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UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

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PUBLIC WORKSHOP

ON

TECHNICAL AND POLICY CONSIDERATIONS

FOR

NUCLEAR POWER PLANT LICENSE RENEWAL

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Summary of Concurrent Sessions

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Sheraton Resort Hotel

Conference Rooms A, B and C

11810 Sunrise Valley Drive

Reston, Virginia

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Tuesday, November 14, 1989

1:18 o'clock p.m.

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SESSION LEADER:

Themis P. Speis, Office of Research, Deputy Director for Generic Issues

PARTICIPANTS:

Robert Bosnak, NRC

Frank Gillespie, NRC

Don Cleary, NRC

Larry Shao, NRC

Milt Vagins, NRC

Ashok Thadani, NRC

James Richardson, NRC

John Haseltine, Yankee Atomic Electric Co.

Terry Pickens, Northern States Power

Bill Rasin, NUMARC

PROCEEDINGS

MR. SPEIS: I think we are ready to start.

Ladies and gentlemen, my name is Themis Speis. I am from the Office of Research, Nuclear Regulatory Commission. Of course, this is the last session of the workshop, and it's called Summary of Concurrent Session. The workshops we had yesterday and today, we will summarize this afternoon.

What we would like to do is call upon the chairmen of the concurrent sessions to provide a summary of most of the important issues or some of the key issues or questions that were raised during these workshops, and in addition to our people who do it for the seven concurrent sessions, the industry representatives will also provide their summary of what happened the last day and a half here.

The next step on our side is to inform our Commission of what took place here the last two days or so. They have asked us specific questions that we have to provide answers to, and of course, the other thing that is more important is to take the questions and the insights and the comments that were provided by you and start finalizing the proposed rule.

As was indicated the last two days, the schedule for the proposed rule is next spring, and the final rule is 1992. Of course, you have provided very strong comments that you would like to see the rule done a year earlier, to make sure that the rule is available when the lead plant applications

come in, and this is something that we will have to consider very carefully.

As you know, the key issue that has led us to choose 1992 is the issue of the GEIS, the Generic Environmental Impact Statement, so these are things that we have to think very carefully on, and we will do the best we can.

We don't have in mind to provide any positions today based on what we heard, it's premature. We understand also that in addition to what we heard, and the viewgraphs, industry will provide detailed responses to the issues that have been raised, as well as the answers to the specific questions that we have been able to put together.

So we are looking forward to those answers before we finalize our positions on these important issues.

I think, speaking for the Staff, that this workshop accomplished the objectives that we have set forth. We want to make sure that you people understand our approach, and understand the details of implementing this approach.

As most of you have said, there seems to be general agreement or general philosophy on the general approach, but there are differences, different views on the details of implementation. And, of course, our position has been a draft one, and this workshop is part of the process of going forward and putting the rule together.

So, without losing any more time, I would like to

call upon the chairmen now to summarize the issues. I hope that they can keep their presentations to no more than 10 minutes, so we can have some time for the three industry representatives, as well as maybe open the floor later on for some additional questions or comments. And I am sure that all of you are looking forward to rushing to the airports or wherever to go back to where you came from.

So, with that, again I thought that this was a very constructive workshop, because I had the honor or dishonor of chairing the IPE seminar back in Texas the earlier part of the year, and it was full of fire, and I thought that Zeus was coming down from the mountain.

[Laughter.]

MR. SPEIS: So, with that, I will call upon Bob Bosnak to provide his summary of Sessions 1 and 5.

MR. BOSNAK: Yes, thank you, Themis.

What I tried to do here first, and we may have left some important ones out, but we tried our best to include all the issues, and the first slide indicates how we grouped these things.

A are issues on which there was general agreement. There were five of those.

B are the ones that are more difficult to fix.

C are the ones that perhaps are easier to fix, and things that were put into categories B or C -- there was not

general agreement. I didn't have a chance to talk with industry or the staff, so there may be disagreements on what's easy and what's difficult. There's a total of 19, as you see here.

Let's just go quickly through some of them to give you an idea of where there is general agreement.

The current licensing basis provides adequate safety level and, of course, the license renewal should focus on aging.

Next, it is important, we think, because we want to know what is necessary in the area of regulatory guidance, and we did hear some comments that format and content and screening, there was some guidance needed.

Now as far as the lead plants and their influence on this whole process, we would wait for the reviews of the lead plants to see if there is anything else that is needed.

The last bullet that you see, specifics and details on Reg Guide versus the detailed rule, I thought I heard that people preferred to have those in the Reg Guide. If there's disagreement on those, perhaps in the written statements, you can clarify that.

Next.

Now we get into the ones that are a little more difficult. The current licensing basis should not be documented, and you only want aging-related portions and time-

dependent exemptions, and we will get into those a little later, because there may be again disagreements as to what the staff feels are important time-dependent areas and aging-related areas, and what the industry as a whole thinks of those.

Certification of compliance is unnecessary, and there's no need to define the current licensing basis in the rule. Obviously the utilities felt they have a complete knowledge of current licensing basis and they should make this available.

Next.

Another one of the more difficult ones is with respect to the conceptual approach is inconsistent with the basic philosophy. The requirements with respect to components, systems and structures does not give enough credit to existing programs for managing aging. These were the points that were made. And it is not necessary to reanalyze design of aging as adequately addressed initially. It may be difficult to prove, but again that was a point that was made.

You wanted the options, you did not want to have it included in the rule to specifically identify evaluated trend degradation mechanisms. You felt that this was excessive, particularly if you looked at all the numbers of components. There are many thousands in a given plant, and you felt that this was too prescriptive for the license renewal rule.

Tech specs are not a suitable instrument for controlling aging management was a point that was made.

Backfit. This is a difficult one. The rationale for the backfit rule, I think the point was made that it's valid in relationship to license renewal issues, including aging concerns; that if an aging concern is valid, you should go through the benefit and cost relationships to show that that is a valid point, and the backfit rule again has the built-in procedures that if you were talking about a minimum level, adequate protection, it's already included.

There was an additional point about ambiguity in the backfit rule and the conceptual approach, and that should be corrected.

Maintenance requirements, you felt that they should not serve to replace a maintenance rule, and any requirements put in the license renewal area should relegate itself to aging degradation. We should accept current practices, supplemented as needed for aging management, to support the license renewal, and aging management methods should not be prescribed in detail. Those were the points, again, and they are important because maintenance is a vital thing with respect to managing aging.

Now we are getting into the last category, and some people may disagree with respect to easy to solve or hard to solve, but one of the points that you made on severe accident

closure was that there is an existing generic letter out, and it should take care of the severe accident area, and since severe accidents are not a consequence of aging -- although some people might want to debate that -- the current licensing bsais should be defined as including treatment of severe accidents. That was a point that I think was made by Joe Gallo. And the accident management programs are being addressed. The NUMARC working group has guidelines for evaluating accident management capabilities.

The rulemaking schedule, I think, was one of the last things that I wanted to mention, and you have heard about that again with respect to mid-'91 for the lead plants, but if we are going to couple environmental and technical issues, it may go as far as April 1992.

Now into an area just very quickly of definitions, and there is a group from NRC and EPRI that are working on the time-dependent processes. The issues that are important to safety, I think the point was made that there is an existing definition of important to safety. Even though the one that is in the current rule is clearly stated, there could be some problems if people don't understand what important to safety really means.

And finally, the last thing, the current licensing basis, what we are trying to say here, that there are important things that go into age-related degradation mechanisms. If we

don't agree on what they are, and that's the last bullet on the slide, we have indicated nine identified mechanisms -- if we don't agree on what they are, then we're going to have problems in trying to decide what to do with respect to the current licensing basis.

And the properties and parameters that change with time, we ought to agree on what vital properties and parameters change with time. So there is work going on with that. It was an area that was perhaps not discussed in the general sessions as much as in the specific technical sessions.

Thank you.

MR. GILLESPIE: I want to add two things to what Bob said, because I think in two different sessions, we went round and round and round the horn on this. I try to say this without getting into too much trouble. I've been advised by legal counsel not to do it but I'm going to give it a try anyway.

One of the links -- in the wording of the rule, we may have to go back and we'll take a look at it -- but one of the links between the existing license and this thing, this renewed license, I won't call it anything else than renewed license, it's that ill-defined, is a listing of what the current obligations are. As those obligations get carried forward, so do the original findings and it's an important link to make.

If you look in the standards, in the conceptual rule right now, you'll find in the standards that we're not remaking the original findings. So one reason for having and I'll call it a list, a list of what it is as a minimum, is to make that vital link to also carry forward we hope, the findings.

Now, that's what we're trying to do. That's our intent. I don't know if we'll be fully successful or not but that's the intent of making the link. So, I was asked to at least clarify that and that might be helpful.

The other thing was in the screening -- in the rule -- our rule has been described as not like a funnel like people would like to see it but more like a trough or a toilet --

[Laughter.]

MR. GILLESPIE: -- where everything gets flushed down or nothing gets flushed down. One of the things that I think we would at least be receptive to some comments on is how to integrate some screening classes, I'll call them, the classes which are very, very well defined into the rule itself, realizing that it never can be all inclusive but it's a middle ground between a prescriptive and a broad rule we currently have now which causes certain analyses and information to be collected and decisions made on every component.

The example which came out in one session which is one of the easier cases is, if a component has a fixed life and we basically have fixed that life because we know everything or

think we know everything that's going to happen to it over that time, then why should we have to do an analysis of that piece? Well, that's one class which we'd have to think about it more but it's a good comment. It's not currently in the rule and if there's other classes of things like that which are very definitive, very deterministic in nature, I think we'd be happy to entertain those kind of comments as far as coming to a middle ground in the screening process in the rule.

Those were and/or slots. I want to get Don off the hook because Level III PRA came up in several sessions and I guess it came up most in the environmental sessions. I'm going to let Don address it there. The general concepts of, should the rule mandate a PRA, as Bob said his slide came across as no, it shouldn't mandate it.

For other reasons not on the technical portion of the rule but on the environmental portion, Don has to deal with the question of off-site doses and some people relate a Level III PRA one for one with off-site doses and I think where Don's going to be coming from is maybe that isn't a one for one relationship. You maybe can address off-site doses without necessarily going through all the steps of a Level III PRA.

For the technical portion, we did not anticipate at this time in the conceptual part, of requiring a PRA.

MR. SPEIS: The next speaker is Don Clearly who will discuss the environmental issue. That is the issue that

received considerable discussion, dialogue, views, and based on what we heard, at least wishing that you do understand our position because as I said earlier, one of the objectives of the workshop is to make sure you understand where we're coming from.

So, Don, we thought, let's go into that issue and then we'll proceed to the technical issues after Don is through with his presentation.

MR. CLEARY: We heard a number of points being made addressing the questions that had been put out in the environmental area. Our impression was that there seemed to be pretty much of a consensus. We didn't hear differing opinions. We heard that a new age had begun for the license renewal rule, that the schedule for that rule should be accelerated so that the final rule is published in May of 1991 and this is tied to the lead plant applications.

We heard that a generic NEPA study is either okay or there are some merits to it. We didn't hear any negative comments on it. That generic study however should be decoupled from the Part 50 rulemaking. We heard the encouragement that in developing a generic NEPA study that the staff should be very careful to build on existing policies and documents that have been generated over a number of years within NRC, for example, in the waste confidence area.

We heard relative to the question of Level III PRA,

an acknowledgement that off-site consequences of severe accidents have a legitimate place in the NEPA analysis and that these off-site consequence analyses are tied or can be tied to Level III methodologically in that they address the same thing and that many of the tools are the same, or several of the major tools are the same.

However, we did not see support for the feedback from these off-site consequence analyses to the decision process on the safety side. We also heard an offer from NUMARC to work with the staff in developing information that would go into a generic study and we look forward to hearing more hopefully in the responses in the next two weeks as to areas where NUMARC and its members might be prepared to provide assistance.

This is as we develop our work plan for the GEIS assuming that we get the go ahead from the Commission. We certainly will open this prospect up for further discussion with NUMARC and with any other source of information.

Relative to the question on sources, both environmental effects, this wasn't addressed in any detail but we did hear several individuals make the statement that there shouldn't be any significant effects, that whatever effects there might be have been pretty much bounded by experience already.

Relative to alternatives, we did hear the advice that alternatives be carefully defined in terms of a sharp

definition of exactly what the Federal action is that the NEPA analysis is supporting. I think those are the important points that we got out of the discussion in Section 8.

MR. SPEIS: Thank you, Don.

Now we're going to get into the detailed technical issues and the next speaker will be Larry Shao who will discuss the primary boundary.

MR. SHAO: We had very discussion yesterday in Session 2. Reactor pressure boundary. It was agreed that the reactor pressure boundary must have very high reliability for the operating life of the nuclear power plants. The key components in the reactor pressure boundaries are reactor vessel, steam generators, pipings, pumps, and valves.

The key aging mechanisms for these components are radiation, fatigue, erosion, corrosion, wear, and embrittlement. The seven prepared questions we discussed in great details. It was concluded that seven code groups such as ASME, ASTM, are looking at issues of reactor vessel safety programs and currently ISI and IC programs for license renewal.

For aging of cast stainless steel, it was felt that there were no sufficient data and more work needed to be done in this area. However, the experience of cast stainless steel can be evaluated from our service components. Mechanical analysis can be used to resolve this issue.

In the ASME code -- need to be considered. These

curves are being developed by ASME and PVRC. The use of exotransients in lieu of these X-rays is likely to reduce the fatigue usage factor. -- in the area of cancellations will also reduce fatigue usage factors.

For wear overlay repair, it was recommended that improved techniques should be developed and the repair pipings should be properly analyzed for the effects of wear overlay. It is agreed that a new criteria could be developed. It is very important that the full experience should be utilized as much as possible.

There was also interesting discussion as to how to tackle the issue related to areas that have no detailed fatigue analysis. There were three options. The first option is to perform reanalysis. The second is use analysis and inspection results for similar plants and the last one is use fatigue monitoring.

In addition to NRC staff, several presentations were made by the industry groups. The industry groups have prepared generic technical reports for PWR and BWR reactor vessels and primary pressure boundaries. These reports were addressed all age-related degradations. Each licensee has to show how these generic reports are applicable to his plant. For areas of the plant that are not properly covered by these reports, plant-specific analyses had to be performed for these areas.

MR. SPEIS: Thank you, Larry.

The next speaker is Milt Vagins who will address the section on fluid and mechanical systems.

Milt.

MR. VAGINS: Of course, part of our session in reality was covered by boundary components. You can't have fluid mechanical systems that don't include boundary components but we stuck more or less to things like pumps and valves and things not generally thought of as the primary boundary.

We start off by -- we had seven questions but the way the answers came in, the way the comments came in, didn't generally follow those questions. However, one thing that became very clear is that clarification, at least in our area was necessary to assure that the philosophy of the rule was kept into or was involved in the details. I think you've heard this before and you'll probably hear it again. The purpose of the proposed rule is to maintain safety of current licensing basis, in other words, assured continued safety -- not to enhance safety.

This is what we've been saying all day long. One of the questions raised was should we require hot functional testing, benchmarking, et cetera, for license renewal and the comment again was that most components are tested, inspected, repaired, refurbished, or replaced under NRC programs that are effective now and will continue to be effective during extended operating term. Additional requirements are not needed for

license renewal. Understood, of course, that involved here were the words, that items not affected or not showing aging degradation. In other words, this is true, but there are areas where aging degradation which is not or may not be a principal concern now could very well be a principal concern in the license renewal period.

Of course, pressure boundary degradation needs to be assessed and that was covered by Mr. Shao, so we'll continue on the next one.

What equipment should be included for license renewal review? Here we have some very succinct statements. The only components important to safety with unresolved aging degradation issues as stated in philosophy. The kicker there was definitions of importance to safety and it's obvious we're going to have to do some more work to be sure that we have the definition well pinned down and well-defined and consistent throughout the rule.

Section XX-9 is inconsistent with philosophy because it requires detailed information for all equipment important to safety. The philosophy again states that we are really only concerned with those equipment which show aging degradation which are not handled by present licensing basis. The third item was that screening is essential to allow focusing resources on important issues.

I think of course, there's general concurrence on

that. That's exactly what we want screening for. We don't want you to waste time on issues that are not important. There becomes a basis -- a point -- to agree or disagree as the case may be on what are important issues.

The inclusion of balance playing components should follow same criteria as screening rule. The issue was brought up about initiators and it was brought up in several of my sessions and I'm sure in other sessions, too. Again, it's something that's going to have to be examined very clearly. We certainly don't want to be looking at all initiators of balance of plant but we certainly do want to be looking at balance of plant components that may prevent or mitigate safety systems from operating if they fail.

We certainly don't want the old assistance to be challenged more than they are now. So again, some further points of analysis is required. There was a definite disagreement on inclusion of components that increased frequency of accident initiators. This is the point I was talk I was talking about. The initiators -- some people felt that initiators -- looking at these subclasses of initiators were extremely important and the general feeling of the audience was that initiators fall outside the bounds of present day licensing basis and really shouldn't be involved because that's what the safety systems are for, the backup systems, et cetera, to take care of the initiators.

Then we moved on to the next one. Of course, the question arises, do we need augmented inspection and/or analyses for aging pumps and valves and this really became involved with today-tomorrow problems. We all know that there are weaknesses in the ISC program but we're working on it. So comments said that augmented needs will be developed as part of an evaluation procedures for selected components. The lead plants are working specifically on that. They did feel that a good part of the inspections will be handled by the IFC's and that the O&M committees on ASME, the NRC, various groups, are working on improving IFC's and those are today's problems.

The issue of trending came up in the same area and most comments were, use trending only where absolutely necessary and where they're effective. The issue was brought up that if you have something that is due to replacement or refurbishment at a periodic period and that periodic period was shown to be effective, in other words, no increased failure rate, then you don't need trending. It's hard to take issue with that.

The next question was should functional or proof tests be required as a prerequisite. This is a point I raised before and it goes back to the general clarification and again it says, current in-service testing is sufficient. If we have problems with in-service assessing, let's settle them today -- let's handle them now.

The question of what requirements be for including operating history, water, environment, and higher temperatures of fatigue evaluation, you've heard that addressed in the boundary components sections and the same goes here. Very briefly, ASME is working on it. NRC is working on it. Other people are working on it and again, I don't see that as tomorrow's problem.

The next question is tomorrow's problem and that is, how should the life of ASME Class II and III components be determined? The general comments there were that the two and three components do not normally experience severe thermal cycles and the load cycles are not severe and therefore, the original acceptability criteria using ASME directions were sufficient. However, we brought up that in cases where a water hammer has been identified and water hammer has been an issue, then special analysis has to be attributed to that.

I'm not quite sure what that analysis will be but certainly something will be necessary in that area.

Final question, I believe, right, is additional guidance needed? Do the utilities have all the guidance they need to do a good job in license renewal right now? The general comment was no, no new regulatory guides are needed but after issued, they should take advantage of the NUMARC NUPLEX the industry technical reports and absolutely should not delay -- there should not be a reason for delaying evaluation and

license renewal for the lead plants.

Again, I'm not quite sure we totally agree with the fact that guidance is needed but those were the comments that were made. Thank you.

MR. SPEIS: Thank you, Milt.

Ashok Thadani from the Office of Nuclear Reactor Regulations will discuss the screening methodology for systems, structures and components, and you might as well stay here to discuss the electrical systems.

MR. THADANI: Actually I think Milt has covered everything, but since I made these notes, I might as well go through these.

The screening methodology session was a fairly lively session, not quite close to the IPE workshop, but it was somewhat lively.

There were three formal presentations. NUMARC and Yankee Atomic made presentations on the proposed screening methodology. They indicated that there is a basic inconsistency between NRC staff philosophy and the explicit requirements of the proposed rule and gave several examples.

Bill Vesley of SAI described his work on the use of PRA methods to quantify the impact of aging on component failure rates, the effect of multiple aging mechanisms, and the effect of maintenance and surveillance programs on failure rates.

These three formal presentations led to a fair amount of discussion, and let me give you a sense of some of the issues that people raised.

First, the industry consensus seems to be that the information requirements in 9(c) are in fact excessive. Milt also touched on that. They believe that the required information should be related to the results of the screening process, and on different aging management strategies that are chosen.

They also indicated that the focus of the screening process should be on structures, systems and components, which are important to safety as defined in the licensing basis.

This initial scope of the systems, structures and components should then be reduced, based on existing programs and those not subject to significant age-related degradation.

Only the remaining components which have unresolved age-related degradation issues should be required for further evaluation.

There was a fair amount of discussion on the inclusion of balance of power equipment that could lead to transients. There seemed to be consensus that it's okay to include balance of plant equipment if it's utilized to mitigate transients, but not necessarily as the initiating equipment.

There seemed to be a general sense that the utility that embarks on license renewal activity should have a pretty

good handle on design basis information.

There was concern that not enough credit, at least the language in the conceptual rule doesn't give enough to the established programs to mitigate aging-related degradation.

Bill Vesley raised some questions about whether the methodology proposed by NUMARC is able to deal with multiple component failures due to aging and the impact on that failure rate.

PRAs can be used to evaluate aging effects and effectiveness of maintenance programs and controlling coremelt frequency, and are useful in priorization. The key word there is priorization.

The NUMARC methodology is based on a deterministic approach with PRA used to augment and provide additional insights, but the sense was that PRA should not be mandatory.

Those are some of the highlights of Session 4.

Now let me go to Session Seven, which is the electrical systems.

Again there were three formal presentations during this session. NUMARC discussed the approach to life extension of electrical components, with specific emphasis on cables and containment.

Yankee Atomic commented on the appropriateness and scope of Section 9 again, and that kept coming up again and again, and I think in all the sessions.

Bob McCoy of Yankee Atomic also addressed the benefits of existing programs that apparently are not recognized, and indicated that Section 9 should incorporate a screening process and only look at equipment not in the existing programs, and only equipment subject to significant aging degradation, one morpe time.

Mr. J.B. Gardner, consultant, gave some comments on the rule and some of the other issues he was concerned about, and then let me give you again the flavor of the type of comments that were made.

There is, one more time, inconsistency between the proposed rule and the staff philosophy, and there was a question in terms of what should be included under important to safety. A discussion on how credit will be given for existing programs; how much description of these programs should be provided in submittals.

There was a fair amount of discussion, but not real answers, I would say, to what are considered the now issues, and let me clarify what that means. Some people in the audience said that we know of a number of problems with electrical systems, and how are these problems going to be treated in the license renewal process? And questions came up, are those problems that should be dealt with right now, because they are problems today, and what is the significance of these problems for license renewal activity? Lots of discussion; no

answers.

Some people, of course, feel that today's problems should be dealt with today, and should have nothing to do with the license renewal process.

Generally the industry feels that no additional requirements should be imposed on systems that are covered by the EQ rule.

There also seemed to be a common view that the effectiveness of the EQ program for older plants may need a further look, if one were to go through the license renewal process for those older plants.

Redundancy. There was a fair amount of discussion. What does one mean by important to safety? Redundancy is there to provide defense-in-depth, and the general sense was that even failure of a single crane, if caused by aging, should be given close attention.

There was a fair amount of discussion, one more time, on whether the equipment that could lead to transients should be included in the scope or not, just as it was discussed in the screening session.

Gardner raised some questions. He said, you know, this research shows good and research shows bad, and he said if we utilize research, things are actually better than we thought they might be and take credit for that, then we should also recognize that research is showing that there may be problems

where we didn't realize there were problems, and we ought to be focusing attention on that. I think he was looking for some balance in the way we look at the issues as we go through this process.

There was some discussion of what is meant by trending and what needs to be trended, but a comment was made that was sort of interesting that -- again it was Gardner, I think, who said he had looked at some data and found that the root cause analysis was not very good, and he says this root cause analysis is not very good, and what are you trending? Good question, I think.

Also another comment in the area of electrical systems, we focused a lot of attention on cables. The point was made that we should be careful when we talk about cables, we should really be talking about cable systems. This includes connectors and so on, the whole thing, and not just cables.

Again the session was quite effective in surfacing some of the major issues, I think.

Thank you.

MR. SPEIS: Richardson will now give the last technical presentation from the staff side on the session on containments.

MR. RICHARDSON: Session 6 dealt with containments. We also had three formal presentations by industry.

The first presentation, by Bob Nichol, representing

NUMARC, noted that there are three industry reports coming forth in the area of containments and structures -- one on PWR containments, one on BWR containments, and the third on Class I structures, and he also noted that these industry reports will, in general, make generic conclusions, and then it will be up to each of the licensees to show that those conclusions are, in fact, applicable to their individuals plants, but it was Bob's conclusion that containments, in general, continue to provide the structural and leak integrity necessary and that there is no real concern about corrosion of tendons, or reduction in tendon pre-stress, that cannot be detected over the course of time, and that fatigue of expansion bellows, which is of concern to people, should be able to be handled by normal fatigue analysis.

He also noted that there is a need, however, to manage degradation mechanisms in the area of acid attack, particularly associated with acidic soils and ground water, for those structures that are below grade; also noted a concern regarding floor liner, plates that are beneath the floor slab, attacked by corrosion; and finally, a need to pay attention to interior coatings.

Tim Bailey, from Northern States Power made a presentation representing the MARC I containment at Monticello, and again, Tim concluded that the MARC I containment is expected to continue to provide structural and leak integrity.

Their extensive examinations, to date, have shown no indications of any substantial degradation. They have estimated that their dry well is good for in excess of 100 years; the vent line and vent header good for at least 76 years; and the bellows -- vent line bellows good for something on the order of 95 years; suppression chamber shell something in excess of 100 years.

Joe McCumber, from Yankee Atomic, identified what they felt were to be the significant issues in the containment area, and that is liner corrosion; coating degradation, again; boric acid-induced degradation; and vibration-induced structural damage.

He pointed out the importance of walk-downs and the valuable information that can be obtained from a good walk-down and that existing programs need only be augmented, as necessary, when appropriate degradation mechanisms are detected.

To repeat a song that has been sung in, I guess, all of the sessions, Joe commented that XX9 goes beyond the basic philosophy. One gets the idea that this may have been orchestrated --

[Laughter.]

MR. RICHARDSON: -- and unnecessary.

We need to focus our resources on the real problems, and the rule needs to better define the screening process. It

needs to be comprehensive, clear, consistent, efficient, and flexible. Sounds like the Boy Scout oath.

The belief we heard was that, in general, the degradation mechanisms associated with containment and structures are pretty well understood.

In general, there was comments in response to some of the NRC questions that the NRC itself needs to do a better job and perhaps get off its collective duff and endorse IWE and IWL; that they are, in fact, being modified and expanded to include inspection of the base material and that, in general, these consensus standards will do a pretty good job in detecting aging mechanisms.

We heard that we ought to pay attention, take note of the testing process itself. In some cases, it may be challenging the containment to the point of degrading it, and it's something we need to pay attention to.

It was also noted that there are no real NRC requirements for inspecting Class I structures, and maybe that needs to be remedied.

From time to time, people take core samples of concrete. Maybe we're not taking advantage of the information that those core samples may provide and that we ought to devise some programs or methods for taking advantage of these concrete core samples when they're extracted, and again, as was pointed out, the industry reports that are forthcoming will address the

need for additional inspections and tests in the concrete and steel structures, and the bottom line is that the feeling we heard was that there is no real need for rebaselining the containment.

MR. SPEIS: Thank you, Jim.

I assume, Jim, that since NRC's Joe Scinto is not here, what you meant by Joe -- Joe Gallo? When you said Joe said something.

MR. RICHARDSON: No, it wasn't Joe.

MR. SPEIS: Oh.

VOICE: Unfortunately, Scinto is here.

MR. SPEIS: Oh. My apologies. My apologies. Oh did I put my foot into the --

[Laughter.]

MR. SPEIS: -- into my pocket.

Joe Haseltine, of the Yankee Atomic, will give us a summary of his perspective of what happened here.

MR. HASELTINE: It's with some intrepidation I get up here, because I may repeat something somebody might have said, but I would like to summarize, from Yankee's point of view, what we consider the important points made during the last day and a half, starting with the current licensing basis.

As you have heard, we think it should be limited. At the most, we think we should provide a listing of the documents that are associated with the system structures and components.

It should be analyzed only to the extent that you need to for time dependency and for aging of the SSCs.

In the screening area, we believe you should only supply the design information that you need to do your aging evaluations and to do your screening.

A total list of degradation mechanisms, which a comprehensive list is probably not worthwhile to try and to put together, because somebody's always going to dream up a new one, and it should be, really, on a component-by-component basis.

In the maintenance area, we need flexibility so that when we go through the process, those components that don't have any degradation or that are covered by existing programs can be put aside, and those that need a detailed evaluation can have a detailed evaluation. We shouldn't have to treat them all the same.

In the trending area, we obviously don't have to trend every component. Again, it should be on some type of component-by-component basis.

Schedule -- we want to see the proposed rule issued next May. We want to see the final rule issued 1 year after that. In order to do that, obviously you've got to get into the environmental area, and we believe that you should perform an environmental assessment to support the part 50 rulemaking, consistent with the issuance of the final rule in 1991.

We also need an administrative change to part 51.20 in the same timeframe.

We need a substantial change to part 51 before the lead plant SERs are issued in 1992.

So, it's a parallel path, and that's how we believe you can accomplish all objectives here and get to 1992 with everything in place.

As far as severe accidents, we don't believe there is a place for it in the rule. It is going to be part of our current licensing basis, and if you have to put it anywhere, we think it should be in the statement of considerations.

PRA -- we do not believe that a PRA is needed for screening -- you can do it deterministically, but we do believe there's a lot of merit in using it individual component evaluations.

The Level III PRA, we don't believe is needed in the aging evaluations, since we're only interested in degradation mechanisms.

The backfit rule should be applied to the development of the renewal rule and especially in the review of Yankee's application.

[Laughter.]

MR. HASELTINE: Earlier, in the first session, we talked about those programs which should not be subject to a review, and I think it was Frank asked whether some other

programs should be omitted, and we have a few here.

We believe that the station blackout should be omitted, as well ATWS, hydrogen control, decommissioning, fire protection, those general design criteria which are not subject to age-related degradation, and those siting criteria which are not subject to age degradation.

In summary, we think the NRC has done a lot of work, has made a lot of progress, and you should be commended. The opportunities for interactions such as this workshop have been very helpful and we think they should continue.

Thank you.

MR. SPEIS: Thank you, Joe.

Now, Mr. Pickens, from Northern States Power, will provide his perspective through his summary.

MR. PICKENS: Thank you, Themis.

Actually, I'm going to play a dual role here. Based on some input that we received last night -- or feedback -- primarily from people who were in the Structure, System, and Component Evaluation Section, we just wanted to very briefly run through some of the key points that we made on each one of the steps and that is to go into a little bit what it is as we go through the screening that we intend to provide to disposition components and structures and the type of information that we think is necessary in the application.

In the first step, Step 1-A, let me first go back.

It's a two-level evaluation. There's a system level evaluation and once we've gone through the system-level evaluation, we take the systems that remain that have not be dispositioned and we put them through a component-level evaluation. I think it's worth stressing that we feel we are actually doing evaluations -- not just screening. We're not just taking things out and putting them out there and kind of leaving them in never, never land. We are going to at each step of the process provide documentation as to why it was appropriate and how we drew those conclusions for the NRC's review in the application.

Step 1-A, very quickly, just gets into taking all plant systems, putting them into 1-A and really looking at those that are relied upon to operate safely. We believe that the list of systems that we've come up with, the way we've defined the criteria, comes very close to giving us that list of systems that is important to safety and we didn't have a lot of conflict or discussion on that point yesterday during that session.

In Step 1-B, we are going through and we are identifying the systems and structures that significantly affect the radiological health and safety risk to the public. To be dispositioned from further evaluation at this step, we are going to document what the system function is and the conclusion that it does not affect the radiological health and safety risk to the public and the basis on which we've made

that conclusion. Again, this will be part of the application so that the NRC can review the basis of our conclusion and how we're dispositioning it at this point.

For those systems which are dispositioned at this point and throughout all the steps as we go through, that's where we come from when we say we don't need to provide the level of information that's called for in 9-C of the conceptual outline.

Step 2-A, Step 2 is where we get down to the component level evaluation. This is where we're looking for those components in a system which do not contribute to performing a safety function or could prevent or preclude the system safety function from being performed. To be dispositioned, the industry will document that a component is not necessary for a system to perform the safety function and conversely, that its failure also would not preclude the system safety function from being performed.

At Step 2-B, we are going to be getting into reviewing components that are subject to established effective replacement, refurbishment, or inspection programs -- credit for existing programs that we keep talking about. To be dispositioned from further evaluation at this step, the industry approach would document that the components' safety functions, the degradation mechanisms which could preclude those components from performing those safety functions and the

programs which ensure the function is maintained.

So step by step component degradation mechanisms and the programs and how they effectively deal with those safety functions and the degradation mechanisms.

At Step 2-C, we're going to identify those components which are subject to significant age-related degradation, or, to put it another way, we're going to look for existing, established, documented sources that have precluded that there's significant age-related degradation that would affect a component. To be dispositioned from further evaluation at this step, we would reference the documents which provide the basis for the conclusion that the component is not subject to significant age-related degradation or with the risk criteria that are included, we would provide the risk assessment results which conclude that even if this component went to failure, that the risk increase would not be significant.

Finally, at Step 2-D, this is the components which have been identified, which are subject to potentially significant age-related degradation and if were allowed to occur unmanaged, could affect safety. We've listed various options, by no means all-inclusive in the document, as examples of different ways that we can address it. Depending on the option that you pick to address, the significant age-related degradation which might affect that component, there's varying degrees of information under 9-C which would need to be

provided. There may be some which you can just say, I know enough to say that this replacement interval is good. You provide the basis for that. Others where you may want to do a complete technical evaluation to justify that the aging mechanism, that you understand it, that you don't want impact at all over the life. You need to put that forward. In that case, you're going to need a lot more information -- design basis, environmental conditions -- all that type of information.

So it varies, but at each one of these, we would submit and as part of our documentation for the lead plant, either reference in our application or supply it, the information that would justify it through the screening process. I guess that concludes the comments that I want to make for the NUMARC screening methodology portion. Now, I don't need that anymore. Now, I'll go through the NSP comments.

I guess first Northern States Power would like to express its appreciation for the opportunity to participate in this forum. I think that it's a very important issue to talk about license renewal. It's something that Northern States Power has been very interested and active in and I guess I'm very happy to see the progress that we've made over the last six months to a year.

I think NSP's commitment in this area is evidenced by

the participation both as a pilot study and now as a lead plant to demonstrate the license renewal process and I think beyond that, it's worth noting too that at Prairie Island, we have already initiated activities on plant life extension and license renewal. I think there was a question earlier about, is there going to be some lull after the lead plants come in and I think our response to that is no, we're already planning on Prairie Island, that shortly after we complete the Monticello license renewal process, we'll be coming in with our Prairie Island application.

By way of summary on the positions taken by NSP over the last day and a half, we believe the NRC's philosophy stated in the notice of this meeting is sound and that it provides a more than adequate basis to find that the already-existing adequate level of safety will be maintained during the renewal period. I think the important part now is to take that philosophy and the conceptual outline which we've commented on and now take that and to develop it into a regulation that while it ensures consistency of application, as all utilities go through this process, it also provides some amount of flexibility, recognizing that by the process that we've undergone as a way we are licensed, there are a lot of differences between utilities that are out there now.

So we're going to need some flexibility in addressing the aging phenomenon. NSP believes that the approach is

outlined by the industry through the NUMARC NUPLEX working group satisfies both of these principles. It gives the NRC the information that it needs. It's going to provide consistency of application, yet it also provides a certain amount of flexibility for us to meet those requirements.

It provides a systematic approach in assessing the structures, systems, and components which ensures the ability of the plant to operate safely. In many areas, we are going beyond those systems which were considered as part of the original licensing basis into the balance of plant systems. I've heard a number of comments about balance of plant initiators, which ones are we looking at, which ones aren't.

We have tried to be careful through the approach that we've gone through on the screening, to look at and be smart about which balance of plant systems need to be included and indeed, in many cases, the major balance of plant systems which can be initiators are also being picked up as important to safety support systems which support safety-related systems.

For those systems which are just balance of plant initiator, Northern States Power believes that it's more of an economic issue for utilities. It's certainly not something that we're going to ignore. It's something that we are paying attention to throughout our overall plant life extension program and in addition to that, there are existing regulatory oversight mechanisms such as licensee event reports,

performance indicators -- different things which cause us to g down and look at root cause and as we identify those types of things, we follow through on them and if we start seeing things that come down to increased failure rates from age-related degradation causing an increase in BOP initiators, we're going to take a look at it and make sure it's taken care of.

We don't think that it needs to be addressed in the definition of Important to Safety BOP Initiators, that is, being a reason in and of itself to include it in for a license renewal review.

The process allows for focusing of reviews where necessary and it also provides for providing the current licensing basis where, in support -- in the application we need to support the analysis and the resulting conditions and that's the extent to which we feel the current licensing basis should need to be provided.

Again, we don't feel that it's necessary to submit the current licensing basis nor confirm its accuracy and completeness. Current programs to track or to continue to make sure that we can identify the current licensing basis and keep it implemented at the plant and don't undo something that we've told the NRC that we're going to do, are in place in our current licensee's programs for updating the FSAR, commitment tracking, a number of things that we're doing, and the NRC has access through its oversight programs to review these.

We think that provides an adequate basis for the continued operation in the renewal period.

The backfit should be maintained during the rulemaking process as well as during the review of our plant-specific application. I think that moreso, we seek not to say that changes shouldn't be made but that the backfit provides a disciplined process which we can all look at and review and see if changes are warranted.

Severe accident resolution is proceeding. It's proceeding at Northern States Power. We're well along on our IPE evaluation and participating in the NUMARC efforts in that area too and we do not think it needs to be linked to the renewal process. I think that some of the things I heard through the technical sessions and things is that there's a tendency to want to get every issue that's open on the books today, closed, and make that if we can part of the license renewal process.

I don't think that we want to say that there are no "today" issues that shouldn't be put in there because there are some that are very important and will impact the renewal period. However, I think that we should be careful in including issues that are really "today" issues in trying to put them into the license renewal area. It's going to be difficult enough to get through the license renewal process without trying to solve all of the issues that we have on the

books today. We should attempt to keep them separate and let the normal processes take their own course.

The three other quick points that I'd like to hit because I at times wanted to stand up and respond to questions but I didn't, so I'll take my opportunity now. I think the lead plants and it's Northern States Power's intention, is to utilize the industry reports to their fullest extent by reference and there was some question as to the Section 6 items which are basically those items which could not be dispositioned on a generic basis, those age-related degradation mechanisms and what the standing of those were.

We intend to address in our application those findings which could not -- those items of age-related degradation which could not be resolved generically and we will address them in our application on a plant-specific basis when we get into those components.

Another item that I guess I'd like to address is the current codes and what the current code activities are in attempting to address license renewal. As a NUMARC working group member, I am also sitting on the Board of Nuclear Codes and Standards Steering Committee on plant life extension. I'm aware of the activities that they've got going to try to direct the code-related activities and improving the codes for license renewal and to provide information to those, that body, to guide their activities and what they need to go address, we

have provided the follow on action item list from the pilot study and I know that as well as the inputs we're getting as we learn things from the industry reports is going to that and I think we should continue on with that process and that's a very important process and let the code groups address them as they see appropriate.

Finally, I'd like to address schedule. I guess we are in complete agreement with Yankee Atomic that we would like to have the rulemaking issued in May of 1991 so that when we submit our application, that it will actually be a demonstration of that rulemaking and that we agree that we'd like to also have the generic environmental process completed in a time such that when we get our SER issued, that we can close out some of those issues and I'd like to urge the staff to work towards that schedule if it's at all possible.

That concludes my remarks.

MR. SPEIS: Thank you, Mr. Pickens.

Bill Rasin of NUMARC now will give us his summary and his impressions of what happened here.

MR. RASIN: Thanks, Themis.

I'd like to make a few summary comments on behalf of NUMARC and the industry.

I think this has been a very good workshop. I was very happy to see the staff summary of the sessions, because it shows me that they really have listened and, I think, captured

the comments that we had to bring here to this workshop.

I do want to make sure I have one opportunity here, just so that there's no doubt in your mind that we think there's some inconsistency between the philosophy and the rule, and I wanted to make sure we got that point across.

I will remind Frank, thought, that he did ask that question the first day, and I don't think we'll be accused of be nonresponsive to that question, anyway.

I'm not going to review all of the points and issued that have been made. I think the previous speakers just did a pretty good job of that. I would like to hit a few high points with a little bit of discussion as to what's behind our thinking in some of those points.

We had the question of consistency in the application of the current licensing basis and what information should be supplied to respond to the rule and demonstrate the applicable age-related degradation has been taken into account for continued plant operation.

There was the comment made that the current licensing basis applicability could be dealt with by making a generic finding in the statement of considerations with the rule, and I believe that's one that merits some consideration and may be a way to resolve some of the difficulties and differences.

Our real dilemma here, I think, is that we need to see the staff lay down the standards for the findings that need

to be made, and then we need to make sure that the information provided is fully sufficient to make those findings. To supply less information than that certainly is not in the interests of the industry. To provide more information than that, however, I think not only wastes resources in the industry, but I think will cause an inefficient use of resources in the staff, and we don't think either one of us can really afford, in this day and age, to use our resources inefficiently.

We made some comments and you made some comments, and I think, from your responses, that you will do some thinking in the staff when you go back, and I assure you, we'll do some more thinking in the industry over what you said and make sure that our position really is consistent and that we are looking to provide adequate information for you to make your findings.

Let me say just a word about the environmental effects area. I have a lot of sympathy with the staff over coming to grips with this area, because, I'll tell you, it's one that has driven us crazy. Every time we think we understand it and have a handle on it, we get another opinion that sends us around the loop again.

I believe that we have stated the best position that we can bring to fore at the time, and that's that we believe that the schedule for the rule to be put in place in 1991, consistent with the needs of the lead plant, is a major necessity. To that end, an environmental assessment that

serves that rulemaking purpose should be done, and I think, as acknowledged by the staff, could be done on that timeframe.

Now, the generic environmental assessment to resolve generic issues, we think, also is a worthy goal. It's one that certainly will save the staff resources, but clearly can save the industry resources, as well.

The staff indicated a schedule for 1992 based on the work necessary for that endeavor. We believe 1992 is probably an acceptable date for that. Even though it will be behind the rulemaking of part 50, it should have the information available before decisions have to be made on the lead plants and certainly before any other decisions have to be made.

So, that schedule, if the resources are available for that one, we think probably they both could be accomplished with about the same resources by that difference in schedule, and I will reiterate NUMARC's offer to the staff that, seeing the advantage in this process, we do stand ready to work with the staff. The work is the staff's; the assessment is the staff's. However, it we can provide input from the industry in the form of data or analysis that can serve as input to the staff's work, we will certainly consider doing so.

The backfit rule has been covered, and I think it comes down to the point that Terry Pickens brought up. It's simply discipline in the process.

We know, from long history in this business, that all

of us have our favorite issues, and I don't mean this to be criticism of the staff, because I will say that the industry, the utilities, our vendors, and certainly our consultants, are just as guilty of finding the latest hot topic to latch on their favorite issue to.

We have worked very, very hard, in our process in the industry in our NUPLEX effort, not to let that happen on our side, and we've had a lot of criticism and disagreement, but we stuck fast to saying let's deal with this issue. It's hard enough, and the other issues will be dealt with in their proper forum.

Our concern with the backfit rule is simply that we have that same disciplined approach on the part of the staff, because to do otherwise will serve neither one of us.

Now, with regard to severe accidents, again it's been a consistent position we don't like that in the rule. I must tell you, I'm a little bit tempted to say yes, go ahead and put it in the rule, because I assume that would also hold you, NRC staff, necessary to complete your reviews by that rule. However, I'm not so bold -- not that I don't have confidence in you, but I think that that adds an unnecessary degree of difficulty and complication. I will tell you that we are committed to resolving the severe accident issue and having the industry respond fully to the Commission's policy statement, and we'll do everything we can to do so.

PRAs came up in Section 4. There was a very lively discussion on the application of PRAs and some the very new techniques on aging mechanisms. In that discussion -- that was one of the more exciting discussions I viewed in the workshop -- there was a very interesting technical disagreement between three experts for whom I have a good bit of respect, but as soon as I get disagreement between experts for whom I have a great deal of respect, that tells me that technology is not ready for application on a general basis.

I think that we should PRA as input where we have it and for what it can tell us, but we are not ready to have PRA be a requirement, and I don't think that the NRC is ready to use PRA to make formal licensing decisions.

With regard to having PRAs in place only for purposes of the environmental aspects, I would submit that that's an awfully expensive way to do something that we have done pretty successfully other ways in the past.

There was some concern, in Session 5, that discussion of maintenance took place, and there was not an adequate response from the industry on those issues, although in the slide that was put up on that, I think the right idea was captured.

However, let me take about 30 seconds and answer the first 9 questions, at least, on the maintenance, surveillance, and testing.

We in the industry and you in the staff are putting a lot of effort into the maintenance question. I do not think that we have hidden our feelings too deeply that we in the industry would rather not have a maintenance rule. However, it's our burden right now to convince not you, the staff, but the Commissioners that, in fact, we are doing enough in the industry so that a rule is not necessary.

I don't there is any misunderstanding on the part of the Commissioners or the staff that we hold that position because we're against maintenance or don't realize maintenance's fully importance to the safety of operation of nuclear power plants, but let me say, again, that's its own issue. It is receiving tremendous attention in the industry, and it should be solved on its own merits.

If it comes out that the wisdom of the Commission is that there should be a maintenance rule, it will become part of the current licensing basis, and I'm sure we'll take full advantage of it for the purposes of license renewal.

If, on the other hand, it's concluded by those Commissioners that it is not necessary, then I think that decision should stand and we should not try to use this other process to put in place things that were not gained through that very extensive dialoguing process.

To that regard, I think that is the answer for about at least the first nine questions, I don't think they need to

be answered one by one.

Industry, through the NUMARC NUPLEX process, does have in place, still, a significant amount of work. We promised the staff 10 industry reports. These reports are being sponsored by DOE and EPRI, and we are committed to getting those reports out on schedule. We have modified that schedule with what we think is a schedule consistent with your rulemaking schedule, and we'll do everything we can to make sure that those reports get out on time and are submitted to you, and we'll also look forward to your questions and comments and will answer those as expeditiously as we can.

Finally, let me end up by saying that I, too, thought this was an excellent workshop. I did have some comments from a few people, particularly some of the consultants and lawyers, that they missed the entertainment of industry and staff yelling at one another and calling one another incompetent, but I have to tell you, I didn't miss that. I think this was an excellent example of a way that we can proceed forward, working fully in public, but on a very professional level, to state our views and trade our views and then act on them afterwards.

So, I thank you very much for this opportunity, and I hope this is more indicative of the way we do business in the IPU workshop in the future.

Thank you.

MR. SPEIS: Thank you, Bill.

Well, according to the schedule, we're right on time. So, I would like to offer you some options.

There is coffee available, but possibly, the coffee can wait, unless you think this discussion can go on much longer. Maybe we can go on for the next 5 or 10 minutes and see if there are any questions or some things that have been somehow missed from the presentations or some thoughts that were generated as the speakers went through their summaries and see how we go from here.

So, let me open the floor to any questions or any comments.

[No response.]

MR. SPEIS: No takers, huh?

Well, I guess we have done our work.

MR. GILLESPIE: We need to leave on a lighter note.

I would like to apologize for using the word "initiator" in the first session. I will never do that again.

MR. SPEIS: Well, if there are no questions and if there are no comments, that means that we have done our work properly and and efficiently and effectively, and I would like to take this opportunity to thank all of you for participating in this very effective and educational seminar workshop. Especially, I would like to thank the lead plant participants -- Yankee and Northern States Power and NUMARC.

I would like, also, to thank Donna Matson for

organizing this workshop and doing it so effectively and having coffee on time and water in front of the speakers and so and so forth.

I wish you good trips back home, and hopefully, we won't have to see you before the proposed rule.

Thank you.

[Applause.]

[Whereupon, at 2:50 p.m., the meeting was adjourned.]

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This is to certify that the attached proceedings before the United States Nuclear Regulatory Commission

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