.m.)

CHAIRMAN SELIN: Good morning, ladies and gentlemen. We are pleased to welcome the staff and representatives from NUMARC, Nuclear Management Resources Council, to brief the Commission on progress and future plans for implementing the Maintenance Rule, 10 CFR 50.65. The Commission considers this rule and implementation of it to be important to plant safety and, therefore, of course, important to public health and safety.

In July, 1991, the Commission amended its regulations effective July 10, 1996, to add 10 CFR 50.65 monitoring the effectiveness of maintenance in nuclear power plants. This rule requires nuclear power plant licensees to monitor the effectiveness of maintenance activities in order to reduce the likelihood of failures caused by the lack of adequate maintenance.

Since the rule was promulgated, the staff has expended a great deal of effort in order to develop guidance for its implementation. It's been an unusual process. I'd like to say very clearly that the Commission is mindful of the proper relationship between ourselves and between the nuclear power industry, the community that we regulate. However, in promulgating this rule, the Commission recognized the difficulties involved in

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1 developing detailed guidelines, in part because the  
2 technical information necessary to develop the guidelines  
3 is best available from the nuclear industry.

4 The rule was written in broad terms, with the  
5 thought that the more refined guidance would be developed  
6 within two years as the staff gained more experience in  
7 the maintenance arena. To this end, the Commission set up  
8 an usual process for interaction with NUMARC in order to  
9 facilitate the proper transfer of technical information,  
10 which was not established as a privileged relationship  
11 between the staff and NUMARC. We have tried insofar as  
12 possible, and I think quite successfully, to make sure  
13 that all this transfer occurs in public fora where all  
14 parties are invited and can hear what's going on.

15 In July of 1992, the Commission approved the  
16 staff's proposal to endorse NUMARC's implementation  
17 guidelines and the draft regulatory guide monitoring the  
18 effectiveness of maintenance in nuclear power plants,  
19 issued in November of last year.

20 The Commission is looking forward to hearing  
21 from the staff on progress in developing the guidance and  
22 on their plans for resolving the comment and finalizing  
23 the regulatory guide. In addition, NUMARC will brief the  
24 Commission on lessons learned from its pilot validation  
25 and verification program that tested the NUMARC

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1 implementation guidelines in actual plants.

2 Do any of the Commissioners have opening  
3 remarks?

4 (No response.)

5 I gather, Mr. McNeill, that you will start with  
6 the NUMARC presentation and then we'll go on to the staff  
7 presentation?

8 MR. McNEILL: Yes, sir.

9 CHAIRMAN SELIN: Good morning.

10 MR. McNEILL: Good morning, Mr. Chairman and  
11 Commissioners. I'm Corbin McNeill. I'm the President and  
12 Chief Operating Office of the Philadelphia Electric  
13 Company. A major part of my corporate responsibility is  
14 the direction and management of the Limerick and Peach  
15 Bottom nuclear generating stations.

16 With me at the table this morning is Tom Tipton,  
17 who is the Vice President of NUMARC Operations, Management  
18 and Support Services Division responsible for issues such  
19 as the Maintenance Rule implementation, this morning's  
20 area of discussion.

21 Also with us in the rear are Warren Hall, Walt  
22 Smith, Dan Rains and Jim Eaton, who are the managers and  
23 project managers within NUMARC responsible for the  
24 development of the industry maintenance guideline and the  
25 validation and verification program. Joe Colvin, the

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1 President and Chief Executive Officer of NUMARC, who would  
2 normally attend with us today, is on travel and sends his  
3 apologies for not being with us today.

4 As a member of the NUMARC Executive Committee  
5 and the Board of Directors, I participate with other  
6 industry executives in the formation of policy of generic  
7 application to the nuclear industry.

8 Throughout my naval and civilian career, I have  
9 had particularly strong association with the issue of  
10 maintenance at nuclear generating plants, and currently I  
11 am the Chairman of the NUMARC Maintenance Working Group  
12 that consists of senior executives responsible for the  
13 generation of electricity through the nuclear power at 43  
14 power plant units in the country. The names and  
15 affiliations of the Working Group participants are  
16 included as an attachment to my prepared remarks. The  
17 working group provides oversight and guidance to the  
18 NUMARC process for the development of industry guidance  
19 for Maintenance Rule implementation.

20 Tom Tipton, Joe Colvin, and I also serve as the  
21 industry interface with senior NRC management to assure  
22 that industry policy matters associated with the  
23 implementation of the Maintenance Rule are appropriately  
24 addressed.

25 We appreciate this opportunity this morning to  
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1 discuss with you the results of the development of the  
2 industry guideline and being able to do so in a reasonable  
3 and cost effective manner from the standpoint of the  
4 industry. It has been a challenge to develop a process  
5 that provides the necessary balance between flexibility  
6 and specificity, and that promotes consistency within the  
7 industry and while at the same time assures an appropriate  
8 degree of regulatory assurance for the NRC and the general  
9 public.

10 The industry has expended significant effort in  
11 developing the industry guideline. Four separate Ad Hoc  
12 Advisory Committees were formed that involved  
13 representatives from 33 utilities responsible for  
14 operating nearly 75 percent of the nuclear power plants in  
15 this country. The expertise assembled included, for  
16 example, individuals knowledgeable in probabilistic risk  
17 assessment, reliability centered maintenance, codes and  
18 standards, and the nuclear plant reliability data system.  
19 Maintenance managers and senior reactor operators were  
20 also key participants in these advisory groups.

21 Additionally, we had very active involvement of  
22 representatives from EPRI, INPO, and NUMARC. Countless  
23 hours were spent on first understanding the intent of the  
24 rule and then developing the necessary guidelines. This  
25 was particularly, I think, a demanding challenge since

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1 this was the first of the performance-based rulemaking  
2 undertaken by the NRC.

3 Following the development of the guidelines and  
4 the detailed industry review, the guidance was subjected  
5 to a very detailed verification and validation process.  
6 And without a doubt, we brought our extensive experience  
7 and knowledge in maintenance to bear on the issues at all  
8 levels within the industry.

9 A major element of the continuation of that  
10 process on your part has yet to be developed, and that's  
11 the NRC's inspection module. And at the conclusion of my  
12 remarks today, I'll address that in a little more detail  
13 in some of our comments in that area, in just a few  
14 minutes.

15 I'd like to address three areas briefly today.  
16 They are the process that was established to address the  
17 implementation of the maintenance rule, the results to  
18 date of the industry verification and validation programs  
19 which will be undertaken by Tom Tipton, and where we go  
20 from here.

21 We found that the cooperative but yet  
22 independent process established for proceeding with  
23 implementation of the final maintenance rule was a unique  
24 one that has achieved more than we really had anticipated  
25 at the beginning. It can and should serve as a model for

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1 addressing future complex issues and rulemaking  
2 implementation. And I commend you individually for  
3 providing the methodology, and the staff for its very  
4 professional execution.

5 There are, I believe, five critical factors or  
6 elements that helped to make this thing work as well as it  
7 did. First was the involvement of the NRC's senior  
8 management, including yourselves, the Commissioners, from  
9 the very beginning. And this included you and your  
10 technical assistants' participation at least viewing of  
11 the publicly held meetings that we've had, and we  
12 understand the periodic briefings with your staffs that  
13 kept you abreast of what was in fact transpiring in those  
14 meetings.

15 Secondly, the participation by your senior staff  
16 at the NRC to address the policy issues that were  
17 identified during the development of the guidance,  
18 followed by the industry and staff each working  
19 independently and sharing the results of each other's  
20 efforts in a public forum to develop the details and  
21 understandings necessary for the policy implementation.  
22 We've had several very productive meetings with the NRC  
23 Steering Committee chaired by Jim Snizek, and this  
24 process has worked, in our opinion, very well.

25 The most important but third on my list that I

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1 think was critical to the success of this was the staff  
2 development of the draft regulatory guidance rather than  
3 that of a contractor. This has been a very refreshing  
4 experience for us in that the staff knew the basis for the  
5 draft guidance being developed, it was not being  
6 interpreted. As a result, the dialogue was clear and  
7 meaningful, the confidence level was high in the  
8 discussions and, most importantly, the decisionmaking was  
9 prompt and decisive. In the popular parlance of  
10 management gurus today, the cycle time was very short as  
11 we moved through the development. This is a very  
12 important aspect of the process that should be introduced  
13 in other areas where possible.

14 I also believe that this element of the process  
15 will form a corporate history for the NRC which will  
16 provide a clear basis for development of your inspection  
17 module and guidelines.

18 Next, the staff's observation of the industry's  
19 execution of the verification and validation process. In  
20 the beginning, there seemed to be some skepticism on the  
21 part of some of the staff of how serious we were in really  
22 testing the draft industry guidelines that had been  
23 developed. We believe that having observed the depth and  
24 the detail of each utility, that each utility has gone  
25 through, that the skepticism has been dispelled

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1 significantly. This builds trust and understanding that  
2 is important to the continued existence of our industry,  
3 and there is, I believe, a stronger recognition between  
4 the industry and the Commission staff that we have strong  
5 mutual objectives to provide reasonable assurance of  
6 public health and safety.

7 And the final element was the candor with which  
8 the industry and the NRC expressed their views, bringing  
9 their own different perspectives up front and on the  
10 table, despite the public nature of many of the meetings -  
11 - of all the meetings that were held. If concerns are not  
12 clearly stated during the process, it can, in fact,  
13 adversely affect the outcome and, in some cases, could, in  
14 fact, destroy the process. Our respective positions and  
15 the concerns that we made clear to everyone -- and I  
16 believe, to everyone's credit, that these were, in fact,  
17 made clear. For example, we stressed that the  
18 implementation of the maintenance rule should not require  
19 two maintenance programs -- one to provide the necessary  
20 maintenance to safely and reliability to operate the plant  
21 in our terms, and another to comply just with the  
22 maintenance rule.

23 Some of this candor made front page news in some  
24 of the trade press, and I believe that that's the price of  
25 the candor and openness are at risk in this kind of a

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1 process, but I think that the openness and the candor  
2 itself do, in fact, provide a message of openness that  
3 can, in fact, be well received in the general public.

4 As I'm sure you would agree, these five elements  
5 that resulted from our efforts in developing the industry  
6 guidance are not unique to the maintenance rule but can be  
7 applied when addressing other issues. I encourage us both  
8 to use the lessons learned in the future as we proceed  
9 with other initiatives discussed in detail with you last  
10 week by Gene McGrath and other members of the NUMARC  
11 Executive Committee.

12 Tom will now brief you on the results of the  
13 verification and validation program.

14 CHAIRMAN SELIN: Before you move on to Mr.  
15 Tipton, I'd like to make a couple of general comments in  
16 response to these remarks. They are really not  
17 specifically oriented towards this process, but the  
18 implications that you've drawn for the future.

19 The Commission, as you well know, is dedicated  
20 to the concept of moving to performance-based regulation  
21 where possible, and that's very attractive in many ways.  
22 It says that we don't prescribe in detail how you do your  
23 job, we look at the results and hold the results up  
24 against technical standards and see if these results are  
25 consistent with what we are looking for.

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1           Furthermore, in a process like this there are  
2           two implications. The first implication is that the  
3           industry, or in specific cases the licensee, gets the  
4           first shot at defining what will be done and how it will  
5           be done, rather than the staff prescribing how that's  
6           going to happen. And so that requires that there be more  
7           interaction, more questions, more cooperation, since going  
8           in, a lot of the technical knowledge is in the industry's  
9           hand and not in the staff's hand, and it's necessary that  
10          the staff get this technical knowledge.

11                 The second implication is that we will be more  
12          and more, if we follow this policy, allowing the industry  
13          to take the lead and not just defining how the job will be  
14          done, but implicitly what has to be done.

15                 Now, this is a positive approach in many senses,  
16          but it does mean that we have to be very, very careful to  
17          distinguish places where we are learning from the people  
18          who we will regulate some of the technical complexities  
19          that are involved in their own peculiar processes, rather  
20          than trying to impose a standard process. But it's very  
21          important that all kinds of careful checks and balances  
22          are observed to make sure that we don't go beyond that  
23          step and get advice from the regulated industry on how the  
24          regulation ought to be carried out and what the objectives  
25          are, that the objectives are very clear, they are the

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1 government's responsibility. The technical knowledge  
2 necessary to carry out these objectives requires more  
3 technology transfer and communication than when one  
4 follows a prescriptive set of rules.

5 That's all positive, but it does mean that on  
6 the one hand, we have to be very careful about where we  
7 seed the initiative and where we maintain the initiative.  
8 And the second is the discussion in the trade press that  
9 you alluded to, Mr. McNeill, I thought, very graciously,  
10 but effectively in the sense of saying it's a necessary  
11 evil. It's not a necessary evil, it's an absolute  
12 essential that if we are to have a process where there's  
13 much more technical communication, there has to be a  
14 countervailing process, be it the press or the intervenors  
15 or what have you, to make sure that we have equal  
16 conversation to keep us from going beyond the point of  
17 exchanging technical information and perhaps putting  
18 ourselves in your shoes. Having all this communication  
19 carries the risk of an identity of views or just a casual  
20 and unconscious acceptance of a point of view, and having  
21 the trade press, intervenors, et cetera, also very much  
22 involved in this, I think, will serve as a practical  
23 reminder to make sure that we pay attention to the fact  
24 that all parties have to have an opportunity to discuss  
25 and have their views made present.

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1           So, this technical cooperation, as I said at the  
2 NUMARC meeting, cannot be accompanied by a sense of  
3 coziness, but rather a sense of professional respect and  
4 open communication, to which you alluded.

5           I think my own opinion is we've done fine in the  
6 maintenance area, but we need to make sure that we don't  
7 go beyond the levels that we have in the maintenance area,  
8 to allowing the regulated community to draw up the agenda  
9 or to make the first recommendation on what the standards  
10 are to be met.

11           So, there are a lot of positive lessons to be  
12 learned here, but there are a number of provisos that have  
13 to be followed in the future. I'm not at all  
14 uncomfortable with what has been done up until now, but I  
15 want to make sure that we don't just keep going further  
16 and further in that direction without paying attention to  
17 the proper roles of all the parties.

18           MR. McNEILL: Tom Tipton.

19           MR. TIPTON: Thanks, Corbin. Good morning.

20           There were nine plants involved in the  
21 verification and validation process. I need to emphasize  
22 that what we tried to do in setting up this program for  
23 the V&V was to select plants that were not involved in the  
24 development of the guideline itself because we felt that  
25 would be a better test when we went through it with

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1 someone completely unfamiliar with it. So, were  
2 successful in selecting seven out of the nine utilities  
3 who had not been involved at all in the development.

4 The plants that participated are included as an  
5 attachment to my prepared remarks. All four nuclear steam  
6 supply system vendor types were represented in the  
7 program. Over the last four months, there has been  
8 intense involvement by each of these utilities; the  
9 purpose was determine if it is clear how the industry's  
10 maintenance guideline works or if additional clarification  
11 is needed. This detailed verification and validation  
12 process exercised all elements of the industry's  
13 guideline. There were seven objectives in developing the  
14 verification and validation program, and the objectives  
15 and the results to date are as follows.

16 The first objective was to test the ability of  
17 utilities to understand and use the industry guideline to  
18 implement the maintenance rule. The participants in the  
19 V&V program concluded that the guidance can be implemented  
20 as written. However, it was noted that some clarifications  
21 of the guidance would be beneficial to the user.

22 The second objective was to determine the extent  
23 to which non-safety related structures, systems and  
24 components that are used in the emergency operating  
25 procedures should be excluded. The V&V utility

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1 participants generally concluded that most of the non-  
2 safety related SSCs in the emergency operating procedures  
3 should be included. Exceptions were identified during the  
4 process. For example, there are some systems included in  
5 the emergency operating procedures to protect key systems  
6 such as the turbine that have only economic benefit and do  
7 not contribute to accident mitigation.

8           The third objective was to identify and evaluate  
9 the use of PRA and other methodologies for use in  
10 identifying risk significant and plant level performance  
11 criteria. It was concluded, as a result of the V&V  
12 process, that PRAs used in conjunction with expert panels  
13 identify the risk significant SSCs effectively. PRA or  
14 expert panels used alone have limitations that are  
15 overcome by their use in combination.

16           The fourth criteria was to verify that the use  
17 of the guideline will result in similar, but not  
18 necessarily identical, results among utilities. The V&V  
19 utility participants concluded that many differences in  
20 results are attributable to actual configuration  
21 differences and not to guidance ambiguities. This is a key  
22 element of the V&V findings in that it has to be  
23 recognized when an individual utility is inspected, care  
24 must be taken in attempting any comparison between similar  
25 units because of their different configurations. There

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1 may be differences in the system selected as well as the  
2 performance criteria established. However, based on the  
3 findings of the V&V, there were good justifications for  
4 these differences.

5 Our fifth objective was to identify lessons  
6 learned that facilitate the rule implementation among all  
7 utilities. The implementation of the rule will affect  
8 utilities differently due to the different approaches that  
9 went into developing the individual maintenance programs  
10 and the state of implementation for each of the utilities.  
11 This includes the utilities' in-house capability, existing  
12 software and databases, as well as individual utility  
13 objectives and approaches for implementation. Key  
14 differences among some V&V participants were due to  
15 system/train bounding and the databases that currently  
16 focus on component data collection rather than system or  
17 train data. Some utility performance monitoring, cause  
18 determination and corrective action may need to be  
19 expanded.

20 Our sixth objective was to identify the cost to  
21 implement the rule using care not to understate the  
22 estimated implementation cost. Our preliminary average  
23 non-recurring initial cost in labor hours is approximately  
24 16,000 hours, that's approximately eight person-years per  
25 plant. The average annual recurring cost was estimated to

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1 be around 5800 hours per year, or about three person-years  
2 per plant. We plan to provide information to the industry  
3 on the anticipated resource needs and how to efficiently  
4 and effectively focus them.

5 CHAIRMAN SELIN: Could I stop you for a minute?

6 MR. TIPTON: Sure.

7 CHAIRMAN SELIN: My understanding was that this  
8 type of maintenance that we're talking about, was  
9 maintenance that well run plants would be doing anyway and  
10 poorly run plants ought to be doing. So, when you talk  
11 about resource implications, are there offsetting  
12 resources that go over these net increments to what the  
13 average plant is already doing in the way of maintenance?

14 MR. TIPTON: In looking at the V&V reports,  
15 there are not necessarily net increment increases because  
16 of the rule. In one report I noticed that they had  
17 indicated that they were anticipating an additional  
18 person-year to a person-and-a-half-year because of the  
19 administration of the program, in tracking the maintenance  
20 failures, the repetitive failures, reviewing industry  
21 data, et cetera, as required by the maintenance rule. So,  
22 I can't say that it is an increment in all cases.

23 MR. McNEILL: I would add the following. There  
24 was a degree of variability between various plants which  
25 suggests that some people will have significantly less

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1 implementation manpower devoted to this, and others may  
2 have more. I think one of the preliminary conclusions  
3 that you might draw from that is, what is the current  
4 state of the maintenance programs at those plants. So,  
5 we'd have to do a little more testing on that to do it,  
6 but there was in excess of 100 percent difference at some  
7 facilities in the implementation, and I think that there  
8 is some conclusion that you could draw, that that's  
9 because they have a different degree of maintenance  
10 program.

11 CHAIRMAN SELIN: The one-time cost I could see  
12 because if you go from one system to another system,  
13 there's a cost to do that. But I'd be quite interested as  
14 time goes on, at the operating cost. Most of the  
15 paperwork, as I understand it, is paperwork that people  
16 think ought to be done anyway, not additionally to meet  
17 our requirements. As Mr. McNeill says, there'd be a big  
18 range of resources depending on what today's maintenance  
19 is. It would be really good if we could get some sense in  
20 the future of whether the improved maintenance has led to  
21 lower operating costs or lower operating effects by doing  
22 preventive maintenance instead of losing availability of  
23 devices. But I guess that's beyond the immediate focus of  
24 your program.

25 MR. TIPTON: We didn't focus on that for the  
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1 V&V.

2 Our last objective was to determine if  
3 implementing the rule by use of this guideline results in  
4 benefits to the industry, especially in regulatory areas.  
5 It is clear as a result of the V&V program that some  
6 utilities will benefit from implementing the maintenance  
7 rule and updating individual maintenance programs.  
8 However, it is also recognized that some utilities will  
9 expend resources to implement the rule with no significant  
10 benefit to their maintenance activities because of the  
11 effectiveness of the programs that they have previously  
12 established.

13 As we have discussed with the staff before,  
14 there may be changes to the regulations that should be  
15 made as a result of the final maintenance V&V program.  
16 For example, during the V&V program the utilities  
17 collected and provided us a large amount of data  
18 associated with containment leak rate testing, the  
19 requirements of Appendix J of 10 CFR 50. It was noted as  
20 a result of the review of this test data that a large  
21 majority of the penetrations and valves that are required  
22 to be tested do not fail. As discussed in our December 21  
23 letter to you, Chairman Selin, the NRC was encouraged to  
24 evaluate Appendix J in light of the performance criteria  
25 and pursue appropriate regulatory modifications.

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1 Corbin?

2 MR. McNEILL: Are there any questions that you  
3 might have of Mr. Tipton?

4 CHAIRMAN SELIN: I have a general question, but  
5 it's not in response to something you've raised.

6 MR. McNEILL: Okay. Then I'll finish and then  
7 we'll go over it.

8 COMMISSIONER REMICK: Excuse me, I have one on  
9 Appendix J. I'm not sure I understand, Tom, what you just  
10 said about Appendix J, what you found and the implications  
11 on Appendix J.

12 MR. TIPTON: Well, when we went through the  
13 exercise, we asked each of the utilities to provide us  
14 data on what they had seen. And we had utilities give us  
15 input from one to six outages. In other words, they went  
16 back at least six cycles to see what they had found. And  
17 in several cases, for example, in five outages, 200  
18 penetrations had been tested and two had failed out of the  
19 200. What we were finding was the trend based on  
20 historical data, in effect, penetrations just are not  
21 failing due to the testing.

22 So, our suggestion would be to look at a  
23 performance-based philosophy based on historical record,  
24 just like we're doing in maintenance.

25 COMMISSIONER REMICK: Performance-based Appendix  
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1 J, is that --

2 MR. TIPTON: That's correct.

3 COMMISSIONER REMICK: Okay. Thank you.

4 COMMISSIONER de PLANQUE: I'd just like to  
5 follow up on your seventh item. You said some utilities  
6 will be expending resources without a positive benefit.  
7 The implication is they were ahead of the pack in doing  
8 the maintenance programs essentially, anyway. Is that the  
9 proper inference?

10 MR. TIPTON: I think it is in that we had one  
11 individual utility in the V&V program that had not only  
12 finished their IPE, but they had a very detailed  
13 reliability centered maintenance program. They had  
14 developed all of this technology in-house. And their  
15 response to us was they would not really see much in the  
16 way of benefit because of their programs, but they would  
17 see approximately 1500 person-hours per year additionally  
18 because of the administrative burden to do it.

19 COMMISSIONER de PLANQUE: Just the  
20 administrative burden, not a need to change the program  
21 per se to comply with --

22 MR. TIPTON: They didn't see any major change in  
23 their programs, no.

24 COMMISSIONER de PLANQUE: Okay.

25 MR. McNEILL: The next question that we intend

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1 addressing is where do we go from here? In addition to  
2 our efforts to develop and verify the industry guideline  
3 in the V&V program, we have responded to the NRC Federal  
4 Register notice requesting comments on your draft  
5 regulatory guide. In our response we described changes to  
6 the industry's guideline that we are considering based on  
7 the results of the V&V program as well as other comments  
8 from the industry.

9 The next step, from our point of view, is to  
10 review with the staff the comments received on the  
11 industry's guideline as well as changes we are considering  
12 incorporating by March of this year, and then to finalize  
13 that guidance by June of this year.

14 Following the finalization of the industry  
15 guideline, NUMARC plans to hold two three-day workshops in  
16 July and August to cover in detail the results of the V&V  
17 program, changes made to the regulatory guideline, and to  
18 provide a detailed discussion of how to properly implement  
19 the guideline and to do so effectively and efficiently.

20 We anxiously await the development of the NRC's  
21 inspection module associated with this regulation. I must  
22 stress that a major concern of our industry continues to  
23 be how our facilities will be inspected against a  
24 performance-based regulation. During the public comment  
25 period of the draft regulations, NUMARC has spent many

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1 hours with individual utilities discussing those  
2 individual utility concerns regarding the potential that  
3 the scope of the rule could be unnecessarily expanded or  
4 utility implementation inappropriately evaluated. It is  
5 clear, as a result of the V&V program, that the NRC should  
6 not compare one plant to another during inspections, but  
7 evaluate the individual plant based upon its actual  
8 performance, taking into account its individual design  
9 characteristics and the effectiveness of its maintenance  
10 programs.

11 We have received assurances since the start of  
12 this process that the industry would have meaningful input  
13 in a public forum into the review of the inspection  
14 module. We are prepared to do so and look forward with  
15 keen interest to similar interactions.

16 In conclusion, I'd like to stress two key points  
17 as we go forward in this process. It is imperative that  
18 the Commissioners continue to be involved in the process  
19 through the final development of the industry guideline,  
20 that the NRC's inspection module and the associated  
21 training required to fully implement this first of a kind  
22 "performance-based" rule. It's very important that we  
23 continue interacting during the three years remaining  
24 prior to the final implementation, or full implementation,  
25 in July of 1996, as issues come to NUMARC's attention, and

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1 to the NRC's attention, that we resolve them in a  
2 satisfactory and timely manner. We need to continue to  
3 have candid and well thought out discussions during the  
4 three-year implementation period. We look forward to  
5 continuing our discussions with the staff and with the  
6 senior management of the NRC as we go forward.

7 Thank you very much, and we would be pleased to  
8 answer any questions that you might have.

9 CHAIRMAN SELIN: I'd like to start off with a  
10 fairly specific question, and then allow my colleagues to  
11 come in. I have some general comments and questions at  
12 the end.

13 I wasn't here during the preparation of this  
14 rule, so I missed some of the history and some of the  
15 interesting interplay, but reading the rule as it resulted  
16 -- I have sort of a general question and then a specific  
17 question for you -- and it has to with the 50.65, Parts  
18 (a)(1) and (a)(2), the requirements for monitoring the  
19 effectiveness of maintenance in nuclear power plants. Let  
20 me just tell you both questions.

21 The general question is, as you read this, how  
22 do you see the difference in the implications for what  
23 utilities will have to do, depending on whether an SSC is  
24 put into paragraph (a)(1) or paragraph (a)(2)? And then,  
25 specifically, how would you determine for a given SSC

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1 where you think it ought to be, under which paragraph it  
2 ought to be? In other words, the general question is,  
3 from your point of view as you read this rule, what do you  
4 see the implications for the utility in performing  
5 maintenance on SSCs that fall in paragraph (a)(1) versus  
6 SSCs falling in paragraph (a)(2), and then, more  
7 specifically, how would you see looking at an SSC and  
8 trying to determine, from your point of view, where it  
9 belongs?

10 MR. McNEILL: My opinion on that is that the  
11 actual maintenance that will be done, if properly -- if  
12 the maintenance routines are properly generated, either on  
13 an experiential basis or on an engineered basis like in a  
14 reliability centered maintenance program, that the true  
15 impact of the rule is more in the monitoring and the basis  
16 of the monitoring and the basis of the performance, and  
17 that management will have a better view of the  
18 effectiveness of that maintenance on specific systems,  
19 components and structures than they might otherwise have  
20 done absent the rule.

21 Secondly, there is in the rule a process --  
22 or at least in the implementation of the rule -- a process  
23 that should identify repetitive, faulty, improper or  
24 lacking maintenance, and would provide a feedback  
25 mechanism to correct that. And I personally think that

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1 that's appropriate in some measure to the application of  
2 this to the life extension issue, is that there is a  
3 feedback mechanism built into this process that requires  
4 correction if, in fact, you don't meet certain maintenance  
5 standards.

6 Now, we have struggled -- I think that the  
7 biggest struggle that we've had in developing the  
8 guidelines and in our discussions with the staff, has been  
9 around the (a)(1)/(a)(2) category and defining those. And  
10 very candidly, we, I believe, have ended up with a  
11 document that complies with the rule, but is somewhat  
12 different than envisioned by the drafters of the rule but,  
13 in fact, makes more sense when applied in a plant  
14 situation.

15 CHAIRMAN SELIN: But in practice, do you see a  
16 big practical impact for an SSC, depending whether it's  
17 (a)(1) or (a)(2), or is it just a modest difference?

18 MR. McNEILL: No, it's a modest difference,  
19 because if you don't -- if you are not performing  
20 effective maintenance in (a)(2), you are going to end up  
21 in (a)(1).

22 CHAIRMAN SELIN: So, you would see a process by  
23 which SSCs would go back and forth, depending --

24 MR. McNEILL: Some would, some of them will stay  
25 in (a)(1) because of their safety --

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1 MR. TIPTON: In (a)(2).

2 MR. McNEILL: -- in (a)(2) -- well --

3 MR. TIPTON: Maybe we should quickly go through  
4 the process as set up in the guideline. Basically, the  
5 way the process works is you identify those systems,  
6 structures, and components that are in the maintenance  
7 rule, and then through a PRA or a critical system  
8 analysis, et cetera, you determine those systems,  
9 structures, and components that are risk significant, and  
10 those that are risk significant and those that are  
11 standby, you would have to identify performance criteria  
12 to evaluate them against.

13 Now, if they meet the performance criteria based  
14 on historical record -- and our historical record is two  
15 refueling outages before 1996 -- they would stay in  
16 (a)(2). The third group would be those non-safety related  
17 systems that are operating, such as feedwater system, that  
18 would have their performance criteria at the plant level -  
19 - scrams per thousand operative hours, et cetera.

20 So, the performance criteria would be set up.  
21 You evaluate your systems, structures, and components  
22 against that criteria. If they don't meet it, you go to  
23 (a)(1) and establish goals for two reasons. The first  
24 reason was our first goal was to make sure we had one  
25 maintenance system, not two; the second was if you have a

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1 goal on a system, it would be clear to the management that  
2 it's not meeting its performance criteria. In other  
3 words, there is a significance to the word "goal". And so  
4 in establishing the guideline, when the V&V program went  
5 through that, they established, for instance, the  
6 availability as a performance criteria, then they went  
7 back and looked at the last two cycles. If they had the  
8 acceptable availability, let's say, that was used in their  
9 IPE, then they would stay in (a)(2) under the preventive  
10 maintenance program but, if they didn't, they could move  
11 into (a)(1).

12 CHAIRMAN SELIN: So, on day one there could be  
13 quite a bit of difference from one plant to another about  
14 what systems are (a)(1) or (a)(2).

15 MR. McNEILL: That is correct.

16 MR. TIPTON: Absolutely, based on historical  
17 record.

18 CHAIRMAN SELIN: I see.

19 MR. McNEILL: And that is one of the  
20 realizations that we came to, that we had to -- even  
21 though the rule does not become effective until 1996, you  
22 have to really be implementing it prior to that in the  
23 plant so that you hit 1996 with the required data and  
24 performance criteria already well in hand.

25 CHAIRMAN SELIN: Well, let me just go on to  
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1 this, and then I'll turn it over to the rest of the  
2 Commission. Would you see any systems being so important  
3 to safety that they would be in any one initially,  
4 regardless of the plant performance -- in other words,  
5 just across-the-board?

6 MR. TIPTON: Not the way we've set this up, no -  
7 - the reason being we tied to the performance of that  
8 system, okay?

9 CHAIRMAN SELIN: In that plant.

10 MR. TIPTON: In that plant.

11 CHAIRMAN SELIN: As opposed to industry-wide  
12 performance.

13 MR. TIPTON: That's right.

14 CHAIRMAN SELIN: I mean, if diesels were running  
15 at 92 percent reliability instead of 98 percent  
16 reliability, you still wouldn't be --

17 MR. TIPTON: They would be (a)(1).

18 MR. McNEILL: They would be back --

19 CHAIRMAN SELIN: Across-the-board.

20 MR. TIPTON: Well, no. If a diesel at that  
21 utility was not meeting its reliability --

22 CHAIRMAN SELIN: That's not the question I'm  
23 asking. The question I'm asking is, are there systems  
24 that are so important to safety and where the industry-  
25 wide performance is not so exceptionally good that you

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1 would start off and say they are all in (a)(1) in every  
2 plant until a given utility can show it's much better than  
3 the overall standard?

4 MR. TIPTON: Not the way we set this procedure  
5 up, no.

6 MR. McNEILL: But the end result is that you  
7 will get what you're looking for.

8 MR. TIPTON: If it's not performing.

9 MR. McNEILL: Well, you're going to get it  
10 monitored even beyond --

11 CHAIRMAN SELIN: Let me just tell you why I'm  
12 asking this question, is that when we talk about  
13 performance monitoring, we usually are talking about the  
14 performance of one plant compared to the industry average  
15 but, in fact, a lot of the performance monitoring is  
16 industry-wide. You know, if you have small samples, you  
17 may not have good data on one plant to another about  
18 variations, and the question is, across all 107-108  
19 plants, what is the performance of this system, and your  
20 answer leads me to believe that you believe for the major  
21 the major systems you can determine characteristics on a  
22 plant-by-plant basis, even though some of these samples  
23 are pretty small.

24 MR. TIPTON: Well, it's also required in the  
25 maintenance rule that you evaluate against industry data

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1 where applicable. And in the diesel situation, there's  
2 industry data that you're required to review against.

3 CHAIRMAN SELIN: Okay. Commissioner Rogers?

4 COMMISSIONER ROGERS: I wonder if you would  
5 comment a little bit on how many significant plant systems  
6 aren't entered into the NPRDS database that really are  
7 needed to be able to make this judgment of dispositioning  
8 of SSCs into Category I or Category II.

9 MR. TIPTON: In the industry?

10 COMMISSIONER ROGERS: Yes, the data isn't  
11 entered into the NPRDS system really, on some systems. I  
12 think the Instrument Air system is one that was mentioned  
13 here. How many important systems do you feel there is an  
14 inadequate database in NPRDS?

15 MR. TIPTON: The only one that I can remember  
16 going through the reports was the Instrument Air, but you  
17 have to understand that they don't rely just on NPRDS,  
18 CFAR, et cetera. They basically look first at their plant  
19 history on those systems and at a system/train level.  
20 Now, there will be situations where you'll want to go to  
21 the component level because it's an isolation valve  
22 between systems. But generally speaking, I think one or  
23 two of the V&V programs did go back and go through their  
24 NPRDS database systems compared to the industry, to do a  
25 check on where they are relative to the industry, but it's

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1 more based on their plant's history at that plant.

2 The other thing that complicates it a little  
3 bit, you have to understand we're looking for maintenance  
4 preventable failures alone in terms of making the  
5 decision. So, that wrinkle's in there.

6 COMMISSIONER ROGERS: On these workshops that  
7 you plan to hold in July and August, who's going to  
8 participate in those?

9 MR. McNEILL: I don't think we've come to that  
10 conclusion, but I would see these in a manner similar to  
11 a number of workshops that we've had, that we will  
12 probably have both NRC and NUMARC presenters at the  
13 workshops.

14 MR. TIPTON: We will definitely -- I'm sorry.

15 MR. McNEILL: I would think we will invite the  
16 NRC to participate.

17 MR. TIPTON: Yes.

18 COMMISSIONER ROGERS: Well, you know, just along  
19 the lines that the Chairman referred to very early, on the  
20 importance of openness in this process, do you expect that  
21 any other organizations might be able to participate if  
22 they wish to?

23 MR. TIPTON: In the past, what we have done is  
24 we have the utilities, INPO, EPRI, et cetera, involved in  
25 our program. Basically, what we do in our workshops is go

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1 through -- for instance, in this case, we would go through  
2 what the V&V plants went through, and be in a position to  
3 answer questions from their point of view. So, since the  
4 workshops will be focusing on the guidelines, that's how  
5 we'd handle it.

6 MR. McNEILL: I think another -- we will get  
7 back to you and give you our opinion on whether --

8 COMMISSIONER ROGERS: Yeah, I think that's worth  
9 taking a look at just to see --

10 MR. McNEILL: It's not clear what their role  
11 would be, whether they would be a presenter -- I'm not so  
12 sure they have the expertise to make the presentations for  
13 the nature of the -- but to be someone in the audience.  
14 We may be able to arrange that, but we'll get back to you  
15 through the NUMARC staff.

16 COMMISSIONER ROGERS: All right. It would be  
17 interesting to hear what your thoughts are on that.

18 CHAIRMAN SELIN: May I just follow up?

19 COMMISSIONER ROGERS: Sure.

20 CHAIRMAN SELIN: If this were a mature process,  
21 and really it is just a communication about how the rule  
22 applies to main feedwater pumps, that would be fine, but  
23 this is an evolving process with implications, as you  
24 drew, Mr. McNeill, that goes far beyond a speech and,  
25 therefore, the importance of not only accepting but going

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1 out of the way to getting a range of opinions of what you  
2 might think of as a technical workshop is essential  
3 because it won't be just the presentation of here's how it  
4 works, it'll be almost certainly further evolution in what  
5 the policy and the process is, and it's essential that  
6 such meetings be not only open, but anybody who has a say  
7 be invited to do that say at that session.

8 I'm sorry.

9 COMMISSIONER ROGERS: No, that's fine. Really,  
10 that's all I wanted to say.

11 CHAIRMAN SELIN: Commissioner Curtiss?

12 COMMISSIONER CURTISS: I just have a couple of  
13 comments and a couple of questions here. I thought the  
14 presentation was generally pretty thorough at summarizing  
15 what obviously reflects a good deal of work that's gone in  
16 since July of 1991.

17 Let me say a word or two about the process  
18 because I, in many respects, share the observations that  
19 the Chairman made, and would like to pick up on your  
20 comments, Mr. McNeill, about where we go from here. I  
21 have several comments I'd like to make.

22 First, I think, from my perspective, that this  
23 process that we've employed which, in many respects, was  
24 necessitated and appropriate because of the fundamentally  
25 different kind of regulatory approach that's been taken in

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1 this rule and, hence, needed and, I think, benefitted from  
2 senior attention both within the agency and within the  
3 industry.

4 The process, in my view, as it's been undertaken  
5 so far, has been a model of the way we in carrying out our  
6 independent responsibilities, and you in ensuring that you  
7 have sufficient flexibility to adopt approaches that may  
8 differ from plant-to-plant but nevertheless will achieve  
9 the objective or goal that we've established in this rule.  
10 This process, I think, comes pretty close to the mark in  
11 terms of being about an ideal process.

12 It is not without its vulnerabilities, the  
13 Chairman has summarized those, and I think there are  
14 vulnerabilities in terms of the impression that we're in  
15 cahoots in developing this approach, or somehow it's not  
16 being done in a fully open process, that we need to be  
17 sensitive to, and I'd like to say a word or two about that  
18 because I think there are things that we have done and can  
19 think about doing in the future to make sure that there is  
20 as inclusive a process that will benefit from a wide range  
21 of views, not just those represented here in the agency or  
22 within the regulated community, that will serve to improve  
23 the regulatory product from the standpoint of our job,  
24 which is to ensure that the public health and safety is  
25 protected.

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1           It ought not to be lost upon anybody that this  
2 process has been in some respects a confrontational one.  
3 Beginning from the very outset -- confrontational, I  
4 think, productively so -- beginning from the outset, I  
5 will note when the industry as a whole opposed adoption of  
6 a maintenance rule that the Commission, nevertheless, for  
7 reasons that I think have been borne out in the subsequent  
8 developments, believed were appropriate and necessary.

9           Secondly, my sense, having watched this process  
10 rather closely and having attended some of the meetings  
11 and read all the minutes and been briefed on a continuing  
12 basis, is that we set out in the clearest and most  
13 unequivocal terms what our objectives were as an agency in  
14 terms of implementing this rule, and I think there came  
15 pretty close to the mark at the outset as well. There was  
16 a lot of productive discussion on how we achieve those  
17 objectives, but very little give on what the objectives  
18 were in terms of the performance of SSCs within a plant.  
19 And if there has been any accommodation here in that  
20 regard, I'd commend you for the significant movement that  
21 you've taken in the direction of what the staff insisted  
22 upon from the very outset in terms of how this rule had to  
23 be implemented. And I think that's been productive, been  
24 a lot of give-and-take on the prescriptive details. We've  
25 certainly benefitted from the V&V program, which I think -

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1 - and I'll get back to in a minute -- gave us a technical  
2 perspective, as the Chairman emphasized, that we wouldn't  
3 otherwise have if we didn't have the benefit of a program  
4 like that.

5 I think the process has been a useful one. I  
6 think, as I say, and I've suggested in other contexts with  
7 all the caveats, about the need for openness. These  
8 meetings have all been conducted in a public fashion, and  
9 the opportunity for people to comment and to address --  
10 raise and address issues, that this process can and  
11 perhaps should be used in other contexts, not just limited  
12 to performance-based regulatory initiatives where there  
13 was a unique justification for it here.

14 I read with great care your comments on the  
15 development of the inspection guidance, and I have, in  
16 fact, come to recognize that the inspection guidance for  
17 this rule is a matter of great sensitivity because that's  
18 where the "rubber hits the road" when we go out and  
19 inspect against what this rule in this guidance now will  
20 hopefully accomplish.

21 And I haven't given a good deal of thought to  
22 where I come out personally on the question of how to  
23 achieve the same kind of interaction effectively, in an  
24 open way, on the inspection guidance as we've achieved on  
25 the development of the guidance for the rule itself, but

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1 I do think because we are talking about inspection  
2 guidance, there are some considerations that warrant  
3 taking a careful look at how we approach our respective  
4 responsibilities in the development of that guidance, and  
5 I'd like you to think about that. Our people, I know,  
6 have thought about it because I've talked to them about  
7 it.

8 One thought that I would toss out for your  
9 consideration -- and I don't need your reaction at this  
10 point unless you'd like to -- we have, for the development  
11 of the interim inspection guidance, which is the guidance  
12 that now governs inspection of maintenance programs  
13 between 1991 and 1996, employed a process that it seems to  
14 me might appropriately balance all the competing  
15 considerations, and I would commend it to you for your  
16 consideration here. Our people are hard at work on the  
17 development of the inspection guidance, and I think we'll  
18 hear more about that when they make their presentation.

19 I would offer the thought that perhaps what we  
20 ought to do is take the inspection guidance when our  
21 people complete its development and give it their best  
22 effort -- we'll find out when that is here shortly --  
23 publish it for public comment so that it will get the  
24 widest possible public opportunity for vetting, if you  
25 will, and maybe in conjunction with that and similar to

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1 what we did on the interim inspection guidance, conduct a  
2 workshop, we would conduct a workshop -- and I haven't  
3 raised this with the others, but it's an approach that the  
4 Chairman has suggested in the context of Part 52 and I  
5 think worked remarkably well there. We have used it for  
6 the interim inspection guidance and it worked there as  
7 well, and it might provide an opportunity for you to take  
8 a look at what our staff believes would be a first good  
9 cut at the inspection guidance to have an interaction like  
10 we've had in this context, but it's to ensure that there's  
11 an open forum where anybody else who wishes to interact,  
12 after being published in the Federal Register, would have  
13 that opportunity. And I toss that out for your reflection  
14 as we move to the next step.

15 I do have a handful of specific questions that  
16 I would like to ask you. Picking up on Commissioner  
17 Rogers' question about NPRDS, I, too, had the same  
18 question, but from a slightly different perspective.  
19 Instrument Air is the one system that you have determined  
20 is risk significant, that is not reported in the NPRDS  
21 context. And while I think you've described appropriately  
22 and accurately how an individual licensee will set the  
23 goals and performance criteria under this rule, the  
24 question, I guess, that recurs in my mind is, in the  
25 experience with the V&V program, did we learn anything

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1 about the comprehensiveness of the NPRDS system that might  
2 suggest that as an industry-wide effort, NPRDS in certain  
3 respects perhaps could be more useful for the purposes  
4 that Commissioner Rogers laid out, to gain industry-wide  
5 experience and to fill the gaps that might exist today in  
6 the NPRDS reporting system, so that can complement in a  
7 more effectively way what we are doing in the maintenance  
8 context.

9 MR. TIPTON: Commissioner Curtiss, based on the  
10 experience of the nine V&V plants, their conclusion was  
11 overall at this time that there didn't need to be a change  
12 in the NPRDS database, okay -- but that's a sample of the  
13 industry.

14 As we go forward in full implementation for the  
15 industry, we may see a benefit, a need, et cetera. So, I  
16 can't close out changes, but just based on what we have  
17 gleaned from the reports and the feedback from the nine  
18 plants, they didn't see changes in the NPRDS at this time.

19 COMMISSIONER CURTISS: Okay. Well, I'd  
20 encourage you to take a look at that. I know our folks in  
21 AEOD over the years have focused on the question of how  
22 durable and comprehensive the NPRDS database is. It would  
23 be extremely valuable here in taking into account the  
24 industry-wide experience in setting goals and performance  
25 criteria not required, but -- NPRDS is not a system that's

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1 required to do that, but it seems to me it could be  
2 extremely beneficial if any shortcomings that have been  
3 identified can be addressed here.

4 Second, the one major change that you have  
5 proposed, or major expansion, if you will, in the  
6 guidance, is in the area of the use of PRAs. Could you  
7 say a word or two more on how, based upon your comments,  
8 you'd propose applying PRAs in the risk significance  
9 context?

10 MR. TIPTON: I will get out of my area very  
11 quickly if I go too far on this, that's why I have the  
12 experts behind me, but what happened was, when we  
13 originally developed the concept of risk significant  
14 systems, we were looking at it in terms of contribution to  
15 core melt frequency, but other schemes came up during the  
16 V&V process that were equally applicable to make that  
17 decision on which systems were risk significant.

18 And, so, what we developed -- there were major  
19 changes to the guidelines after the V&V, as a result of  
20 that, to make that determination of which systems had the  
21 major contribution to reducing risk and identifying those  
22 systems through the PRA, and then based on that providing  
23 that to the expert panel for those areas where there's  
24 uncertainty or the model didn't cover the modes, all modes  
25 of the plant operation -- for instance, refueling outage

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1 where you have RHR as an active system instead of a  
2 standby system.

3 And, so, with that combination of the two, and  
4 the fact that through the V&V they came up with the  
5 "risk/worth" criteria, that's why we had the major  
6 changes. But I want to emphasize that PRA is not the only  
7 way, as in the guidance, that you can get a handle on the  
8 risk significant systems.

9 COMMISSIONER CURTISS: I was impressed with --  
10 I read the section here that you propose to expand upon,  
11 the risk achievement worth section in 9313, and I must say  
12 I was impressed with the work that's been done, and it's  
13 really come as a result of the V&V program where it's  
14 gotten greater focus, to define in more detail how PRAs  
15 might be used in this context, and give some practical  
16 meaning to the IPEs that will be coming in here and can be  
17 used, I think, very effectively in this context.

18 MR. TIPTON: Yes.

19 MR. McNEILL: I think that we recognize not only  
20 that, but we recognize that IPEs have not yet broadened  
21 beyond a certain set of operating conditions for the plant  
22 -- generally, the operating plant as opposed to the shut-  
23 down plant.

24 And, secondarily, we acknowledge that there is  
25 uncertainty associated with PRA calculations, and that you

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1 can, in fact, use human minds to interface with that and  
2 interpret those results more than you necessarily can with  
3 statistics.

4 COMMISSIONER CURTISS: Okay. Just two other  
5 quick questions and then I'll be done here. On the  
6 (a)(1)/(a)(2) question, Corbin, you had an interesting  
7 comment that you didn't think it was quite in accord with  
8 the drafters of the rule and what they were thinking at  
9 the time. And as one who was around at the time and  
10 involved in the drafting of the rule, I guess my view is  
11 that we've seen some evolution in whether a system,  
12 structure, or component will start out under (a)(1) or  
13 (a)(2), but two comments that I guess I'd make.

14 First, it ought not to be lost sight of that  
15 whether you're under (a)(1) or (a)(2), that distinction  
16 has been the focus of a lot of discussion because there  
17 are two separate sections there that have different  
18 requirements associated with them, but it ought to be  
19 emphasized that there's a good deal of monitoring, as that  
20 term is understood in the (a)(1) context, that will go on  
21 in the (a)(2) context of licensees' PM programs, and  
22 because of the discussion of the difference between the  
23 two, I think we've seen the distinctions between the two  
24 breakdown a little bit. There's been this, I know,  
25 obsession with having systems all start out under (a)(2)

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1 and stay there because of a fear of what (a)(1) might  
2 cause a licensee to have to do, but from my own personal  
3 perspective I think that the rule itself is sufficiently  
4 flexible to accommodate this outcome. In fact, I think  
5 it's a reasonable outcome and, from my perspective, this  
6 approach is fully in accordance with the rule itself, if  
7 there was any question --

8 MR. McNEILL: I have no question about that, but  
9 it has, in fact, gone through a lot of interpretation,  
10 public interpretation. I think we're fully in compliance  
11 with the rule. Part of the problem came from the  
12 definitions of terms in the beginning, which were not all  
13 fully defined -- what is monitoring as opposed to what is  
14 data taking, and things of that nature.

15 COMMISSIONER CURTISS: In that regard, let me  
16 ask you, based upon the effort that you've undertaken to  
17 date, are there any modifications or changes to the rule  
18 itself that you believe we need to consider?

19 MR. McNEILL: I don't think we are prepared to  
20 answer that question right now. We do know, or let's say  
21 we're cognizant of the fact that there has been some  
22 discussions about a minor modification of the rule at  
23 sometime before it's full implementation date, and I think  
24 that as time goes on and we work our way through this,  
25 that we may have some suggestions there, but --

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1 COMMISSIONER CURTISS: Okay.

2 MR. McNEILL: Go ahead.

3 MR. TIPTON: There's one that's had a lot of  
4 discussion, and that is instead of annual review, go in a  
5 fuel cycle because you get data during a refueling cycle.

6 COMMISSIONER CURTISS: Right. That's the one  
7 that I'm aware of.

8 MR. McNEILL: That's the only very physical one  
9 that I know of.

10 COMMISSIONER CURTISS: Okay. You don't know of  
11 any other -- there are no others that you believe need to  
12 be made?

13 MR. McNEILL: No. I think we have been able to  
14 construct implementation guidelines that implement the  
15 rule satisfactorily, and do so in an effective manner from  
16 the industry's viewpoint, and not require a rule change  
17 other than that one specific one.

18 COMMISSIONER CURTISS: Okay. Finally, on the  
19 question of how this approach might fit into or be  
20 integrated with the license renewal rule, do you have a  
21 sense based upon your experience -- obviously, to the  
22 extent that one might look to this rule as providing a  
23 database related to performance of SSCs that are covered  
24 under both rules, the question that arises, how long do  
25 you need to develop that database?

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1           Mr. McNeill, I think you touched on the question  
2 of utilities needing to get going on the implementation  
3 rule prior to 1996. Do you have a sense, based upon your  
4 V&V program, as to what period of time in implementation  
5 of the rule, one would need in order for the performance  
6 of SSCs to settle out in terms of whether they are under  
7 (a)(2) and addressed appropriately, under (a)(1) and the  
8 subject of goals, to give you a good database under your  
9 belt?

10           MR. McNEILL: I'm going to ask Mr. Tipton to  
11 address that, and I'm going to provide one further comment  
12 on the issue.

13           COMMISSIONER CURTISS: Okay.

14           MR. TIPTON: The way we set up the guidelines  
15 and the fact that we hopefully will finalize them in June  
16 of this year, we think the three-year time frame between  
17 now and full implementation we'll have sufficient time  
18 with the data we've already collected, to collect the  
19 necessary data to make that determination in terms of  
20 their performance.

21           COMMISSIONER CURTISS: Okay. I don't want to  
22 put words in your mouth, but if the licensee implemented  
23 this rule during that three-year period come July 1st of  
24 1996, the potential that you see for application of this  
25 rule in the license renewal context would lead you to say

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1 that we ought to have sufficient information upon the  
2 performance of SSCs to say that the maintenance program  
3 either is or isn't working effectively for that particular  
4 SSC?

5 MR. McNEILL: I believe that's the case, and  
6 certainly no more than one year beyond that particular  
7 case.

8 Now, I'd like to -- I know there's been a great  
9 deal of discussion about maintenance rule applicability to  
10 the life extension rule, and I'd like to give you one  
11 example that we've in fact had at our Peach Bottom  
12 station, and it's not a life extension issue, but it's  
13 very, I think, relevant in this case.

14 Back in the 1960s, the popular power cable at  
15 that time was made with a dielectric material -- and I do  
16 not know the specific name of it -- which in a moisture  
17 environment has broken down under a process that's  
18 referred to as "treeing", and it applies not only to power  
19 plant, but in fact we see it on our transmission and  
20 distribution systems. And we have had a failure at Peach  
21 Bottom from that. We did the appropriate diagnosis, and  
22 we have in fact gone in and sampled other cables by  
23 pulling them out and examining them. And I would say that  
24 that's the kind of outcome that should occur in the  
25 maintenance program that in fact provides relevance to a

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1 broad area of the aging issue for it.

2 So, I am personally -- and I'm not speaking for  
3 the industry here -- I do think that there is a great deal  
4 of relevance of the implementation of the maintenance rule  
5 to plant life extension and building the requisite data  
6 necessary to support life extension.

7 COMMISSIONER CURTISS: Okay. That's all I have.

8 CHAIRMAN SELIN: If you'd just forgive me for  
9 one minute, I'd like to follow up on this question of rule  
10 changes that of all the areas where we must be absolutely  
11 certain that everybody has an opportunity to comment on  
12 that, not just the licensees, that is the critical area.  
13 Obviously, any recommendations for rule changes that come  
14 from the regulated community will be vetted for interest.  
15 Do you have any other suggestions as to how that area can  
16 be kept wide open?

17 MR. McNEILL: We had no anticipation that the  
18 rule change that we might suggest would be handled in  
19 anything other than the Commission's routine process for  
20 modifying its existing rules, which would include open  
21 public comment, and public notice, and whatever.

22 CHAIRMAN SELIN: Yeah, but there's another hat,  
23 which is the experience that has been gained through these  
24 joint working areas might suggest to other people rules  
25 changes. We need to figure out a way to make that

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1 experience publicly available so that -- your conclusion  
2 is only one change is necessary. Somebody else might  
3 conclude something different.

4 MR. McNEILL: I believe they have a process to  
5 submit recommended rule changes to the Commission, I  
6 believe.

7 CHAIRMAN SELIN: Commissioner Remick?

8 COMMISSIONER REMICK: What impact, if any, do  
9 you foresee on the implementation of the maintenance  
10 guidance document, depending on whether the inspection  
11 guidance comes out sometime reasonably soon versus being  
12 delayed for several years? Do you see any impact on the  
13 implementation by utilities?

14 MR. McNEILL: Well, I see -- there will be a  
15 risk, let's say, at least a perceived risk in doing that.  
16 We are in the first of a performance -- you know, the  
17 first example of a performance-based rule. There is --  
18 there was industry concern on how we were going to  
19 implement that rule. There has been industry concern  
20 about how it will, in fact, be enforced. And I think,  
21 though, if we wait too long, there will be an uneasiness  
22 out there as to whether I'm doing it right or not. And,  
23 you know, we would suggest that there be development of a  
24 module, that that module be piloted a number of times  
25 early in the process, before the rule is fully effective,

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1 and that the lessons learned from that be brought back  
2 into the industry, and there may be some lessons for the  
3 staff to understand also.

4 I think we have the basis of a good -- the other  
5 reason for not waiting too long is that the individuals  
6 and the NRC's corporate history that's been involved in  
7 the verification and validation and in the dialogue that's  
8 gone on in the development of the guidance will evaporate  
9 with time, and if you don't codify those thoughts and  
10 understandings fairly early in the process, you may end up  
11 with an enforcement document that is quite different than  
12 the basis under which the guidelines were developed.

13 So, I would suggest that the sooner we move  
14 ahead with a draft document, the better off we would be.

15 COMMISSIONER REMICK: I certainly share those  
16 views because I think more than one occasion, the  
17 implementation of a rule through the inspection process  
18 was different than my interpretation of what the rule was,  
19 so I agree with that.

20 I'm very pleased with the outcome of this  
21 interaction on developing regulatory guidance. I'm  
22 personally not aware of any law of nature that says that  
23 knowledge, wisdom, experience, or insight increases as one  
24 gets closer to the Potomac, and I strongly favor the  
25 process carried out by a number of other regulatory bodies

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1 in other areas of the world, in which those who have the  
2 expertise to contribute to complex issues like the  
3 development of this guidance, sit down around the table  
4 and work it out in an open forum, and I think that should  
5 be done and not worry about what the trade press, how they  
6 might report it.

7 I personally know of no other agency in this  
8 town that's more open than this agency, and I applaud that  
9 openness and certainly want it to continue. In fact, I'm  
10 so much in favor of openness that I favor that this  
11 maintenance rule in its present forum should have gone out  
12 for public comment, which it did not. I think through that  
13 we might have improved upon paragraphs (a)(1) and (a)(2)  
14 so that they are more consistent with the way that they  
15 are being implemented. But I'm very pleased with the  
16 process that we went through. I think we should not put  
17 it to rest. I think there are other areas where it can  
18 work, and so I am, as I say, very pleased with the  
19 interaction between the staff and those who participated  
20 in the development, and I hope that our staff -- and I  
21 realize they have resource limitations and other  
22 priorities -- but as soon as we possibly can work on the  
23 inspection guidance, I hope that we can.

24 CHAIRMAN SELIN: Thank you very much,  
25 Commissioner Remick. Commissioner de Planque?

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1 COMMISSIONER de PLANQUE: I have no further  
2 questions.

3 CHAIRMAN SELIN: Okay. I have a couple of  
4 comments to make. First of all, obviously, I feel the  
5 same way that Commissioner Remick does about the openness,  
6 but what we are essentially inviting people to do is to  
7 comment on this rule as we see -- not to spend so much  
8 time looking at the rule before we see the regulatory  
9 guidance, but having the guidance in hand, we're inviting  
10 the world to go back and take a look at the rule and  
11 saying, having the guidance worked out, are there changes  
12 that ought to be made in the rule.

13 The second is that I would like to point out  
14 that we did issue the interim guidance for comment, which  
15 is quite unusual in our case. We felt obliged that since  
16 the industry was putting so much of a cooperative effort  
17 into working on the regulatory guidance, that the interim  
18 guidance -- you ought to have a chance and the world ought  
19 to have a chance to take a look at the interim guidance to  
20 see if it was a step in the right direction or the wrong  
21 direction. So, this process has led to a lot of  
22 communication at a lot of different levels in what I think  
23 is an appropriate fashion.

24 Third is I'd like to make just a short comment  
25 about the NPRDS in a generic sense. I said before,

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1 remember, performance is both industry performance and  
2 power plant performance, individual plant performance. To  
3 the degree that there are industry statistics, these are  
4 the a priori probabilities that go into the testing or the  
5 evaluation of the individual plant. There's a big  
6 difference between having some plant statistics but no  
7 industry statistics, in which case that's your only basis,  
8 and having industry statistics and say going in the  
9 reliability is such-and-such, let's see what additional  
10 information comes up. So, whether it's through the NPRDS,  
11 which a lot of us are comfortable with, or some other  
12 device, effort has to go into getting industry-wide  
13 statistics, not just rely on the plant statistics to  
14 determine the best estimates of probabilities. For a  
15 small sample or unusual features, you'd be very hard put  
16 to look at, I don't know, a containment failure, or  
17 something like this, on a plant -- structural problems on  
18 a plant basis, when these are very usual events.

19 So, once you consistently try to use industry-  
20 wide statistics in a statistically valid way to arrive at  
21 the plant estimates.

22 Finally, I'd just like to say this has been, by  
23 all accounts, a very successful process, and it was not  
24 ordained, from what my colleagues tell me at the  
25 beginning, that it wouldn't work out so well. I think

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1 that because the process has been so successful, it has  
2 been essential that we make these admonitions to you about  
3 not just casually extending the process to other areas  
4 where the prerequisites of transfer of technical  
5 information and the ability to lay it all out on the table  
6 may not follow. It's really a compliment to what you've  
7 done rather than a complaint about what you've done that's  
8 led to these general comments. And in particular, from my  
9 own experience with this process, I have to say that Mr.  
10 McNeill's leadership has been invaluable, and we hope that  
11 it's volunteered for many future projects in an equal  
12 fashion. So, thank you.

13 MR. MCNEILL: If I might conclude with just a  
14 personal observation, and maybe a suggestion, and I'm  
15 speaking now for myself and my company possibly, but not  
16 NUMARC or the industry. I have been a strong believer in  
17 what I would call a revolution in the regulatory process  
18 in this business, recognizing that that takes time and  
19 takes testing and takes what I refer to as "baby steps" at  
20 times, but I think I agree that some of the observations,  
21 this has been, from my viewpoint, a very successful  
22 process. It's been a successful test of a methodology  
23 that might be utilized as we move forward in the  
24 appropriate areas.

25 I think we ought to be proud and confident of  
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1 what we've done rather than too excusatory, if you want to  
2 call it, of some of the dangers that are found here. But  
3 I would suggest possibly in order to solidify the public  
4 confidence in this process, that you undertake, or have  
5 the staff undertake, a modest independent review of the  
6 process that went through here, and have them start back  
7 with the day that the industry was offered the input in  
8 this forum, and test it to see if there's a factual basis  
9 that says that the public interest was protected, openness  
10 and candor were part of the process, and build a history  
11 of that based upon a separate review, that says -- that  
12 documents the fact that this appear to have worked, and  
13 you can provide input from the public on that particular  
14 process also as a basis for doing that.

15 CHAIRMAN SELIN: Thank you very much, Mr.  
16 McNeill.

17 Mr. Taylor?

18 (Whereupon, the first panel stepped back from  
19 the table and the second panel came forward.)

20 CHAIRMAN SELIN: Good morning, Mr Taylor. We  
21 welcome the views of the staff on this issue, both  
22 historical and perspective, and turn the floor over to  
23 you.

24 MR. TAYLOR: Good morning. With me at the table  
25 are members of the NRC Steering Committee which I  
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1 appointed, and the Working Group which we established for  
2 implementing the maintenance rule.

3 On my right, Owen Rothberg and Bob Baer, from  
4 the Office of Research; Jim Sniezek, my Deputy; to my  
5 left, Bill Russell and Rich Correia, from the Office of  
6 Nuclear Reactor Regulation.

7 The regulatory guidance for the maintenance rule  
8 is scheduled to be issued about June 30th of this year,  
9 and the purpose of this meeting is to describe NRC staff's  
10 efforts to develop that guidance as well as the related  
11 inspection procedures and other related activities.

12 Mr. Sniezek has headed the Steering Committee,  
13 and he has been working with the staff on the development  
14 of this guidance, and will brief you on exactly where we  
15 stand and what we've planned ahead. Jim Sniezek.

16 MR. SNIEZEK: Thank you, Jim. Can I have slide  
17 2, please. (Slide)

18 This slide just highlights the topics we'll be  
19 covering during the presentation today. I think it's  
20 self-explanatory.

21 Slide 3. (Slide)

22 The maintenance was published as a final rule in  
23 July, 1991, to be effective in July of 1996. The  
24 Commission directed the staff to have implementing  
25 guidance in place within two years of rule publication, so

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1 that the industry would have sufficient time to make any  
2 necessary changes in maintenance processes and practices  
3 prior to the effective date of the rule.

4           Shortly thereafter, in August, 1991, NUMARC  
5 proposed that the industry develop the guidance necessary  
6 for consistent implementation of the rule. The NRC staff  
7 supported the industry initiative, but concurrently  
8 initiated the development of a detailed regulatory guide  
9 so that the staff could have a guidance in place to  
10 endorse in the event that industry did not come through on  
11 its effort.

12           Slide 4, please. (Slide)

13           Therefore, in August, 1991, a Steering Committee  
14 composed of managers from Research, NRR, and the Office of  
15 the EDO was formed to interface with the senior managers  
16 of NUMARC and industry regarding the key elements of  
17 guidance which the staff deemed necessary for effective  
18 implementation of the maintenance rule. The Steering  
19 Committee also provided appropriate guidance to the NRC  
20 staff who had the task of developing a regulatory guidance  
21 for rule implementation. A working group comprised of  
22 appropriate staff from Research, NRR and the Regions, was  
23 tasked with developing the regulatory guidance in the form  
24 of a detailed regulatory guide.

25           In June of 1992, the staff effort on development

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1 of a detailed regulatory guide was terminated since it was  
2 determined by the working group and the Steering Committee  
3 that the progress of the industry developed guidance was  
4 such that with a few changes it could be endorsed by the  
5 NRC as an effective way of implementing the maintenance  
6 rule.

7 You will note from the composition of the  
8 working group, we even envisioned at that stage that the  
9 implementation by the NRC would require regional input, so  
10 we had regional people on the working group as well as  
11 Research and the Office of Nuclear Reactor Regulation.

12 It's important to note that in carrying out its  
13 functions, the working group received support from various  
14 offices in the PRA, Trends and Patterns, and legal arenas.  
15 The key support personnel are identified on the slide.

16 Slide 5, please. (Slide)

17 The NRC Steering Committee had eight public  
18 meetings with the industry steering committee between  
19 August, '91, and June, 1992, and the working group had  
20 nine public meetings with the NUMARC working group to  
21 resolve a number of issues regarding the industry guidance  
22 documents, once it was decided that the industry developed  
23 guidance document was consistent with the maintenance  
24 rule.

25 NUMARC, in July of 1992, released its draft  
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1 guidance so that we could use it as an endorsement point  
2 in our draft regulatory guide which went out for public  
3 comment. We went out for public comment in November of  
4 1992, and the comment period closed on January 15th of  
5 this year.

6 Slide 6, please. (Slide)

7 As of January 27th, we received comments from  
8 nine organizations plus the Division of Engineering and  
9 Research of the NRC. A quick review of the comments  
10 indicates there are no issues not previously considered by  
11 the staff during the guidance development process. We  
12 still have to do, obviously, a more thorough review of the  
13 comments that we have received. In the event the staff  
14 deems any changes to NUMARC guidance are necessary, we  
15 will so inform NUMARC.

16 Slide 7. (Slide)

17 In addition to the Steering Committee meetings  
18 and the working group meetings, the NRC staff working  
19 group attended as observers four NUMARC verification and  
20 validation meetings between August and November, 1992. We  
21 did that to learn first-hand the views of the industry  
22 regarding the usefulness of the NUMARC guidance document  
23 and to confirm the staff decision to endorse the industry  
24 guidance document. Until we completed that stage, we  
25 weren't positive that we would go through with the

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1 endorsement. I believe that NUMARC described the insights  
2 that came out of the V&V effort, and we won't dwell on  
3 them at this time.

4 We expect NUMARC to provide revised guidance in  
5 the March time frame that we can use in going through  
6 NRC's internal process of the CRGR and ACRS to enable us  
7 to promulgate the final regulatory guide.

8 Slide 8, please. (Slide)

9 Regarding proposed changes to the maintenance  
10 rule --

11 CHAIRMAN SELIN: Before you go on, Mr. Sniezek.  
12 My memory of this process was not as smooth as that which  
13 is depicted at this point. It seems to me that there were  
14 a couple of points where the NUMARC approach and the staff  
15 approach were quite divergent, and it took some hard work  
16 to get them back.

17 MR. SNIEZEK: Early on in the process we had  
18 some very hard meetings, I will call that. In fact, we  
19 were a little chagrined to see the manner in which they  
20 were portrayed in the press, but it was very essential --

21 CHAIRMAN SELIN: Because they were so  
22 inaccurate, or because they were so accurate?

23 MR. SNIEZEK: Well, they were accurate --

24 (Laughter.)

25 CHAIRMAN SELIN: You have to get used to the new

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1 world --

2 MR. SNIEZEK: I guess what -- there's no  
3 problem. We were quite blunt with each other, and I'm a  
4 believer in being blunt whether you're in a public meeting  
5 or you're having an internal staff discussion or what have  
6 you because, if you're not blunt, you don't get the issues  
7 on the table.

8 One of the issues that was discussed by the  
9 Commission with NUMARC was this (a)(1)/(a)(2) concept. We  
10 had a major problem understanding what the industry wanted  
11 to do, at first. And it boiled down very simply. In our  
12 mind, there is very little difference between (a)(1) and  
13 (a)(2). We finally recognized the fundamental difference  
14 is not in what we're going to do in the maintenance area,  
15 but it's the management attention that gets paid to the  
16 issue.

17 In the (a)(2) process, there are performance  
18 criteria which the components and systems and trains will  
19 have to meet. If they don't meet them, then it gets  
20 kicked up to the (a)(1) process and senior management  
21 starts focusing on it and it starts getting trended. But  
22 the fundamental types of maintenance remains constant  
23 whether you're in the (a)(1) or (a)(2) process. We had  
24 quite a few meetings on that issue.

25 Bill -- there are a couple other topics, but

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1     that --

2                 MR. RUSSELL:  There were other issues, whether  
3     you needed to monitor for performance at the train level  
4     rather than just the system level, what constituted a  
5     system failure.  So, there were a number of disputes that  
6     were quite candid and, basically, we got down to  
7     describing the rationale for the positions that were  
8     taking on each side, and what we would deem to be  
9     acceptable and what we were concerned about was somehow or  
10    other coming up with some words that would take the  
11    substance out of what we were trying to achieve with the  
12    maintenance rule.

13                MR. SNIEZEK:  What really worked well is, we had  
14    developed our regulatory guide how we read it, and we were  
15    doing it how we would have done it.  In the meantime, the  
16    industry developed the way they wanted to do it and,  
17    obviously, they weren't in locked step, and we had to come  
18    to an understanding of why the differences exist.

19                COMMISSIONER CURTISS:  Let me emphasize that  
20    point because that was a key -- I don't know if it was a  
21    tactical decision or what have you, but the decision,  
22    perhaps driven by the schedule, to develop what the staff  
23    believed to be an appropriate guidance document for the  
24    implementation of this rule.  I know a lot of work went  
25    into that by Owen and Bob and some other people, and

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1 considerable effort to think through in careful detail  
2 what the staff expected.

3 Having that out on the table and laying out the  
4 expectations that you had in terms of the objectives in  
5 the clear and unequivocal fashion that you did, in my  
6 view, gives this process an important perspective. That  
7 is to say, it was clear and up front and open right at the  
8 outset, with the details, the prescriptive implementing  
9 details subject to the back-and-forth, what it is that we  
10 expected out of this process. And the observation that I  
11 made when the industry representatives were here, that  
12 there was a lot of give-and-take, but with respect to the  
13 objectives, those were laid out in clear and unequivocal  
14 terms. And that decision to put that guidance document  
15 out, I thought, helped catalyze the process and focus the  
16 thinking and was a useful step.

17 MR. SNIEZEK: If I could digress just a moment  
18 at this time, I had mentioned that it made the process  
19 even more difficult to reach resolution because we had  
20 sort of solidified our thoughts and, you know, once a  
21 regulator solidifies their thoughts, it's very difficult  
22 to get them to change. But that did preserve their  
23 original objectives, so there was no question that the  
24 original objectives would be met. And that may be a thing  
25 we want to consider in the future. It's different than

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1 from starting from scratch and sitting around a table and  
2 just thinking about it from two different sides. When you  
3 both have your positions put down and then start knocking  
4 heads, I think you get a better product overall.

5           Going on, changes to the maintenance rule.  
6 Early in the guidance development effort, it became clear  
7 that the evaluation period should be changed to every  
8 refueling outage since the normal full maintenance cycle  
9 is based refueling cycles. A proposed rule change is  
10 being developed by the staff and should be ready to go out  
11 for public comment by the time the maintenance guidance is  
12 finalized in June of '93.

13           MR. TAYLOR: This will go through our standard  
14 process.

15           MR. SNIEZEK: Standard process.

16           Slide 9, please. (Slide)

17           Related NRC activities. There are several  
18 related NRC activities. One is license renewal. The  
19 staff is of the belief that the licensee's implementation  
20 of the maintenance rule can fulfill many of the  
21 requirements for an effective program to address age-  
22 related degradation under the license renewal rule. This  
23 will be suggested in the discussion section of the  
24 regulatory guide for the maintenance rule, and can be  
25 detailed in the regulatory guidance for the license

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1 renewal rule.

2 The staff's exact proposal remains to be fully  
3 developed, and will be presented to the Commission in  
4 March of this year when we discuss the license renewal  
5 rule.

6 Diesel generator reliability. In June of '91,  
7 the Commission gave staff direction to develop a rule  
8 pertaining to diesel generator reliability. A proposed  
9 rule and reg guide was issued for public comment last  
10 year. Based on the comments and further staff review, we  
11 believe that the industry guidance document for the  
12 maintenance rule can be modified to use the diesel as a  
13 specific example for treatment under the maintenance rule,  
14 and this would eliminate the need for a separate rule and  
15 reg guide on diesel generator reliability. The example  
16 would include both the reliability and availability  
17 aspects of the diesel generator. NUMARC is developing  
18 guidance to put into their guidance document to use this  
19 as an example, and we will be coming shortly to the  
20 Commission with a paper and follow up with a direction to  
21 issue a rule on the diesel generators, and provide some  
22 options to the Commission of which one of the options will  
23 be to use the maintenance rule and the example of the  
24 diesel in the regulatory guidance as fulfillment of what  
25 we need to have for the diesel generator. That will be up

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1 in, what, the March time frame, I believe, it will be  
2 before the Commission.

3 Could I have slide 10, please. (Slide)

4 CHAIRMAN SELIN: Let me just say, that sounds  
5 sort of cute to me, I have to tell you that. Please make  
6 sure that when you look at this proposal, you take a look  
7 at the implications and precedents for dealing with what  
8 amounts to the rule change in the guidance document. It's  
9 not that we need a lot more rules, but somehow that has a  
10 feeling of being a little bit too cute.

11 MR. PARLER: We don't have any precedents that  
12 say you can change a rule in a guidance document, that I'm  
13 aware of. If we do have them, I wouldn't follow them.

14 CHAIRMAN SELIN: I'm sorry, it's not change a  
15 rule, we don't have rules today, but it's a --

16 MR. SNIEZEK: This would obviate the need for a  
17 new rule.

18 MR. TAYLOR: Could.

19 MR. SNIEZEK: Could.

20 CHAIRMAN SELIN: I did say it, I didn't say it  
21 properly, but it's an area in which we've at least  
22 considered that a rule was the appropriate vehicle, and if  
23 we don't do it by rule but by guidance, let's make sure we  
24 carefully think out what are the implications.

25 MR. SNIEZEK: And it has to be based on the  
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1 public comment that we have received so far on this.

2 CHAIRMAN SELIN: Okay.

3 MR. TAYLOR: We'll bring that to the Commission,  
4 obviously. I'm sure if we do that, we have an agreement.

5 MR. SNIEZEK: The NRC inspection procedures.  
6 The NRC inspection procedures are to be developed by the  
7 staff immediately after the regulatory guide issuance.  
8 Since the regulatory guide is to be the basis for  
9 inspection procedure acceptance -- this is very important  
10 -- we expect the procedures to be drafted by mid '94, and  
11 to hold public workshops and conduct staff training in  
12 that time frame.

13 It is important to note at the public workshops  
14 we will specifically invite not only industry, but various  
15 public interest groups to participate in that workshop.  
16 Shortly after we have the workshops and refine our  
17 inspection procedures and conduct staff training, we will  
18 be conducting pilot inspections. We're shooting for the  
19 late '94 time frame to conduct our pilot inspections.

20 In our mind, it is very important that a  
21 consistent performance-based regulatory philosophy, as  
22 espoused in the rule, be portrayed in the guidance  
23 document, in the NRC inspection procedures, and regulatory  
24 interpretations made by our field inspectors. We believe  
25 that the above process will help ensure the consistency as

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1 well as a common understanding by the licensee and the NRC  
2 staff regarding expectations.

3 Slide 11, please. (Slide)

4 Schedule for completion of the regulatory guide.  
5 As I mentioned, public comment period has closed. Public  
6 comments will be resolved by the end of March, '93. We  
7 will be going through the ACRS and CRGR processes in April  
8 and May, and we expect to issue the regulatory guide in  
9 final form by the end of June, '93.

10 CHAIRMAN SELIN: How does the diesel issue fit  
11 into this schedule?

12 MR. SNIEZEK: It will be before the Commission  
13 before then, so that it -- in the March time frame the  
14 Commission will get the diesel issue to make a decision  
15 on.

16 CHAIRMAN SELIN: And there will have already  
17 been sufficient public comment that the Commission can act  
18 on that then?

19 MR. SNIEZEK: We have already received public  
20 comments. They've been examined, and they're forming part  
21 of the basis of our recommendation to the Commission.

22 This concludes the staff's presentation.

23 CHAIRMAN SELIN: Commissioner Rogers?

24 COMMISSIONER ROGERS: Yeah. Just on some of the  
25 comments that you received, could you indicate what the

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1 nature of the Division of Engineering Research comment  
2 was?

3 MR. SNIEZEK: The Division of Engineering -- and  
4 I'll paraphrase it; I just spent ten minutes looking at  
5 it, so I haven't done a thorough analysis, and I'd ask  
6 other people to chime in if they so desire -- is that, in  
7 my mind, it was trying to change the maintenance guidance  
8 document into an aging guidance document, change it more  
9 into a license renewal guidance document, which also means  
10 that we have a lot of work to do with our staff yet, to  
11 make sure they understand how this all ties together.  
12 That was it, in my mind, in a nutshell, Commissioner. Do  
13 you have anything you want to add to that, Bill?

14 MR. RUSSELL: I would just add that the major  
15 emphasis appeared to be on the Class I structures and some  
16 of the components which we have not yet captured with rule  
17 change, that we're looking at, related to tanks and other  
18 components. We're working on endorsing later versions of  
19 the ASME code which would capture some, and there is some  
20 experience with Class I structures. But we have not, at  
21 this point in time, concluded that they should be given  
22 treatment within the scope of the maintenance rule.

23 COMMISSIONER ROGERS: Uh-huh. Okay. Of the  
24 comments from the outside, there really seemed, at least  
25 in the materials that we received, only two that were --

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1       seemed to be negative and how would you regard those two -  
2       - the substance of those two negative approaches? One was  
3       the Illinois Department of Safety and the other was from  
4       Centerior Energy. It seemed to me the Illinois Department  
5       of Safety comments really related, really, almost  
6       philosophical, and they related to a totally different  
7       view of what regulation ought to be in this area, quite  
8       contrary to the one that the Commission adopted, in which  
9       we specifically took the position that a performance-based  
10      rule was what we were looking for, and we really wanted to  
11      emphasize the responsibility of the licensee to define --  
12      look very carefully and define those systems which really  
13      needed maintenance activities, and to justify that  
14      definition. Whereas the Illinois Department of Safety  
15      seemed to feel that unless the regulator made that  
16      definition, that it wasn't going to result in an effective  
17      maintenance program. I wonder if you might comment from  
18      your point of view on that.

19               MR. SNIEZEK: Commissioner, I think you read it  
20      just the same way I read it but, again, it was a very  
21      quick look at it and we haven't really focused that hard  
22      yet.

23               Bill, or anybody else -- Owen, I think you  
24      probably looked harder than anybody else so far.

25               MR. ROTHBERG: What they were outlining was a

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1 prescriptive rule that was, well, rejected by the  
2 Commission in '91. A lot of those points, those specific  
3 points that the Department of Illinois came up with, were  
4 right out of some of the background material for that  
5 prescriptive rule.

6 COMMISSIONER ROGERS: The comments that you made  
7 a little bit earlier about the importance of the staff  
8 attempting to make its own guidance before you had to  
9 comment on the industry view of this, to me, that's a very  
10 important process. I agree with you totally that it gives  
11 for a much better result. I'm not sure that it has to be  
12 contentious, necessarily, although I suppose there will be  
13 some of that inevitable -- inevitably will creep in -- but  
14 the staff sitting down and really trying to do the job  
15 itself before commenting on somebody else's efforts, I  
16 think, is very salutary. You have a much better feeling  
17 about what you think the issues are, and I think that is  
18 terribly important.

19 How would you characterize the important  
20 differences, though, between the staff's approach and the  
21 industry's approach here in developing the guidance?

22 MR. SNIEZEK: I think the important difference  
23 was they took it from an implementation standpoint and  
24 what it meant to the plant staff and the management of the  
25 plant and the time expenditure of the various people in

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1 the plant staff, where we took it more head-on with these  
2 are the right things to do, you should have goals, you  
3 should have training, et cetera. They ended up doing the  
4 same thing, but it really broke down to what level of  
5 management do they really want to focus in the plant, on  
6 the issues whereas under (a)(2), whether you're meeting  
7 your performance criteria in your maintenance program, may  
8 be judged by the plant manager and the maintenance manager  
9 and the operations manager under (a)(1), if you find you  
10 weren't meeting that and it gets kicked up to (a)(1), the  
11 trending and the goal-setting to get back so you are  
12 meeting your performance criteria, would be looked at by  
13 the vice president -- VP, Nuclear -- at that level. So,  
14 it's more -- we saw it as a delineation of who is really  
15 doing the job in the utility. And that was hard for us to  
16 get into at first, and we had a lot of discussion on that.

17 COMMISSIONER ROGERS: Yes. Uh-huh. I see.  
18 Well, I think that's helpful to see that. Somewhere there  
19 was a reference to the concept of the appointment of an  
20 expert panel to bring together PRA and the IPE results,  
21 and I wondered if you had any thought of how such expert  
22 panels might be set up, or whether there's been any  
23 experience in trying to do that, particularly in this area  
24 of prioritizing SSTCs -- and I notice we now have a "T" in  
25 that collection that didn't used to be there.

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1 MR. SNIEZEK: I'd ask Bill Russell if he would  
2 address that, please.

3 MR. RUSSELL: Well, the process -- in fact, my  
4 looking at the proposed changes to how they define "risk  
5 significance", I think what came out of V&V is, in fact,  
6 a step in the right direction. It has both deterministic  
7 processes that are followed from the standpoint of  
8 identifying importance of maintenance and maintenance  
9 work, summing those up and then making judgments about how  
10 much improvement you can get with maintenance as it  
11 relates to reliability and availability, and then  
12 subjecting that to the individuals and the plant staff  
13 both that would have risk experience, maintenance  
14 experience, and operations experience, to test that  
15 because there are a lot of uncertainties in the process.

16 And, so, I would characterize it more combining  
17 those two features rather than using one or the other.  
18 And, in fact, the methods that they've defined in their  
19 comments appear to me to be a step in the right direction.  
20 It's using importance measures, whether you're using  
21 importance measures for change in core damage or potential  
22 improvement in risk as a result of maintenance assuming  
23 maintenance was perfect, and how much improvement can you  
24 achieve. So, the techniques seem to be reasonably well  
25 thought out, and the process is one of then applying that

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1 to judgment and testing what comes out numerically to see  
2 if it makes sense.

3 COMMISSIONER ROGERS: But this panel you would  
4 see as being composed entirely of people from the plant  
5 itself --

6 MR. RUSSELL: Yes.

7 COMMISSIONER ROGERS: -- or the licensees --

8 MR. RUSSELL: The way it's envisioned now is  
9 that this would be done with licensee resources. Whether  
10 they brought consultants in or others to assist them with  
11 the process would be up to them, but it would be a process  
12 that would be executed by the licensee.

13 COMMISSIONER ROGERS: Did you have any comments  
14 on the NUMARC definition of "criteria" for the risk  
15 reduction worth listed in 9.31.1?

16 MR. RUSSELL: As it relates to the comments we  
17 received, we're still reviewing those in detail. What  
18 I've given you is what I'd characterize as kind of a top  
19 level review. We still need to go through those in some  
20 detail. We have received comments from the staff, and we  
21 have not yet reviewed those internally with the steering  
22 group. Once we do that, we plan on having a public  
23 meeting with NUMARC to review their comments as well as  
24 other comments we've received. There are some areas that  
25 we feel we may want to make some changes to the NUMARC

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1 guidance, for staff reasons, and that process is ongoing.

2 COMMISSIONER ROGERS: I see. All right.

3 MR. RUSSELL: So, rather than giving an answer  
4 now, I'll give you the general feel, and that is we think  
5 it's going in the right direction, and that it is an  
6 improvement, but we don't have detailed comments on it at  
7 this point.

8 COMMISSIONER ROGERS: Well, those are the only  
9 detailed questions or comments I have, except that I think  
10 that this -- I really want to echo some of the remarks  
11 that Commissioner Curtiss made earlier, that this started  
12 out a little bit rocky road, but it has, I think, proven  
13 to be a very successful approach to dealing with issues  
14 where the responsibility clearly -- and leadership --  
15 clearly has to be with the licensee. We don't do  
16 maintenance, they do maintenance. And I think that while  
17 it is a possibly delicate matter of to what extent we are  
18 working hand-in-glove with the licensee in developing  
19 these things, I think that the issue that must be kept  
20 very much in mind is that the more the licensee takes the  
21 initiative, the more they are acknowledging their  
22 responsibility and the less that accusation can be made  
23 that they are only following what we told them to do, when  
24 it's really their responsibility to carry out effective  
25 maintenance.

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1           So, I think that to me the process has been a  
2           very salutary one, and one which, in fact, reinforces the  
3           sense of ownership of the plant by the licensee, which is  
4           absolutely fundamental to long-term safe operation. So,  
5           I think that's something to be kept in mind when one  
6           expresses some concern about how closely we're working  
7           with the industry here. We're forcing them to come  
8           forward with a definition of what they really want to do  
9           and how they want to do it, and that, it seems to me, is  
10          absolutely fundamental to long-term safety.

11           MR. SNIEZEK: Commissioner, I think that's  
12          exactly right, and I'd like to draw something as a  
13          corollary to NRC. The inspection procedures are our  
14          responsibility to go through. And I think it's very that  
15          NRC staff defines what we're going to inspect. Now,  
16          whether or not our acceptance criteria appears to be  
17          acceptance with the guidance documents, I think that's  
18          where we need the feedback from the public and the  
19          industry, but what we inspect is a regulatory  
20          responsibility. I think when we develop our inspection  
21          procedures, we have to keep that in mind on that side of  
22          the coin as well.

23           COMMISSIONER ROGERS: I think that's a very good  
24          point, to draw that distinction, yes. Yes. Well, I'd  
25          like very much to commend the staff for bringing this to

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1 this, I think, very positive point in the development of  
2 the maintenance rule.

3 CHAIRMAN SELIN: Any other comments?  
4 Commissioner Curtiss?

5 COMMISSIONER CURTISS: Let me just summarize.  
6 I don't have any questions except for a couple on the  
7 schedule. The one thing I do want to do is commend  
8 everybody here at the table, as well as a couple of people  
9 who are not here at the table, who have worked so long and  
10 hard on this product from July of 1991. I know from  
11 watching it closely and talking to you and meeting with  
12 you about every other month in that period of time, that  
13 your effort to bring this to the conclusion that it's at  
14 now and, over the course of the next four or five months,  
15 to move forward with the final reg guide and the  
16 development of the response to the comments, has been  
17 truly, I think, commendable and significant. A lot of  
18 long hours went in on this -- Tom Foley and Gary Mazuno,  
19 who are not here at the table but in the room, senior  
20 management within the agency, Tom Murley and Eric Bechjord  
21 who made this process work because it involved the  
22 devotion of people from both NRR and Research -- there are  
23 a lot of people to be commended here, and I've probably  
24 missed some by picking the people that I've selected, but  
25 Rich Correia, Bob Baer, and Owen Rothberg, I must say, and

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1 I'll say so in this public fashion, have done a truly  
2 creditable job here.

3 Just a couple of quick comments and questions.  
4 I'm pleased to see that you're on schedule to have the reg  
5 guide finalized by June 30th of this year. That's been a  
6 point of particular interest to me, and I have watched  
7 with great interest as that schedule, which I keep in my  
8 file on my desk, has continued towards that conclusion for  
9 the reg guide. And I look forward with great interest to  
10 the staff's recommendations on the diesel generator rule,  
11 B-56, which will come up, I guess, in March of this year,  
12 together with your recommendations based upon what we've  
13 done in this context on the license renewal initiative,  
14 that I know NRR and others are working on carefully right  
15 now.

16 Two questions that I guess I'd like to ask.  
17 Where do we stand on the OMB paperwork clearance package?  
18 Has that gone to OMB?

19 MR. ROTHBERG: It went over to OMB on the 21st  
20 of January.

21 COMMISSIONER CURTISS: Do you anticipate, or  
22 have you heard --

23 MR. ROTHBERG: Sixty days.

24 COMMISSIONER CURTISS: They have 60 days to  
25 review that?

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1 MR. ROTHBERG: They have 60 days.

2 COMMISSIONER CURTISS: Okay. All right. I  
3 assume that process will go forward smoothly, but given  
4 our experience with some of the other rulemaking packages,  
5 if there are any difficulties that arise in that context,  
6 I think it would be appropriate to raise those up to the  
7 appropriate level to ensure that they get resolved and  
8 that doesn't become a critical path item.

9 The one-year rule change, I take it there are no  
10 other changes in the rule that the staff will be  
11 recommending, save for the change from the annual  
12 evaluation to an evaluation period that would comport with  
13 the fuel cycle?

14 MR. SNIEZEK: At this time, that's correct.

15 COMMISSIONER CURTISS: Okay. My own view on  
16 that, if that's the case, is that based upon the  
17 relatively focused nature of that issue -- in fact, it's  
18 almost administrative in nature -- in the interest of  
19 making sure that the guidance and the rule change, that  
20 particular one, the OMB clearance package and the  
21 inspection guidance, which I'll turn to in a minute, are  
22 in place as early as possible so that the licensees that  
23 may wish to implement this rule before 1996 can do so, I  
24 would encourage you to move forward as swiftly as possible  
25 with the rule change to modify the one-year provision and,

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1 if that can be done earlier than after the conclusion of  
2 the reg guide and, in fact, if it can be done consistent  
3 with the EDO delegations, I think we ought to move forward  
4 as expeditiously as we can.

5 The inspection procedures, I noted that you've  
6 targeted mid 1994 for the development of those inspection  
7 procedures, and I know because this is the first  
8 performance-based rule, and because of the significant  
9 interest in those inspection procedures as well as the  
10 work that the staff has ongoing in other contexts, that  
11 it's important to take the time necessary to do that  
12 right. And I share Commissioner Rogers's comment, and I  
13 think the comment, Mr. Snizek, that you made, that that's  
14 an instance where it would be useful for the staff to put  
15 down first in its own document what it believes ought to  
16 be the basis for inspection, and because of some aspects  
17 that are unique to the inspection arena, I would encourage  
18 you in that context, as I have already for the industry  
19 participants, to come up with an approach that would  
20 secure the lightest possible public participation, perhaps  
21 even to the point of publishing the inspection guidance in  
22 draft form prior to the workshop so that people can chew  
23 over that and have a good sense of what their concerns are  
24 when they come to the workshop.

25 At the same time, it seems to me that because of

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1 the great interest in this aspect of the program and since  
2 this will be a central component, I think, of the  
3 willingness of licensees to proceed with implementation  
4 prior to 1996, it would behoove us to try to get the  
5 inspection guidance out as promptly as possible so that  
6 they can "see the whites of our eyes", if you will, and  
7 get a sense of what the inspection guidance might look  
8 like.

9 I know a yeoman effort has been devoted to this  
10 task and has gotten us to this, what I think is, a very  
11 successful point, and I trust that same kind of effort  
12 will go into the inspection guidance. And I'll commend  
13 you in advance for the development of that. Thank you.

14 MR. SNIEZEK: Commissioner, one point that  
15 NUMARC raised, and that was the loss of continuity, and I  
16 think, again, in the selection of the working group, we  
17 picked people who are involved, like Rich Correia is a  
18 section chief in NRR, who is responsible from a  
19 maintenance inspection procedure development. So, the  
20 thought process and things of that nature, we're going to  
21 strive -- we will have the continuity -- we won't strive  
22 to, we will have the continuity in that.

23 COMMISSIONER CURTISS: Good.

24 MR. RUSSELL: We've also committed in a  
25 Commission paper that forwarded up the interim guidance,

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1 that we would have public workshops. In the last public  
2 workshop we had, I committed to following a similar  
3 process -- that is, we would notice the availability in  
4 the Federal Register, we would make the documents publicly  
5 available sufficiently in advance, and we specifically  
6 made efforts to invite others who may have views different  
7 from the industry. We then took the comments in that  
8 workshop and then we made changes as we saw they were  
9 appropriate, to the guidance, and then we informed the  
10 Commission what changes we made and why, and forwarded it  
11 up. And I think that that process worked well, and it is  
12 a very important issue from the standpoint of performance-  
13 based inspection.

14 We have changed significantly. At that time, I  
15 thought that we would be focusing on a late 1995  
16 completion. I moved that up by about 18 months, to try and  
17 get it in the middle of '94, such that the guidance is  
18 available and we can have the workshop. The one area that  
19 we need to think out, and that is how soon we can get into  
20 pilot inspections and inspecting against a rule that's not  
21 yet in effect and how we treat that. We do believe we  
22 need some experience with the guide, and we need to work  
23 on that activity, but our intent now is to both move up  
24 completion of the guidance and the pilot inspections such  
25 that they would both occur hopefully in '94 or in early

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1 '95.

2 COMMISSIONER CURTISS: Okay. Very good.

3 CHAIRMAN SELIN: Commissioner Remick?

4 COMMISSIONER REMICK: First, a question on  
5 clarification. Jim, on slide 7, you need not refer to it,  
6 but you indicate that NUMARC is providing divine guidance  
7 based on V&V effort by early March, 1993. Is that in  
8 addition to their comments provided --

9 MR. SNIEZEK: It's my understanding that would  
10 be refinement to their comments. They are still working  
11 it, and we need something to go with the best we have, to  
12 take to ACRS and CRGR. So, that's why we need a March  
13 document; otherwise, we could wait until June.

14 COMMISSIONER REMICK: I see. Okay. I want to  
15 second the comments that Commissioner Curtiss made on the  
16 inspection guidance. Might I assume that your pilot  
17 inspections that will be under your process of managing  
18 team inspections, managing, coordinating and so forth,  
19 consistent with that guidance you provided us in the past.

20 MR. RUSSELL: Yes. That is the intent. We also  
21 recognize that this would come to the Commission probably  
22 in draft form, so that you are aware of what we're going  
23 out to meet on, and then we would conduct the meetings and  
24 advise you as to how we propose to change the guidance --

25 MR. SNIEZEK: Commissioner, as another point, I

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1 would even envision that stage, since the industry will  
2 know who they believe is the furthest along in  
3 implementing the industry guidance on maintenance, that I  
4 will even ask for volunteers for the pilot inspection to  
5 go out.

6 COMMISSIONER REMICK: Good. Okay. In the  
7 interest of coherence and consistency of regulatory  
8 activities, I personally like what you're thinking about  
9 in the diesel generator area, and certainly encourage you  
10 to consider along those lines. That makes a lot of sense  
11 to me. I must admit diesel generators are a very  
12 important system or components, and it's hard to imagine  
13 why they should be handled separately, so I'm encouraged  
14 by your current thinking on that.

15 And I would just briefly like to join in echoing  
16 my commendation to the staff, too, for your effort in this  
17 area. It's highly commendable.

18 CHAIRMAN SELIN: Thank you. Commissioner de  
19 Planque?

20 COMMISSIONER de PLANQUE: I don't think I need  
21 to add to those commendations, so let me just ask a  
22 question for my education, since I wasn't here in the  
23 beginning of the process.

24 It's my understanding that in the beginning  
25 there was some difficulty and a wide range of opinions as

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1 to what should come under the scope, not just (a)(1) and  
2 (a)(2), but what should come under the scope in general.

3 Has this problem gone away? And, if so, can you  
4 tell me how that's been resolved?

5 MR. SNIEZEK: Let me say, it's gone away. It's  
6 been resolved. I don't know if I can tell you how it's  
7 been resolved, but it's been resolved. Bill?

8 (Laughter.)

9 MR. TAYLOR: Bill, why don't you --

10 MR. RUSSELL: Essentially, the way it was  
11 resolved was that in the guidance they adopted language  
12 which was identical to the rule as it relates to scope,  
13 and the one area that there was some negotiation on was  
14 the area of "could cause a reactor trip", which could be  
15 a subjective all the way back to the mine mouth where you  
16 mine the ore, you know. So, clearly, there needed to be  
17 rule of reason. And what we agreed upon was essentially  
18 "has caused a trip", either based upon industry experience  
19 or based upon plant-specific experience. So, that was the  
20 one area where there was some fuzziness, and we reached  
21 agreement on that fairly early on. And with that  
22 exception, I think that the scope is as defined in the  
23 rule and as the background and the statement of  
24 considerations described it.

25 MR. SNIEZEK: Well, there was one other, and

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1 that was emergency operating procedures, also.

2 MR. RUSSELL: Oh, yes, the --

3 MR. SNIEZEK: We had a lot of discussion on that  
4 one. And the NUMARC guidance document, the latest  
5 version, has gone, as I understand it, even further than  
6 where the staff was pushing as a rule of reason.

7 MR. RUSSELL: In fact, as Tom Tipton indicated  
8 in his remarks, where things are included in emergency  
9 procedures which are for equipment protection, that would  
10 be excluded. So, for example, if you had the lube and  
11 lift pumps for the main turbine included because you  
12 wanted to keep from destroying your main turbine, that  
13 really is there for economic protection and not needed for  
14 safety considerations.

15 COMMISSIONER de PLANQUE: Okay. So, you're not  
16 expecting any problems in this area with implementation?

17 MR. RUSSELL: No.

18 COMMISSIONER de PLANQUE: Thank you.

19 CHAIRMAN SELIN: Thank you. Well, thank you  
20 very much. I think it's very important to come back and  
21 concentrate on this one point that -- with all respect,  
22 you didn't say it right at the beginning, but you did  
23 later on -- the reason for the staff to start off is not  
24 just a backup in case the NUMARC regulatory guidance was  
25 uneven, it was to make sure we brought something to the

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1 table and that we had something we could continue. It's  
2 what you might call a Hegelian regulation. You have  
3 thesis, and then you have conflict or antithesis, and then  
4 you get some synthesis at the end of that, and that's a  
5 very important lesson. We can't just get lazy and turn it  
6 over to somebody and see if they turn out something. We  
7 need to know what we think as well, in advance.

8 So, thank you very much, folks.

9 (Whereupon, at 11:54 a.m., the meeting was  
10 adjourned.)  
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BRIEFING ON IMPLEMENTING GUIDANCE FOR THE  
TITLE OF MEETING: MAINTENANCE RULE AND INDUSTRY VERIFICA-  
TION AND VALIDATION EFFORT  
PLACE OF MEETING: ROCKVILLE, MARYLAND  
DATE OF MEETING: JANUARY 29, 1993

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.

Phyllis Young

Reporter's name: PHYLLIS YOUNG

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**IMPLEMENTING GUIDANCE FOR  
THE MAINTENANCE RULE, 10 CFR 50.65,  
"MONITORING THE EFFECTIVENESS  
OF MAINTENANCE AT  
NUCLEAR POWER PLANTS"**

**PRESENTATION TO THE  
NUCLEAR REGULATORY COMMISSION**

**JANUARY 29, 1993**

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## **BACKGROUND**

- \* RULE PUBLISHED 7/10/91. (EFFECTIVE 7/10/96)**
- \* INDUSTRY/NUMARC PROPOSED TO PROVIDE IMPLEMENTATION GUIDANCE FOR THE RULE 8/91.**
- \* NRC STAFF FORMED STEERING GROUP AND WORKING GROUP 8/91.**
- \* REGULATORY GUIDANCE TARGET ISSUE DATE IS 6/30/93.**

**NRC STAFF STEERING COMMITTEE**

**JAMES H. SNIEZEK, DEDR  
WILLIAM T. RUSSELL, NRR  
CLEMENS J. HELTEMES, JR., RES  
ROBERT L. BAER, RES**

**NRC STAFF WORKING GROUP**

**RICHARD P. CORREIA, NRR  
MARK RING, REGION III  
OWEN O. ROTHBERG, RES  
THOMAS F. STETKA, REGION IV**

**STAFF SUPPORT TO THE WORKING GROUP**

**CARL E. JOHNSON, JR., RES  
PATRICK D. O'REILLY, AEOD  
THOMAS FOLEY, NRR  
CHARLES D. PETRONE, NRR  
GEARY S. MIZUNO, OGC**



- \* EIGHT PUBLIC MEETINGS BETWEEN NRC AND INDUSTRY, 8/91 TO 6/92.**
- \* NINE PUBLIC MEETINGS BETWEEN NRC AND NUMARC, 6/92 & 7/92.**
- \* SECY-92-229 OF JUNE 25, 1992 INFORMED COMMISSION OF PROGRESS AND STAFF'S INTENT TO ENDORSE THE INDUSTRY GUIDANCE. SRM OF 7/17/92 AFFIRMED STAFF'S INTENT.**
- \* NUMARC 93-01, REV. 2A, RELEASED BY NUMARC ON JULY 10, 1992.**
- \* DRAFT REGULATORY GUIDE OFFERED FOR PUBLIC COMMENT (FRN 11/24/92). COMMENT PERIOD CLOSED 1/15/93.**

## SUMMARY OF PUBLIC COMMENTS

- \* TEN SETS OF COMMENTS AS OF 1/27/93:
  - STATE OF ILLINOIS
  - YANKEE ATOMIC
  - WESTINGHOUSE
  - ENTERGY
  - NUMARC
  - NORTHEAST UTILITIES
  - TVA
  - CENTERIOR ENERGY (TOLEDO EDISON)
  - ARIZONA PUBLIC POWER
  - RES/DE
  
- \* INITIAL REVIEW STARTED.

**NRC STAFF OBSERVATIONS OF THE INDUSTRY**  
**VERIFICATION AND VALIDATION**  
**(V&V) EFFORT**

- \* NRC STAFF WORKING GROUP ATTENDED FOUR NUMARC V&V MEETINGS 8/92-11/92.
- \* INDUSTRY APPLIED NUMARC GUIDANCE TO ACTUAL PLANTS.
- \* INSIGHTS GAINED ON A NUMBER OF TOPICS SUCH AS SCOPE, PLANT DATA BASES FOR SYSTEMS/TRAINS, USE OF PROBABILISTIC RISK ASSESSMENT, AND CONSIDERATION OF EQUIPMENT TAKEN OUT OF SERVICE.
- \* NUMARC PROVIDING REVISED GUIDANCE BASED ON V&V EFFORT BY EARLY MARCH 1993.

## **PROPOSED CHANGE TO MAINTENANCE RULE**

- \* §50.65(a)(3), "PERFORMANCE AND CONDITION MONITORING ACTIVITIES AND ASSOCIATED GOALS AND PREVENTIVE MAINTENANCE ACTIVITIES SHOULD BE EVALUATED AT LEAST ANNUALLY..."**
- \* INTERVAL SHOULD BE CHANGED TO EVERY REFUELING OUTAGE BUT NOT TO EXCEED TWO YEARS.**
- \* A PROPOSED RULE CHANGE IS BEING INITIATED.**
- \* PROPOSED RULE CHANGE TO BE ISSUED BY 6/30/93.**

## **RELATED NRC ACTIVITIES**

**\* LICENSE RENEWAL (§54):**

**TO BE COVERED BY SEPARATE BRIEFING,  
3/93.**

**\* DIESEL GENERATOR RELIABILITY (§50.63),  
RESOLUTION OF GENERIC ISSUE B-56:**

**COMMISSION PAPER IN PREPARATION TO  
OUTLINE AND RECOMMEND OPTIONS.**

**INDUSTRY GUIDANCE DOCUMENT OR  
REGULATORY GUIDE FOR THE MAINTENANCE  
RULE COULD BE MODIFIED TO PROVIDE  
GUIDANCE TO LICENSEES FOR  
SURVEILLANCE OF DIESEL GENERATORS,  
AS AN ALTERNATIVE TO RULEMAKING.**

## **NRC INSPECTION PROCEDURES**

- \* TO BE DEVELOPED AFTER REGULATORY GUIDE ISSUED.**
- \* REGULATORY GUIDE TO BE BASIS FOR INSPECTION PROCEDURE ACCEPTANCE.**
- \* PUBLIC WORKSHOPS.**
- \* PILOT INSPECTIONS.**

**SCHEDULE FOR COMPLETION OF**  
**REGULATORY GUIDE**

- \* PUBLIC COMMENT PERIOD CLOSED 1/15/93.
- \* PUBLIC COMMENTS RESOLVED 3/93.
- \* ACRS AND CRGR PRESENTATIONS 4/93-5/93.
- \* REGULATORY GUIDE TO BE ISSUED 6/30/93.

January 29, 1993

## INTRODUCTION

Good morning, Chairman Selin and Commissioners.

I'm Corbin McNeill. I am President and Chief Operating Officer of Philadelphia Electric Company and am responsible for the direction and management of the Limerick and Peach Bottom nuclear generating stations.

With me at the table this morning is Tom Tipton, Vice President of NUMARC's Operations, Management and Support Services Division responsible for issues such as Maintenance Rule implementation, the area of this morning's discussions. Also with us are Warren Hall, Manager, Walt Smith, Dan Rains and Jim Eaton, Senior Project Managers within NUMARC responsible for the development of the industry's maintenance guideline and the verification and validation program. Joe Colvin, the President and Chief Executive Officer of NUMARC, who would normally attend with us, is on travel and sends his apologies for not being able to be here today.

As a member of the NUMARC Executive Committee and Board of Directors, I participate with other industry executives in the formulation of industry policy of generic application to the nuclear industry.

Throughout my naval and civilian career, I have had a particularly strong association with the issue of maintenance at nuclear generating plants. Currently, I am the Chairman of the NUMARC Maintenance Working Group that consists of senior executives responsible for generation of electricity through nuclear power at 43 power plant units. The names and affiliation of the Working Group participants are included as an attachment to my prepared remarks. The working group provides oversight and guidance to the NUMARC process for the development of industry guidance for Maintenance Rule implementation at a senior management level. Additionally, Tom Tipton, Joe Colvin, and I serve as the industry interface with senior NRC management to assure industry policy matters associated with the development of industry guidance to implement the Maintenance Rule are appropriately addressed.

We appreciate this opportunity to discuss with you the results of development of industry guidance to implement the maintenance rule in a reasonable and cost effective manner. It is a challenge to develop a process that provides the necessary balance between flexibility and specificity, and that promotes consistency for both the industry and the NRC.

In addition, the industry expended significant effort in developing the industry guideline. Four separate Ad Hoc Advisory Committees were formed that involved



representatives from thirty-three utilities responsible for operating seventy-five percent of our plants. The expertise assembled included, for example, individuals knowledgeable in probabilistic risk assessment, reliability centered maintenance, codes and standards, and the nuclear plant reliability data system. Maintenance managers and senior reactor operators were also key participants. Additionally, we had very active involvement of representatives from EPRI, INPO, and NUMARC. Countless hours were spent on first understanding the intent of the rule and then developing the necessary guidance. Following its development and detailed industry review, the guidance was subjected to a very detailed verification and validation process. Without a doubt, we brought our extensive experience and knowledge in maintenance to bear on the issue at all levels within our industry.

A major element of that process has yet to be developed -- the NRC's inspection module. I will speak to the importance of this key element in just a few minutes.

We plan to address briefly three areas. They are:

- The process established to address the implementation of the maintenance rule;
- Results to date of the industry verification and validation program; and
- Where we go from here.

Tom Tipton will discuss the results to date of the industry verification and validation program.

## **THE PROCESS**

We have found the cooperative process established for proceeding with implementation of the final maintenance rule a unique one that has achieved more than we anticipated. It can and should serve as a model for addressing future complex issues. I commend you for promoting this methodology and your staff for professional execution. There are, I believe, five critical factors that helped make it work. They are:

- Involvement of the NRC's upper management, including the Commissioners, from the beginning. This included you or your technical assistants' participation in publicly held meetings and, we understand, periodic briefings with your staff to stay abreast of the progress being made.
- Participation by your senior staff to address the policy issues that were identified during the development of the guidance followed by the industry

and the staff each working independently and sharing the results of each other's efforts in a public setting to develop the details necessary for policy implementation. We have had several very productive meetings with the NRC Steering Committee chaired by Jim Snizek. The process worked well.

- Staff development of the NRC's draft regulatory guidance rather than by a contractor. This was a very refreshing experience for us in that the staff knew the basis for the draft guidance being developed. As a result, dialogue was clear and meaningful and the confidence level was high and, most important, decision-making was prompt and decisive. In the popular parlance of management gurus today, cycle time was short. This is a very important aspect of the process that should be introduced in other areas where possible.
- Staff observation of the industry's execution of the verification and validation process. In the beginning, there seemed to be skepticism on the part of some of the staff of how serious we were in really testing the draft industry guidance that had been developed. Having observed the depth and detail each utility had gone through, that skepticism has been dispelled. This builds trust and understanding that is important to the continued existence of our industry. There is the recognition that we have mutual objectives to provide reasonable assurance of public health and safety.
- The candor with which the industry and the NRC expressed their views, bringing their own different perspectives up front and on the table. If concerns are not clearly stated during the process, it can adversely affect, and in some cases, destroy the process. Our respective positions and concerns must be made clear to everyone. For example, we stressed that the implementation of the maintenance rule should not require two maintenance programs - one to provide the necessary maintenance to safely and reliably operate the plant and another to comply with the maintenance rule. Some of this candor made front page news in some of the trade press coverage. That is the price of candor and openness that, if kept in the proper perspective and not allowed to drive the process, is an appropriate price to pay.

As I am sure you would agree, these five key elements that resulted from our efforts in developing the industry guidance are not unique to the maintenance rule but can be applied when addressing other issues. I encourage us both to use these lessons learned in the future as we proceed with the initiatives discussed in detail with you last week by Gene McGrath and other members of the NUMARC Executive Committee.

Tom will now brief you on the results of the verification and validation program.

## **RESULTS OF THE VERIFICATION AND VALIDATION PROGRAM**

Thanks, Corbin. There were nine plants involved in the verification and validation program. The plants that participated are included as an attachment to my prepared remarks. All four nuclear steam supply system vendor types were represented in the program. Over the last four months there has been intense involvement by each of these utilities; the purpose was to determine if it is clear how the industry's maintenance guideline works or if additional clarification is needed. This detailed verification and validation process exercised all elements of the industry's guideline. There were seven objectives in developing the verification and validation (V&V) program. The objectives and the results to date are as follows:

1. Test the ability of utilities to understand and use the industry guideline to implement the maintenance rule.

*The participants in the V&V program concluded that the guidance can be implemented as written. However, it was noted that some clarifications of the guidance would be beneficial to the user.*

2. Determine the extent to which non-safety related structures, systems and components (SSCs) that are used in the emergency operating procedures should be excluded.

*The V&V utility participants generally concluded that most of the non-safety related SSCs in the emergency operating procedures should be included. Exceptions were identified during the process. For example, there are some systems included in the emergency operating procedures to protect key systems such as the turbine that have only economic benefit and do not contribute to accident mitigation.*

3. Identify and evaluate the use of PRA and other methodologies for use in identifying risk significant and plant level performance criteria.

*It was concluded, as a result of the V&V process, that PRAs used in conjunction with expert panels identify the risk significant SSCs effectively. PRA or expert panels used alone have limitations that are overcome by their use in combination.*

4. Verify that the use of the guideline will result in similar, but not necessarily identical, results among utilities.

*The V&V utility participants concluded that many differences in results are attributable to actual configuration differences and not to guidance ambiguities. This is a key element of the V&V findings in that it has to be recognized when an individual utility is inspected, care must be taken in attempting any comparison between ostensibly similar units because of their different configurations. There may be differences in the system(s) selected as well as the performance criteria established. However, based on the findings of the V&V, there were good justifications for these differences.*

5. Identify lessons learned that facilitate the rule implementation among all utilities.

*The implementation of the rule will affect utilities differently due to the different approaches that went into developing the individual maintenance programs and the state of implementation. This includes the utilities' in-house capability, existing software and data bases, as well as individual utility objectives and approaches for implementation. Key differences among some V&V participants were due to system/train bounding and the data bases that currently focus on component data collection rather than system or train data. Some utility performance monitoring, cause determination and corrective action may need to be expanded.*

6. Identify the cost to implement the rule using care not to understate estimated implementation cost.

*The preliminary average non-recurring initial cost in labor hours was approximately 16,000 hours -- that's about 8 person-years per plant. The average annual recurring cost was estimated to be approximately 5,800 hours per year -- about 3 person-years per plant. We plan to provide information to the industry on the anticipated resource needs and how to efficiently and effectively focus them.*

7. Determine if implementing the rule by use of this guideline results in benefits to the industry, especially in regulatory areas.

*It is clear as a result of the V&V program that some utilities will benefit from implementing the maintenance rule and updating*

*individual maintenance programs. However, it is also recognized that some utilities will expend resources to implement the rule with no significant benefit to their maintenance activities because of the effectiveness of the programs that they have previously established.*

As we have discussed with the staff before, there may be changes to the regulations that should be made as a result of the final maintenance V&V program. For example, during the V&V program the utilities collected and provided us with a large amount of data associated with containment leak rate testing (the requirements of Appendix J to 10 CFR 50). It was noted as a result of the review of this test data that a large majority of the penetrations and valves that are required to be tested do not fail. As discussed in our December 21 letter to Chairman Selin, the NRC was encouraged to evaluate Appendix J in light of the performance criteria and pursue appropriate regulatory modifications.

## **THE FUTURE**

The next question that we must address is where do we go from here? In addition to our efforts to develop and verify the industry guideline, we responded to the NRC's Federal Register notice requesting comments on your draft regulatory guide. In our response we described changes to the industry's guideline that we are considering based on the results of the V&V program as well as comments from the industry. The next step, from our point of view, is to review with the staff the comments received on the industry's guidelines as well as changes we are considering incorporating by March and finalize it by June of this year.

Following finalization of the industry guideline, NUMARC plans to hold two 3-day workshops in July and August to cover in detail the results of the V&V program, changes made to the industry guideline, and provide a detailed discussion of how to implement the guideline effectively and efficiently.

We anxiously await the development of the NRC's inspection module associated with this regulation. I must stress that a major concern of our industry continues to be how our facilities will be inspected against a performance-based regulation. During the public comment period of the draft regulations, NUMARC spent many hours with individual utilities discussing individual utility concerns regarding the potential that the scope of the rule could be unnecessarily expanded or utility implementation inappropriately compared. It is clear as a result of the V&V program that the NRC should not compare one plant to another during inspections but evaluate the plant based on its actual performance taking into account its individual design characteristics and the effectiveness of its maintenance programs. We have received assurances since the start of this cooperative process that the industry would have meaningful input in a public

forum into the review of the Inspection Module. We are prepared to do so and look forward with keen interest to similar interactions.

## **CONCLUSION**

In conclusion, I would like to stress two key points as we go forward in this process. It is imperative that the Commissioners continue to be involved in the process through the final development of the industry guideline, the NRC's inspection module and the associated training required to fully implement this first "performance-based" rule. It is also very important that we continue interacting during the three years remaining prior to full implementation in July 1996, as issues come to NUMARC's attention, to resolve them in a satisfactory and timely manner. We need to continue to have candid and well-thought out discussions during the three-year implementation period. We look forward to continuing our discussions with the staff and the upper management of the NRC as we go forward. Thank you very much, and we would be pleased to answer any questions you might have.

**VERIFICATION AND  
VALIDATION PROGRAM**

Callaway	<u>W</u> ; 1125 MW; C.O. 4/85
Connecticut Yankee	<u>W</u> ; 565 MW; C.O. 1/68
Comanche Peak	<u>W</u> ; 1150 MW; C.O. 8/90
Calvert Cliffs	CE; 825 MW; C.O. 5/75
Arkansas 2	CE; 858 MW; C.O. 3/80
Crystal River	B&W; 821 MW; C.O. 3/77
Arkansas 1	B&W; 836 MW; C.O. 12/74
Grand Gulf	GE; 1142 MW; C.O. 7/85
Fermi	GE; 1075 MW; C.O. 1/85

C.O. = Commercial Operation

## **NUMARC MAINTENANCE WORKING GROUP**

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