

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

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BRIEFING ON STATUS OF MAINTENANCE
INITIATIVES AND SCHEDULE

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PUBLIC MEETING

Nuclear Regulatory Commission
One White Flint North
Rockville, Maryland

Friday, September 15, 1989

The Commission met in open session, pursuant to notice, at 9:00 a.m., Kenneth M. Carr, Chairman, presiding.

COMMISSIONERS PRESENT:

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

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STAFF SEATED AT THE COMMISSION TABLE:

SAMUEL J. CHILK, Secretary

WILLIAM C. PARLER, General Counsel

JAMES TAYLOR, Acting Executive Director for Operations

THEMIS SPEIS, Office of Research

JACK ROE, NRR

TOM KING, Office of Research

TOM NOVAK, AEOD

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

9:00 a.m.

CHAIRMAN CARR: Good morning, ladies and gentlemen.

The purpose of today's meeting is for the NRC staff to brief the Commission on the status of maintenance initiatives for nuclear power plants and the schedule for completion of activities.

The Commission was last briefed on maintenance on May 31st of 1989. Following the meeting, the Commission issued a staff requirements memorandum, directly the staff to, among other things, hold the final rule on maintenance in abeyance while closely monitoring industry's maintenance progress and report back to the Commission on the progress that the industry has made in improving maintenance and provide recommendations on the need for additional regulatory action and prepare a revised maintenance policy statement.

I strongly support Commission maintenance initiatives. My visits to nuclear power plants have shown me that maintenance is an area where most licensees could improve and some licensees could improve substantially. It is my view that a consistent approach to maintenance can have a strong

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1 positive influence on plant operational safety. I
2 also believe good maintenance will improve the
3 reliability and economics of a plant.

4 Copies of the slide presentation are
5 available at the entrance of the meeting room.

6 Do my fellow Commissioners have any opening
7 comments?

8 COMMISSIONER ROGERS: Just that we have a
9 distinguished collection of presenters here today. On
10 the basis of the President's awards yesterday, I think
11 we ought to just call the attention of our audience to
12 that fact, Mr. Taylor and Mr. Parler.

13 CHAIRMAN CARR: We do congratulate them.

14 MR. TAYLOR: Thank you.

15 MR. PARLER: Thank you very much.

16 CHAIRMAN CARR: Mr. Taylor, you may proceed.

17 MR. TAYLOR: Good morning, sir. The staff
18 with me at the table today, to my immediate left
19 Themis Speis and Tom King from the Office of Research.
20 To my right, Jack Roe from NRR and Tom Novak from
21 AEOD.

22 The staff is prepared to discuss the
23 activities with regard to development of a revised
24 policy statement, a final reg. guide and maintenance
25 effectiveness indicators. We will talk about the

1 status and schedule of these activities. These
2 activities are ongoing and at this meeting we won't
3 have final results or recommendations, but we will
4 give you the status and talk of the schedule of
5 completing this work.

6 I'll now turn the start of the briefing to
7 Mr. King, Tom King.

8 MR. KING: Thank you, Mr. Taylor.

9 As Mr. Taylor mentioned, the briefing will
10 concentrate on the plans and schedule and strategy of
11 our activities over the next 18 months on maintenance.
12 I did not plan to go into any detail on the content of
13 the revised policy or the other documents that we're
14 working on except as they relate to the schedule,
15 unless you have any questions on those particular
16 documents.

17 (Slide) If we could have slide 2, please.

18 Just quickly, the briefing today will cover
19 a quick summary of what was in the June 26th, 1989
20 staff requirements memorandum. We'll discuss our
21 plans and schedule for the main activities called for
22 in that staff requirements memorandum and talk about
23 the interface with the maintenance team inspections
24 and then the very last page of the handout is an
25 integrated schedule that puts all of what we're going

1 to talk about on one page, provides an overview of the
2 schedule.

3 (Slide) Let me start with describing the
4 staff requirements memorandum on page 3. Just
5 quickly, a summary of the activities in the staff
6 requirements memorandum. It had five basic
7 activities. The first directed the staff to issue a
8 revised policy statement and provide non-guidance on
9 the content of that policy statement.

10 Second, it directed the staff to publish the
11 draft regulatory guide for comment and to develop a
12 final regulatory guide in time for issuance with a
13 rule, if a rule is so, in fact, desired.

14 Third, it directed the staff to proceed with
15 validation and implementation of the AEOD developed
16 maintenance effectiveness indicator and invited
17 voluntary participation of licensees in a
18 demonstration project on indicators.

19 (Slide) Continuing on page 4, requested the
20 staff to establish criteria to determine when a plant
21 specific order or other enforcement action should be
22 taken and identify the need for any changes in the
23 regulations.

24 And fifth, requested that we coordinate with
25 and obtain ACRS views on the revised policy statement

1 in the other activities.

2 With those five major activities, I'll now
3 talk about the schedule for each of those, our plans
4 and strategy for each of those.

5 (Slide) The first activity, the revised
6 policy statement. On page 5 you'll note that a draft
7 has been prepared, has been reviewed by ACRS and the
8 CRGR at this point. We expect an ACRS letter after
9 their October full committee meeting. The revised
10 policy statement addresses all the points in the
11 Commission's staff requirements memorandum. We expect
12 Planning to have that package to the Commission by the
13 end of this month, hope to have it to the EDO next
14 week for his review.

15 We're assuming a publication date of the
16 policy statement in October of 1989. That's an
17 important date in that it starts the clock ticking for
18 the 18 month evaluation period and is the basis for
19 the schedules that we're going to talk about in the
20 rest of the presentation.

21 COMMISSIONER ROBERTS: Excuse me. I may
22 have misunderstood what you said. When are you going
23 to get the ACRS letter?

24 MR. KING: We expect it now after their
25 October full committee meeting. We briefed them at

1 the September full committee meeting. They discussed
2 the letter at that time, but as I understand it could
3 not reach agreement on the letter and ran out of time.

4 COMMISSIONER ROBERTS: And yet you're going
5 to have it to us in September, prior to their letter?

6 MR. KING: We're planning to have the
7 revised --

8 COMMISSIONER ROBERTS: How can you do that
9 and yet say you're going to have the input of the
10 ACRS? It's totally illogical.

11 MR. KING: Well, we receive verbal input at
12 the September full committee meeting.

13 COMMISSIONER ROBERTS: You can't sit here
14 and tell me you're going to take the ACRS input and
15 issue the piece of paper to us prior to receiving
16 their letter?

17 MR. TAYLOR: We'll do what the Commission
18 desires. If the Commission would like to see it and
19 then adjunct it with a separate addition from the
20 staff with the ACRS input, we thought the ACRS was in
21 agreement with it. There's some members who were not
22 present, is my understanding, and now the ACRS wanted
23 to address it at the full meeting.

24 When is the meeting, do you know, in early
25 October, Tom? Do you know the date?

1 MR. KING: It's the first week.

2 CHAIRMAN CARR: Fifth, 6th and 7th, I think.

3 MR. TAYLOR: If the Commission desires,
4 we'll hold the paper at the EDO's office until we get
5 the ACRS input. It's a matter of --

6 COMMISSIONER ROBERTS: I don't see how you
7 can do otherwise and sit here and say you're going to
8 take ACRS input. That's absolute -- ridiculous.

9 MR. TAYLOR: We can do it whatever way the
10 Commission desires.

11 COMMISSIONER ROBERTS: Well, don't tell us
12 you're going to take the ACRS input --

13 MR. TAYLOR: We don't have it until October.

14 COMMISSIONER ROBERTS: That's right. Well
15 then don't say you're going to take their input.

16 MR. TAYLOR: Yes, sir.

17 CHAIRMAN CARR: Please proceed.

18 MR. KING: All right.

19 (Slide) On page 6, the next major activity
20 was the regulatory guide development.

21 COMMISSIONER CURTISS: Excuse me, Tom, one
22 point of clarification. You current plan is to start
23 the clock running in October of this year, after the
24 effective date of the policy statement?

25 MR. KING: Yes. The staff requirements

1 memorandum said the clock would start upon publication
2 of the revised policy statement. We're hoping that
3 will take place in October.

4 CHAIRMAN CARR: And that's what you've put
5 in the policy statement, right?

6 MR. KING: Yes.

7 CHAIRMAN CARR: So, if we want the clock to
8 be shorter than 18 months, we just have to change the
9 policy statement.

10 MR. KING: Yes.

11 The draft regulatory guide and the
12 supporting regulatory analysis for that guide were
13 issued for comment in August. A *Federal Register*
14 notice was printed August 17th to announce its
15 availability. It's the same draft guide that was
16 submitted to the Commission back in April with the
17 proposed final rule, except for some editorial changes
18 so that it doesn't reference a final rule. We sent it
19 to all participants of the July 1988 workshop and
20 we've gotten a lot of requests from other people for
21 copies of it as well, so there's a lot of interest, as
22 far as we can tell, in looking at that guide.

23 The close of the comment period that we put
24 forth was December 1st, 1989. We're hoping to obtain
25 by that time the services of some outside experts to

1 help us renew the comments and proceed in developing a
2 draft of that regulatory guide. We hope to have that
3 next draft available by March of 1990, at which time
4 we would issue it for review and schedule a workshop.
5 We're planning for that in April, to go through that
6 second draft. We think industry participation is
7 particularly important in this reg. guide development.
8 We're hoping we'll receive a lot of comments and
9 participation in the workshop on the regulatory guide.

10 We plan then after the workshop in April of
11 '90 to have a final draft available in July of 1990
12 and issue that for voluntary use by the industry.
13 Now, that's a target date, July of 1990. It's
14 certainly dependent upon the number and type of
15 comments we receive, the degree of industry
16 participation, the results of the workshop and so
17 forth.

18 However, the main point that I want to make
19 is that we're trying to get that reg. guide available
20 as soon as possible so that it's available well in
21 advance at the end of the 18 month evaluation period
22 to allow time for industry adoption, implementation
23 and any feedback of comments on implementation that we
24 may receive prior to the time when we would have to
25 send it to the Commission.

1 (Slide) Continuing on on page 7, tied in with
2 the regulatory guide to further help ensure industry
3 participation, we're proposing that an option be
4 provided that would allow the industry to propose a
5 standard in lieu of our reg. guide. The policy
6 statement does provide that option. A current draft
7 of the policy statement provides that option. The
8 industry proposed standard could be in the form of
9 something we would endorse in a regulatory guide or
10 we'd entertain a proposal that it strictly be an
11 industry standard that they would voluntarily adopt.

12 However, if the industry does choose to
13 proceed down that path, we would and we do ask for a
14 submittal by March 1st of 1990 so as to give us time
15 to review it and we still want it available in time to
16 send to the Commission in advance of the 18 month
17 evaluation period, expiration of that evaluation
18 period.

19 And in the meantime, we're going to begin to
20 work on our regulatory guide until such time as an
21 industry standard is developed if, in fact, they do
22 proceed down that path. That would give us a basis
23 for reviewing the industry standard as well as help
24 ensure that if a standard is submitted by the industry
25 and it turns out not to be acceptable, we'd still have

1 something ready to go.

2 CHAIRMAN CARR: In your interactions with
3 industry to date, what's your view of their, I guess,
4 approach to a standard? Are they any more amenable to
5 it than they were before?

6 MR. KING: Two things that I've been told in
7 interactions, informal discussions with some NUMARC
8 people. One is they are going to participate in
9 reviewing a regulatory guide and in a workshop. They
10 have not foreclosed on the option of them proposing a
11 standard, although that decision has not been finally
12 made. I understand they're having a board of
13 directors or management meeting in November where
14 these decisions will be reviewed and hopefully
15 formalized.

16 CHAIRMAN CARR: Okay.

17 MR. KING: That's my understanding at the
18 present time.

19 MR. KING: (Slide) Beginning on page 8, it
20 describes the maintenance indicator work. I'm going
21 to turn over to Tom Novak from AEOD to describe that
22 activity.

23 MR. NOVAK: Thank you, Tom.

24 What I'd like to do is take a few minutes
25 and kind of summarize the work that we've been doing

1 since the spring of this year. We met with you
2 earlier in the year and identified an indicator based
3 on a lot of work that we've been doing this year which
4 suggested that an effectiveness indicator using the
5 nuclear plant reliability database, NPRDS, had some
6 valuable lessons for us to look at in terms of
7 maintenance effectiveness. Since the spring, we've
8 maintained a very high activity of work in this area.
9 We've gotten strong support from the Idaho National
10 Engineering Laboratory.

11 And so there's been a concentrated effort to
12 follow up on the commitments that we made in terms of
13 taking the work that we had showed you in the spring
14 which concentrated on the boilers, for an example.
15 We've gone back now and expanded it across the
16 industry. We've now validated our indicator for 75
17 operating plants covering both pressurized and boiling
18 water reactors.

19 (Slide) May I have slide 8? Let's see,
20 you're a little bit ahead of me. Go back to page 8.

21 What the slide will tell you is that in
22 addition to going back and looking at the pressurized
23 water reactors, we also looked at the ability to look
24 at some additional equipment under balance of plant.
25 We've added the condensate system. We've added the

1 plant AC system. By adding this we pick up components
2 such as booster pumps, hot well pumps, unit auxiliary
3 transformers, start-up transformers. These are just
4 additional pieces of equipment which we have known do
5 provide or are important in terms of identifying
6 outage dominating equipment. They're just coming down
7 the scale so to speak.

8 So, this indicator now covers something on
9 the order of ten to 12 systems across the plant. It
10 looks at a range of between 600 to 2,000 components,
11 specific components that we look at in NPRDS and it's
12 about a 30 percent cut of all the data that's in
13 NPRDS. It's not a random sample, as we've discussed
14 earlier, it's specific components that we went after.

15 Our findings are consistent with what we
16 told you in the spring. That is, when we go back and
17 we now, with the assistance of the Idaho people, have
18 read almost 4,000 failure narratives that are
19 completed in NPRDS, and again 80 percent of those
20 suggest that the cause of the failure is related to
21 maintenance. So, by using these components as a key
22 to the maintenance quality, we think we've got a
23 reasonable handle on the effectiveness of maintenance.

24 Now, that was a validation process where we
25 looked at all of these plants, these 75 units that

1 were all commercial from the period of July 1986 to
2 June of 1988. And that was our validation period.
3 So, we've got a solid two year database in order to
4 perform the validation.

5 (Slide) May I have slide 9 now?

6 We've continued to add data, and this slide
7 just tells you that currently we have our indicator
8 through the end of December of 1988. By the end of
9 October, we will then carry it through June of 1988.
10 So, again, we're adding another year of data. We
11 think this is very helpful because earlier this week
12 we did meet with six utility representatives,
13 representatives from NUMARC and INPO to go over this
14 indicator specifically in response to the SRM. We
15 refer to it as a demonstration project.

16 Some of the comments we got very early is
17 that when you look at this indicator, an 18 month
18 period is a rather small period. So, our approach is
19 to go back in time and it may be roughly that by the
20 time the 18 month period or any period selected by the
21 Commission, we would have a trend of between four and
22 five years of operating experience on a vast majority
23 of the plant so that small hills and valleys will be
24 seen over a longer period of time. We think that's
25 the way you'd have to look at maintenance.

1 CHAIRMAN CARR: Yes.

2 MR. NOVAK: So, we're very encouraged by
3 that.

4 (Slide) May I see slide 10, please?

5 What we did on Tuesday of this week, as I
6 said, we met with a number of utility representatives.
7 We looked to get a cross section of representatives
8 who had -- we certainly wanted to get a design--each of
9 the nuclear steam supply system designs. So we had all
10 four of those represented. We wanted a variation in
11 the vintage of the plant. So, we got some older
12 plants, some newer plants and we also get basically
13 also a cross section across the country. We went
14 after that and NUMARC was very helpful in making these
15 invitations and talking to the people. So, these six
16 utilities actually represent some 27 operating
17 reactors.

18 COMMISSIONER ROBERTS: Who were the six
19 utilities for these?

20 MR. NOVAK: They were Commonwealth Edison,
21 Rochester Gas and Electric, Duke Power, Southern
22 California Edison, the Grand Gulf people. Their name
23 keeps changing and I don't recall it right now.

24 CHAIRMAN CARR: SERI. Northeast.

25 MR. NOVAK: And Northeast Utilities. It was

1 a very good meeting in the sense that we had some
2 candid discussions about the pros and cons of looking
3 at this information. It suggested some things for us
4 to go back and look at and we plan on doing that.

5 CHAIRMAN CARR: What was their general
6 approach? I mean did they -- were they --

7 MR. NOVAK: Well, they were cautious. Their
8 attitude was, "Are we going to have to be responsive
9 to you now in what you see? In other words, does this
10 have us responding more to answer questions regarding
11 components failures?"

12 It then moved into understanding the
13 indicator. So, there was a cautious attitude in terms
14 of because you see this maybe several months ago, are
15 we going to have to go back and explain now to a new
16 group of people the performance of our plant? We
17 quickly dismissed that, that this was not to -- this
18 was intended to be a trending tool and we wanted them
19 first to understand it without deciding what it meant
20 to them individually.

21 They took a very keen interest in the
22 information that we were looking at, the data, the
23 trending of that data. They were interested in it as
24 to how refueling outages are perturbed, what you
25 learn, what you see in your refueling outages and how

1 that activity is reflected in the indicator. We
2 thought that was a good point and we asked them to go
3 back and look at that.

4 What we did is this is a -- we gave each
5 utility a handout, and I'll just take a minute. We
6 gave them a floppy of exactly all the NPRDS data that
7 we downloaded and then we walked them through every
8 piece of paper that we used to construct the indicator
9 which represents their performance. There's some
10 data. For example, this is just a proposed way of
11 displaying the indicator so that they can go back and
12 in effect recreate exactly the information that we
13 showed them. We took a lot of time to go through
14 that. So, this packet represents 27 operating plants
15 that they can go back in and study.

16 The agreement that we have is that they're
17 going to look at this data over the next few days and
18 then set a meeting up, probably by the middle of
19 October, to sit down again and go over this. We had
20 some definite points that we wanted to cover. One,
21 would you agree that the reading of those failures is
22 a reflection of maintenance? In other words, we read
23 it -- there's always a question as to what the words
24 might mean to different people. So, we wanted them to
25 go back and study exactly those failure narratives and

1 see if they come away with the same bottom line as we
2 did.

3 Again, I wanted them to focus on the
4 refueling because that is an important activity, going
5 in and coming out and the activities during it. So,
6 how can this type of an indicator be useful for
7 measuring the quality of the maintenance activity
8 during the refueling?

9 And then, clearly, how might this thing be
10 used as a trending tool? We talked a little bit about
11 comparisons and we all agreed that was a very
12 difficult thing. There are very specific differences
13 in plants --

14 CHAIRMAN CARR: Sure.

15 MR. NOVAK: -- and they have to be
16 recognized. And so we all were up front about that.
17 We don't have way of comparing plants, but we did see
18 that this tool could be used over several years to
19 show the activities --

20 CHAIRMAN CARR: To look at one plant. To
21 look at a particular plant.

22 MR. NOVAK: Yes, exactly. And so that's
23 what they have. My bottom line is we were encouraged.
24 We thought we had a good productive meeting and we're
25 planning to carry forward on that over the next

1 several weeks.

2 CHAIRMAN CARR: I've heard some concerns
3 that if we use the NPRDS data and people recognize
4 we're going to use it, that might affect the validity
5 of the data and somebody might try to manage the data.
6 I've tried to emphasize to those people who have
7 expressed that concern that if we find somebody
8 managing the data, that's the guy we ought to go after
9 instead of worrying about whether somebody is managing
10 it or not. I mean if there are people out there who
11 are managing data, we ought to find that out.

12 MR. NOVAK: We have seen what we will call
13 the better reporters and the poorer performers.
14 Clearly, if you have a utility who isn't as strongly
15 committed to NPRDS, then this indicator is not going
16 to serve any purpose. So, you would just -- you learn
17 nothing from looking at his specific information.

18 CHAIRMAN CARR: But hopefully, they can
19 learn as much from it as we can if they recognize the
20 value of it.

21 MR. NOVAK: One of the things we entertained
22 was that we certainly encouraged each utility to do a
23 lot more. The idea then was could we develop an
24 indicator that could kind of look at their trends in
25 some way and we could -- by using our data, we would

1 kind of validate their own trends. That would be much
2 more beneficial to them. In other words, we would
3 just use our indicator as a sounding board to judge
4 the validity of the trend that they see, and we
5 encouraged a lot more of their work.

6 CHAIRMAN CARR: And our indicator is just
7 one of many indicators.

8 MR. NOVAK: Exactly. We encouraged them.

9 MR. TAYLOR: We think this is very important
10 because we think they should understand what we're
11 doing and they should evaluate it and give us feedback
12 because to even utilize this in any fashion in an
13 evaluative way, it is important that they understand
14 it, that they be with us and I think what's going on
15 here is absolutely important. I think we'll be doing
16 more as things go on, perhaps with more utilities in
17 trying to explain what we're doing with this
18 information.

19 CHAIRMAN CARR: All right. Let's proceed.

20 MR. KING: (Slide) Turn to page 11,
21 enforcement criteria. That was the fourth major
22 activity in the staff requirements memorandum. Those
23 criteria are currently under development by the Office
24 of Enforcement and are expected to be provided to the
25 Commission by October 1st, as requested in the SRM.

1 (Slide) Page 12, the final recommendation,
2 what we're going to do at the end of the 18 month
3 period. We plan to provide staff recommendations
4 for additional regulatory action by April of 1991.
5 That is the end of the 18 month period, assuming the
6 policy statement is published October of this year.
7 That recommendation, we will get ACRS review and CRGR
8 review before it comes to the Commission.

9 Let me just note here that this
10 recommendation in April of '91 may or may not include
11 a recommendation to proceed with rulemaking. However,
12 to give the Commission time to review a rule and reg.
13 guide in the event we do recommend we proceed down
14 that path, we plan to provide a final draft rule and
15 regulatory guide to the Commission for information in
16 January of '91.

17 COMMISSIONER CURTISS: On the date for your
18 submission of the report to the Commission, April of
19 '91, is it your intention to submit that report at the
20 conclusion of the 18 month period regardless of when
21 that runs? So, if we bump the 18 month period up to
22 begin say July 1st, ending January 1st, would you be
23 in a position, given your schedule on the maintenance
24 team inspections, to submit that report earlier or is
25 this date independent of when the 18 month period

1 ends, if it ends earlier?

2 MR. KING: Well, that date was selected to
3 be consistent with the end of the 18 month period,
4 assuming publication of the policy statement in
5 October. If the Commission desires a recommendation
6 sooner, you're right, the maintenance team inspections
7 may not be completed at that point but we'll do our
8 best to give you our best recommendation at that time.

9 COMMISSIONER CURTISS: But your report is
10 going to consider the results of --

11 MR. KING: Yes.

12 COMMISSIONER CURTISS: -- essentially all of
13 the maintenance team inspections.

14 MR. KING: Right.

15 COMMISSIONER CURTISS: And if that date is
16 moved up, I gather what you're saying is the further
17 it's moved up, the less you'll have for the
18 maintenance team inspections.

19 MR. TAYLOR: Yes, that's correct. I think
20 we'd like to revisit a few people too with just a
21 small couple of people to see what action has been
22 taken in follow-up to the maintenance team inspection.
23 So, we'll be revisiting some of the -- particularly
24 where they've had problems in the first maintenance
25 team inspection of some of the early ones. We had

1 several plants that had problems. You were briefed on
2 that.

3 We may want to go back and see what's
4 happened, just for a couple of days, evaluate the
5 changes. The regions have been following up, so it
6 isn't that we're in a bind, but we would make a very
7 special effort to gather -- where are they,
8 particularly those that
9 had -- you remember the red flags, that type of thing
10 in the briefing? We would like to go back in those
11 areas and say, "Gee, have you fixed that area? Is it
12 working better?" Particularly those that we found
13 problems -- you may recall some of it was in
14 implementation.

15 COMMISSIONER CURTISS: Right, much of it
16 was.

17 One other quick question on that. When we
18 went through this exercise on the training policy
19 statement, there was a two year period. There was an
20 interim report submitted at the end of one year. Do
21 you see any value in submitting a report halfway
22 through the 18 month period here as well so that we
23 get a benchmark and maybe get a head start on the
24 final report?

25 MR. KING: We can certainly do that.

1 COMMISSIONER CURTISS: It does seem to me
2 that here you're going to have the report upright at
3 the end of the 18 month period without much time for
4 evaluation. In the case of the training statement, I
5 think it took a couple of additional months after the
6 two year period to pull the data together and submit
7 the report. Here it looks much tighter and I'm
8 wondering if there's some merit to the interim report
9 say nine months through the process.

10 MR. KING: I think certainly to have a
11 recommendation to the Commission in April of '91, the
12 staff is going to have to start pulling its final
13 recommendation together several months in advance of
14 that in getting it written and getting it reviewed and
15 going through the in-house consensus review
16 concurrence process. We could, if the Commission
17 desires, issue an interim report partway through this
18 process to let you know where things stand. That's
19 not on the schedule right now, but that could be done.

20 COMMISSIONER CURTISS: Okay.

21 MR. TAYLOR: If the Commission were to
22 desire that, I think what we'd do is evaluate what we
23 had and see whether it merited some type of
24 conclusive -- we may not be in a position to really
25 have digested the whole story. But certainly if

1 there's an earlier time that the Commission would like
2 to know where things stand and we could do that.

3 COMMISSIONER CURTISS: I guess my only
4 concern is that at the end of --

5 MR. TAYLOR: You could have that. Whether
6 we're ready to reach any conclusions or not is the
7 basic question.

8 CHAIRMAN CARR: We could have another
9 briefing.

10 COMMISSIONER CURTISS: I guess my only
11 concern is at the end of the 18 month period,
12 particularly if the report begins three or four months
13 before that, this is a shorter period than training,
14 it's a more complicated area in the view of some and
15 it may well be that the report gets out ahead of the
16 data that you need to evaluate in the report.

17 MR. KING: All right.

18 (Slide) Let me turn to page 13, continuing
19 on with the subject of the final recommendation. We
20 see the final recommendation to be based upon the
21 review of information resulting from four basic areas.
22 One, results of inspections, particularly the
23 maintenance team inspections and the SALP process.

24 As Mr. Taylor mentioned, we're planning on
25 some revisits to selected sites through that

1 maintenance team inspection process. We will look at
2 the maintenance indicator information. We'll look at
3 licensee and industry supplied information. The
4 policy statement, the draft revised policy statement
5 suggests that licensees in the industry supply
6 information to make their case. Not only commitments,
7 but performance information to show what their
8 improvement is.

9 Finally, we would look at the licensee and
10 industry commitments and in particular the commitment
11 to use a comprehensive standard in the maintenance
12 area.

13 CHAIRMAN CARR: How many inspections have we
14 got scheduled, maintenance inspections scheduled
15 between January '91 and April '91?

16 MR. ROE: I would estimate somewhere around
17 six to eight.

18 CHAIRMAN CARR: So, we'll have the majority
19 of them done by January.

20 MR. ROE: Yes, sir, and July of next year
21 we'll have almost 80 percent of them complete.

22 CHAIRMAN CARR: July of '90?

23 MR. ROE: July of '90.

24 CHAIRMAN CARR: Okay.

25 MR. ROE: That's the next slide.

1 MR. KING: (Slide) Yes. Page 14 is just
2 intended to show some of the key --

3 CHAIRMAN CARR: Percentages I have a little
4 trouble with.

5 MR. KING: Some of the key -- interface with
6 some of the key dates with the maintenance team
7 inspections showing that when we start the next
8 revision, the regulatory guide will have essentially
9 50 percent of the team inspections done. By the time
10 April of '91 rolls around, the inspections would be
11 essentially complete. By the time we're halfway
12 through there, we were hoping that the draft reg.
13 guide in final form is essentially 75, 78 percent
14 complete on the maintenance team inspections.

15 I think two main points when you look at
16 this interface schedule of interface one, that much of
17 the maintenance team inspection information will be
18 available for use in developing the regulatory guide
19 and in reviewing the industry supplied standard, if
20 they choose to go that way.

21 Second, at the time of the final
22 recommendation, essentially most, if not all of the
23 maintenance team inspections will be completed.

24 CHAIRMAN CARR: My interface with those
25 people who've had the maintenance team inspections

1 have been generally positive. They feel that they
2 were good inspections. They learned a lot from them.
3 What's our team feel like they're learning from those
4 inspections?

5 MR. ROE: I think we're continuing to learn
6 the lessons that we briefed the Commission before
7 about, that the programs are farther ahead than the
8 implementation and we still see that there are soft
9 spots in the engineering support area and soft spots
10 in the maintenance trending area that we feel are
11 important to the overall performance of a maintenance
12 program.

13 CHAIRMAN CARR: I guess my real concern is
14 are we learning enough about maintenance in those
15 inspections that we'll be able to put out a good reg.
16 guide, if the industry doesn't help us?

17 MR. ROE: We're a long way to that target.

18 CHAIRMAN CARR: Okay.

19 MR. KING: (Slide) And finally the last
20 page. Although it won't fit on the TV screen, I
21 thought it might be useful just to show the schedules
22 that we talked about all on one page to provide an
23 overview of how that fits together. That's shown on
24 page 15. There's nothing on there that we haven't
25 already talked about, but it does put it all on one

1 page.

2 With that, that concludes what we had to say
3 on the schedule and plans.

4 MR. TAYLOR: That's all.

5 CHAIRMAN CARR: Any comments, Commissioner
6 Roberts?

7 Commissioner Rogers?

8 COMMISSIONER ROGERS: I have a question.
9 When you're talking about -- on page 13 or slide 13--
10 that the final recommendation will be based on and
11 then you have four bullets there, the last one is
12 licensee/industry commitments, including commitment to
13 and use of a comprehensive standard. Now, does
14 comprehensive mean single? Comprehensive could be
15 broadly inclusive without being necessarily identical
16 for each plant. What is your thinking? Are you
17 thinking of a single comprehensive standard or is
18 there a notion of some flexibility in there?

19 MR. KING: I'll touch on a couple of points.
20 We're talking about a -- I'll use the draft regulatory
21 guide as an example. It references, particularly in
22 the training area, another standard that we think is
23 acceptable. So, from that sense, that standard could
24 reference other standards in particular areas that we
25 think are useful.

1 As far as the application of that standard,
2 we don't view that everybody's maintenance program has
3 to be the same. In other words, our intent is to
4 provide flexibility for licensees to have their
5 maintenance program structured consistent with their
6 facility, with their organization, their management
7 and so forth. So, we intend to allow flexibility.

8 CHAIRMAN CARR: Everybody's training program
9 is not the same.

10 MR. ROE: I think the two watch words in our
11 discussions are performance oriented standard or
12 standards and that there be flexibility for the
13 individual facilities. We have discussed whether it
14 would be something single that would be put together
15 or whether it would be a grouping of standards that
16 would be proposed.

17 COMMISSIONER CURTISS: I'm not going by way
18 of the corollary on the training issue. If the
19 industry committee would do something along the lines
20 of the program that was established in the training
21 area, would that be comparable to what you're looking
22 for here or are you looking for something that goes
23 beyond that? I'm not sure I'd call the INPO training
24 program a standard or a comprehensive standard, but it
25 does seem to me that it's the kind of program that in

1 that case --

2 MR. TAYLOR: It could be it's comparable,
3 yes.

4 MR. ROE: We found success in that approach
5 and there are a lot of analogies in this particular
6 area, though it's much more complex than just the
7 training area that would work well with that approach.

8 COMMISSIONER ROGERS: That's okay. I'd like
9 to kind of second Commissioner Roberts' concern about
10 the schedule that you've set up on page 5 which is
11 sending something to the Commission before you get the
12 ACRS comments. I just hope that you don't do that. I
13 hope we don't get anything before you've got those
14 notes.

15 MR. TAYLOR: These were made up. When was
16 the meeting, the ACRS meeting? Was it yesterday?
17 When did you meet with ACRS?

18 MR. KING: It was last week.

19 MR. TAYLOR: Last week, that's right.

20 COMMISSIONER ROGERS: I understand that you
21 have a pretty good feeling, I guess, of where they
22 stand and that's why you're proceeding along this
23 line.

24 MR. TAYLOR: But we did get the word that
25 members were not present. I guess that's just within

1 the last day or so and they wanted to finish their
2 work.

3 MR. SPEIS: We were told they were going to
4 write a letter.

5 MR. TAYLOR: Last week we thought they were
6 going to write a letter.

7 MR. SPEIS: Three absent members convinced
8 the majority not to write this.

9 MR. TAYLOR: So, things changed yesterday.

10 COMMISSIONER ROGERS: It seems to me just
11 for no other reason than good form.

12 MR. SPEIS: We will do that.

13 CHAIRMAN CARR: My understanding is they had
14 a little problem getting a consensus.

15 MR. TAYLOR: We found that out yesterday.

16 CHAIRMAN CARR: I know that problem.

17 MR. TAYLOR: We pictured consensus and it
18 didn't happen.

19 COMMISSIONER ROGERS: I think that's all I'd
20 like to say.

21 CHAIRMAN CARR: Commissioner Curtiss?

22 COMMISSIONER CURTISS: I have a couple of
23 questions here. First, on what's going to happen
24 during this 18 month period and what we're going to
25 see at the end of the 18 month period. In more detail

1 than you've got on page 13, what is it that we're
2 looking for in terms of what the industry would be
3 expected to do? What would be necessary or sufficient
4 for you at the end of that 18 month period to come
5 back to the Commission and say that, "The progress
6 that's been demonstrated by the industry during this
7 period of time is sufficient that we don't think we
8 need a rule now."

9 Before you answer that, let me give you a
10 couple of thoughts. One, on the maintenance team
11 inspections, if the implementation side of the blocks
12 were all red or yellow, but on the plan side or the
13 program side, what I think Commissioner Rogers
14 correctly calls the plan, if everybody had a plan in
15 place and the plan side of that box was green for
16 every utility, for every subject, would that be the
17 kind of database that would provide you sufficient
18 comfort that the industry is where it ought to be?

19 At the last meeting, I asked Stello the
20 question. He indicated that if we could guarantee the
21 progress that the industry is making to date during
22 this 18 month period of time, and if 18 months hence
23 now they continue to find retrospectively that they
24 continue on that curve, he indicated that the staff
25 wouldn't be here proposing a rule. Just what is it

1 that we're looking for as we, say, attempt to evaluate
2 during this 18 month period of time the extent to
3 which maintenance has improved to the point where we
4 would be comfortable saying we don't want a rule,
5 don't need a rule?

6 MR. TAYLOR: I think that's going to be a
7 judgment of improvement. I think we clearly aren't
8 looking for all green blocks in all, but part of our
9 revisits is to confirm that those that were
10 particularly in poor shape have changed. So it's
11 going to be a very judgmental thing, I think, and
12 we'll present those results to you. That's part of
13 what we're going to do. We're going to evaluate, but
14 it is a judgment.

15 COMMISSIONER CURTISS: Well, as it's a
16 subjective thing, we do have some efforts going on in-
17 house that are, it seems to me, efforts to quantify,
18 either in the context of what AEOD is doing or in the
19 context of this detailed set of blocks that are
20 divided into half and colored in with three colors and
21 evaluated. It does seem to me that we're trying to
22 get a quantifiable sense of what we think is an
23 acceptable level of maintenance performance.

24 I'm just wondering now whether you have a
25 feel beyond just the subjective nature of the

1 judgment, it's a gut feeling or a visceral feeling.

2 MR. NOVAK: I would like to just make one
3 comment. I guess our point will be that we'll be able
4 to characterize the trend of maintenance activity at
5 each reactor over a four to five year period, let's
6 say ending with some period like the 18 month period.
7 So then, the people can see the individual plant
8 performances to see if in fact the improving trends
9 are as good as we have seen over the last year and a
10 half and that the industry as a whole has improved.

11 I think you'll be able to look at the parts
12 and then you can look at the sum to make a judgment as
13 to whether or not some form of regulatory action is
14 advised. So we'll have that kind of input to provide,
15 but it will be just part of this equation that the
16 staff will use in terms of making a recommendation.

17 MR. TAYLOR: I think there's a distribution,
18 as we all know, in performance today. We would look
19 to those that are having problems particularly to be
20 able to improve. I can't give you the percentage
21 today, but that's what -- and we would concentrate our
22 attention on that end, because of -- to argue that
23 there'd been change.

24 MR. KING: I do want to add one point. That
25 very issue you're talking about is something we're

1 soliciting comments on as part of the draft reg guide
2 that's out for comment. One of the specific questions
3 to the industry is, and we'd like their views on, is
4 how do we determine when a maintenance program is
5 fully effective. So I think we'd like to get that
6 information before we come up with any final set of
7 criteria.

8 COMMISSIONER CURTISS: It does seem to me
9 that we're getting to the point here. If the AEOD
10 effort is successful and if our maintenance team
11 inspections prove to be successful -- and by that, I
12 mean their approached in a uniform way from team to
13 team in regard to a common database -- it does seem to
14 me we're reaching the point where it may be possible
15 in a more objective way and less subjective to
16 identify the particular factors or criteria that we're
17 looking for, rather than what I think in the past has
18 been a visceral sense that many people have had, so
19 that you can come back and, say, If everybody is a
20 SALP II and if all the program side of the maintenance
21 team inspections are all green and the trends in the
22 AEOD report are uniformly on an uptick, that'd be the
23 kind of thing that at least in my judgment might
24 demonstrate that we have reached the point that 18
25 months hence we might want to take a look at whether

1 we need a rule.

2 Is it conceivable if we may reach the point
3 where we don't need a rule, that similarly that we
4 might find based upon the team inspections that the
5 rule that you come up with could be significantly
6 different in terms of focus or approach than what
7 we've got up here before us, or what we had up here
8 before us?

9 MR. KING: I think certainly that's
10 conceivable that that could happen. We would want to
11 look not only at the reg guide, but the rule, based
12 upon comments received, maintenance team inspection
13 information, licensee commitments and so forth, and
14 see what changes we would want to make.

15 COMMISSIONER CURTISS: As you do that, and
16 if we reach the point where the rule comes up and
17 there are significant differences, I guess I'd like to
18 have you take a special look at whether there's a need
19 to repropose it, given the kind of issues that might
20 be raised --

21 MR. KING: Yes.

22 COMMISSIONER CURTISS: -- that weren't
23 raised in the first go-round or because of the
24 separation in time from when we got the initial rule
25 to when --

1 MR. ROE: Yes, we realize that one of the
2 values of the efforts we've had is that AEOD, NRR, and
3 Research work very closely. Whenever we talk about
4 these particular subjects, it's always very well
5 coordinated so that all these thoughts are pretty much
6 the ones that are across the offices. Rulemaking is
7 not going on in one path and we're going on
8 maintenance team inspections the other path. We're
9 trying to keep them as closely linked as possible.

10 MR. PARLER: Mr. Chairman, as a general
11 statement, I think that whenever this Commission
12 proposes a rule, that before it puts a rule in effect,
13 in final form, that if it gets new information from
14 comments or certainly from internal sources, those
15 things normally should be taken into consideration
16 before you put out a final rule, or indeed if the
17 final rule is put out, subsequently to make changes to
18 the rule that's in effect.

19 COMMISSIONER CURTISS: That's all I have.

20 CHAIRMAN CARR: Well, to pick up on
21 Commissioner Curtiss' point, I don't think I'd be
22 satisfied to see that the programs are all green.
23 What we need is an implementation out there that gets
24 maintenance done.

25 There's no doubt in my mind that maintenance

1 has improved throughout the industry over the last two
2 or three years. There's no doubt in my mind also
3 what's caused a lot of that improvement has been our
4 focus on maintenance.

5 What I'm concerned about is that there is a
6 system in place, whether it's their's or our's, that
7 says when I quit focusing on maintenance as a
8 regulatory commission at a high priority, maintenance
9 continues to be done well and done right. Now whether
10 that -- who sets that system up, it doesn't really
11 make any difference to me whether it's their's or mine
12 as long as it works.

13 So what I expect of industry after this
14 period, whatever it is, is that there is some system
15 in place or going to be put in place that's going to
16 insure that maintenance is being done when those of us
17 who are interested in it are long gone from the scene.
18 That's the purpose of the whole exercise, and not that
19 just maintenance is being done, but it's being done
20 well and it's good maintenance. And so, I think
21 measuring -- having a measurement of when maintenance
22 is done well is very important to the whole project.

23 As I said when I got here, it's incredible
24 to me that we have as many regulations on everything
25 else in the world and as few on maintenance as we've

1 got in a general approach. It's not that the plants
2 aren't doing maintenance. They're doing it. Some of
3 them are doing it very well, and they've all got a
4 maintenance program in place. But I don't have a warm
5 feeling that the guy who's got good maintenance this
6 year is going to have it two years from now if they
7 change out the maintenance manager or somebody in the
8 line who's really pushing maintenance. So we need
9 something that's going to make sure that's a
10 continuing program.

11 COMMISSIONER ROGERS: I'd like to second
12 that. I've been watching plants too, and visiting
13 quite a few of them, and also looking at some of the
14 initiatives from the public utilities commissions and
15 public service commissions with respect to costs, and
16 I think there are negative driving forces coming from
17 that direction sometimes, at least perceived to be
18 with respect to maintenance initiatives perhaps.

19 I just think that there has to be some way
20 of making sure that in the face of other new forces
21 that a licensee is subject to, maintenance still gets
22 the kind of attention that it has been getting if we
23 back away in any way. So I think we have to keep that
24 in mind. Not only is it the past performance that we
25 have to feel comfortable with. We have to feel

1 comfortable with that continuation into the future.
2 And that's the Chairman's point. I think somehow our
3 thinking has to include that, whatever we come to.

4 COMMISSIONER CURTISS: It does seem to me
5 that the difficult challenge that we're going to face
6 is if we reach the point where all the programs that
7 are in place -- all the plans, to use the distinction
8 that Commissioner Rogers I think properly
9 emphasizes -- all the plans, written maintenance plans
10 are all acceptable, they're all our green boxes or
11 whatever assessment that we use, but the
12 implementation is less than we would like. That does
13 seem to me to be what the maintenance team inspections
14 at least preliminarily are beginning to tell us, that
15 the implementation is where the utilities are falling
16 short, and particularly on engineering and technical
17 support for maintenance.

18 I'm not quite sure if all the plans are in
19 place, how it is outside of the enforcement regime you
20 regulate implementation. If you agree that the plans
21 themselves are adequate and it's a question of proper
22 implementation, it does seem to me that that might
23 fall in the domain of using the tools that we have to
24 enhance compliance with plans that we all might agree
25 are acceptable. And enforcement does seem to me to be

1 a logical vehicle and one of the reasons that was
2 emphasized in the SRM.

3 I think there are other things that we can
4 do or maybe want to consider. It may make sense at
5 some point to take a look -- if we're looking at
6 increasing the attention or focus that utilities give
7 to this very important area, it may make sense to look
8 at the concept of extending the problem plant list to
9 include a category of maintenance performers where,
10 just as we do on a semi-annual basis with problem
11 plants, we identify those -- that handful of
12 maintenance performers that we think may have
13 appropriate plans, but where they need increased -- or
14 may not have plans at all, but where they need
15 increased attention from the kind of focus that the
16 problem plant process gives us.

17 CHAIRMAN CARR: But I wouldn't think that
18 would be necessary. Maintenance is one of the things
19 that puts them on the problem plant list anyway.

20 COMMISSIONER CURTISS: That's true. There
21 is considerable overlap.

22 CHAIRMAN CARR: You don't have to sort it
23 out.

24 COMMISSIONER CURTISS: That's right. But it
25 does seem to me that the challenge, as we get to the

1 point where the programs are improving, the plans are
2 improving, it may well be to see in the context of
3 this initiative what steps we have -- what tools we
4 have available to us to increase attention on
5 implementation, particularly in the area of
6 enforcement.

7 CHAIRMAN CARR: The other comment I'd like
8 to make is on your proposed reg guide. I see the
9 words in there, "other systems important to safety,"
10 too often. That's too general, because my opinion and
11 somebody else's opinion is going to disagree on
12 whether that system is or is not, and I would like to
13 see if there's some way we can be a little more
14 definitive in that.

15 You all know I'm very interested in the
16 balance of plant, so I'm happy to see you pick up
17 those pieces of the balance of plant that seem to
18 cause us more problems than the rest of them. So I
19 would encourage us to be as definitive as we can in
20 those areas.

21 I guess my philosophy is that you can't
22 really have different kinds of maintenance for any
23 part of the plant. Maintenance is a philosophy that
24 people do. They do it right, whether it's changing
25 light bulbs or whether it's sweeping floors or whether

1 it's fixing major pieces of equipment.

2 And so, when you try to say some piece of
3 the plant is more important than the other, I would
4 agree to that. But the way you approach maintenance
5 in that piece of the plant shouldn't be any different
6 than the way you approach maintenance in the other
7 part of the plant. So I don't know how we can get
8 around that in what you're trying to do in that reg
9 guide, but it is a major problem for me in looking at
10 the words in the reg guide.

11 Well, I thank the staff for the briefing.
12 It's a very important subject as far as I'm concerned,
13 and I'm sure my fellow Commissioners feel it's equally
14 as important. I certainly think the schedule you've
15 picked out is an ambitious one. I hope you can keep
16 to it. I think the schedule you've got, if you can
17 hold to it, we can work with. If we have to work
18 harder, hopefully we can.

19 But I wouldn't want to have anybody alter
20 the quality of the process to meet a schedule. We
21 ought to do a quality piece of work and we ought to
22 get it done, and I think the schedule you've got we
23 can get it done on time and still have a quality piece
24 of work. So it's important that we get on with it,
25 and I complement you on what you're doing. I realize

1 it's a lot of work. It's something that I think we
2 needed to have done five or ten years ago and it's
3 time we got on with it.

4 Are there any other questions? If not, we
5 stand adjourned.

6 (Whereupon, at 9:59 a.m., the above-entitled
7 matter was concluded.)

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CERTIFICATE OF TRANSCRIBER

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

TITLE OF MEETING: BRIEFING ON STATUS OF MAINTENANCE INITIATIVES
AND SCHEDULE

PLACE OF MEETING: ROCKVILLE, MARYLAND

DATE OF MEETING: SEPTEMBER 15, 1989

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

Carol Lynch

Reporter's name: Peter Lynch

BRIEFING TO COMMISSION

ON

STATUS OF MAINTENANCE INITIATIVES

AND SCHEDULE

SEPTEMBER 15, 1989

PURPOSE OF BRIEFING

TO BRIEF THE COMMISSION ON THE STAFF'S
PLANS AND SCHEDULE RESULTING FROM THE
JUNE 26, 1989 STAFF REQUIREMENTS
MEMORANDUM (SRM) ON MAINTENANCE.

CONTENT OF BRIEFING

- o JUNE 26, 1989 SRM
- o PLANS AND SCHEDULE
 - REVISED POLICY STATEMENT
 - REG. GUIDE DEVELOPMENT
 - INDUSTRY PROPOSED STANDARD-OPTION
 - MAINTENANCE INDICATORS
 - ENFORCEMENT CRITERIA
 - FINAL RECOMMENDATION
- o INTERFACE WITH MAINTENANCE TEAM
INSPECTIONS (MTIs)
- o INTEGRATED SCHEDULE

JUNE 26, 1989 SRM

- O ISSUE REVISED POLICY STATEMENT.
- O PUBLISH DRAFT REG GUIDE FOR COMMENT.
DEVELOP FINAL REG GUIDE IN TIME FOR
ISSUANCE WITH A RULE.
- O PROCEED WITH VALIDATION AND
IMPLEMENTATION OF AEOD MAINTENANCE
EFFECTIVENESS INDICATOR. INVITE
VOLUNTARY PARTICIPATION OF LICENSEES
IN A DEMONSTRATION PROJECT TO IDENTIFY
QUANTITATIVE INDICATORS.

JUNE 26, 1989 SRM (CONT'D.)

- O ESTABLISH CRITERIA TO DETERMINE WHEN A
PLANT SPECIFIC ORDER OR OTHER ENFORCEMENT
ACTION SHOULD BE TAKEN UNDER THE POLICY
STATEMENT. IDENTIFY ANY CHANGES NEEDED IN
THE REGULATIONS.
- O COORDINATE WITH AND OBTAIN ACRS VIEWS.

REVISED POLICY STATEMENT

- 0 PREPARED AND REVIEWED BY ACRS AND CRGR
- 0 ADDRESSES POINTS IN SRM
- 0 TO COMMISSION - 9/89
- 0 ASSUMED PUBLICATION DATE - 10/89

REGULATORY GUIDE DEVELOPMENT

- O DRAFT ISSUED FOR COMMENT - 8/17/89
- O CLOSE OF COMMENT PERIOD - 12/1/89
- O SECOND DRAFT AVAILABLE - 3/90
- O WORKSHOP - 4/90
- O ISSUE FOR VOLUNTARY USE - 7/90
- O ADOPTION/IMPLEMENTATION/FEEDBACK
PERIOD - 7/90 - 1/91

INDUSTRY PROPOSED STANDARD - OPTION

- O OPTION IS PROVIDED FOR INDUSTRY TO PROPOSE THE STANDARD.
- O COULD BE PROPOSED FOR ENDORSEMENT IN R.G. OR JUST FOR NRC REVIEW AND VOLUNTARY ADOPTION.
- O NEED SUBMITTAL BY MARCH 1990
- O WILL CONTINUE TO WORK ON OUR R.G. UNTIL SUCH TIME AS AN ACCEPTABLE INDUSTRY STANDARD IS DEVELOPED.

MAINTENANCE INDICATORS - STATUS

MAINTENANCE EFFECTIVENESS INDICATOR
DEVELOPMENT (MARCH TO AUGUST 1989):

- O REPORT DUE OCTOBER 1989 ON
 - EXTENSION TO PWRs
 - EXPANSION OF BOP
 - FINDINGS CONSISTENT WITH EARLIER
WORK S/804B

MAINTENANCE INDICATORS - STATUS (CONT'D.)

- O INDICATOR UPDATED WITH NPRDS DATA
THROUGH 12/88
- O INDICATOR TO BE CALCULATED THRU JUNE 89
BY END OF OCTOBER 1989

DEMONSTRATION PROJECT

- O INITIAL MEETING - JULY 19, 1989 -
SUBSEQUENT AGREEMENT BY NUMARC
- O MEETING SEPTEMBER 12, 1989:
 - PRESENT DRAFT REPORT ON
MAINTENANCE EFFECTIVENESS
INDICATORS
 - DISCUSS MAINTENANCE OPERATING
EXPERIENCE
- O INDUSTRY MEMBERSHIP:
 - SIX UTILITIES, NUMARC, INPO

ENFORCEMENT CRITERIA

- CURRENTLY UNDER DEVELOPMENT
- TO BE PROVIDED TO THE COMMISSION BY 10/1/89.

FINAL RECOMMENDATION

- 0 STAFF RECOMMENDATION ON THE NEED FOR
ADDITIONAL REGULATORY ACTION TO BE
PROVIDED TO THE COMMISSION BY 4/91
(WILL INCLUDE ACRS AND CRGR REVIEW)

- 0 DRAFT FINAL RULE AND REG. GUIDE TO BE
PROVIDED TO THE COMMISSION FOR
INFORMATION BY 1/91 (WILL INCLUDE
ACRS AND CRGR REVIEW)

FINAL RECOMMENDATION (CONT'D.)

O WILL BE BASED UPON:

- RESULTS OF MAINTENANCE TEAM INSPECTIONS(INCLUDING SOME SELECTED REVISITS) AND SALP
- MAINTENANCE INDICATOR INFORMATION
- LICENSEE AND INDUSTRY SUPPLIED INFORMATION
- LICENSEE/INDUSTRY COMMITMENTS, INCLUDING COMMITMENT TO AND USE OF A COMPREHENSIVE STANDARD

INTERFACE WITH MAINTENANCE TEAM INSPECTIONS

<u>DATE</u>	<u>TASK</u>	<u>PROJECTED MTI STATUS</u>
12/89	- START R.G. REVISION	55% COMPLETE
7/90	- R.G. AVAIL. FOR USE	78% COMPLETE
4/91	- RECOMM. TO COMMISSION	ESSENTIALLY COMPLETE

Integrated Schedule

