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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

- - - - -

Session 1

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Sheraton Resort Hotel

Conference Rooms A, B and C

11810 Sunrise Valley Drive

Reston, Virginia

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Monday, November 13, 1989

8:30 o'clock a.m.

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PROCEEDINGS

MR. BECKJORD: My name is Eric Beckjord. I'm director of the office of research in the Nuclear Regulatory Commission and I want to wish you good morning, ladies and gentlemen, and welcome to the NRC's public workshop on nuclear power plant license renewal.

The purpose of the workshop is to elicit public views on technical and policy considerations for nuclear power plant license renewal.

I appreciate your interest in this meeting and I look forward to the discussions and to obtaining your comments.

Extending the life of nuclear power plants beyond the current 40-year license is a large and obvious economic benefit for rate payers and for producers provided the entire operation can be done safely.

Nuclear power, as you know, produces about 18 percent of the kilowatt hours in this country and the net benefit of extending plant life for 20 years is estimated to be about a billion dollars per plant on the average so that's a very important consideration.

The licenses of currently operating reactors begin to expire about in the year 2000 and it's important now to establish the terms and conditions for license renewal between now and 1993 and 1994 to have the whole job done.

NRC has been working on license renewal for several

years and has actively sought public participation in the process. On two previous occasions we have solicited public comments through the Federal Register.

The first of these on seven major license renewal issues was published in November of 1986. The second solicitation was part of an advance notice of proposed rulemaking published on the 29th of August of 1988.

The advance notice requested comments on Nureg 1317 entitled Regulatory Options for Nuclear Power Plant License Renewal. We received over 50 responses to that request and for those who are interested in reviewing these responses a summary and analysis are presented in Nureg Contractor Report 5532. I assume that's available or we can make it available to you.

The process of obtaining public input as the Commission develops its plans for license renewal is continuing with this workshop. I'll briefly review the agenda.

We have arranged the agenda to obtain views on the technical and policy issues involved in license renewal. We request your views on what we should address in the rule and what we should include in regulatory guides to support the proposed rulemaking.

This morning's plenary session will open with the staff's presentation of regulatory philosophy and the approach for license renewal. This will provide an overview of the basis for developing technical, policy and legal positions

regarding a license renewal rule and the regulatory guides to support the rule.

Following this presentation, we have posed a series of questions in the material that you have received as a guide to the presentation of comments. In this session we will describe the conceptual rule as presented in the Federal Register notice.

This morning the intent is to give an overview of the material and there will be an opportunity to go into more detail in the concurrent sessions to be held this afternoon and tomorrow morning.

This afternoon's session will consist of four concurrent meetings with the topics of reactor pressure boundary, fluid and mechanical systems, straining systems structures and components important to safety and a continuation of session one.

The staff will make a very short introduction at the start of each session which will be guided by the series of questions for that session which is in your handout and then followed by comments by parties who have previously notified the Commission of their intent to make a statement. Additional comments will be received by the session chairman as time permits.

Tomorrow morning's sessions will consist of three concurrent sessions with the topics of containment, electrical

systems and environmental effects and it will be conducted in the same way.

Tomorrow afternoon a summary session will be held with all participants. Each chairman of the individual sessions will present a brief summary of his session. This will enable all participants to get an overview of the entire workshop. This will be followed by a general session for comments and conclusions.

For your information, a verbatim transcript will be taker of all sessions and it will be available about at the end of this week. The address to write is Ann Riley and Associates, 1612 K Street N. W., Suite 300, Washington, D.C., and there has to be a zip on there. I guess it's 006.

For the benefit of you who may not be familiar with the NRC's program on aging research, I would like to say a few words about it because it's an important contributor to license renewal.

For a number of years NRC has been carrying out a program of aging research. Much of this effort can be directly applied to assuring the continued safety of operating nuclear plants for which extended licenses may be granted.

The principal concern of the aging research is that plant safety could be compromised if the degradation of key components or structures and the effects of such degradation on system operation were not detected and mitigated well before a

loss of functional capability.

The technical safety issue here is that age-related degradation could result in a reduction in defense in depth.

An example would be pumps in parallel trains where some aging mechanism could cause the possibility of undetected failure in this redundant system and then the result of that could obviously be that more than one safety system might be unavailable when it was needed.

So the NRC aging research effort is directed toward gaining an understanding of degradation processes within nuclear power plants. This is a hardware-oriented engineering program. It's a rigorous and systematic investigation into potentially adverse effects of aging on 30 or more plant components, systems and structures during the period of normal licensed plant operation, as well as the potential period of extended life for license renewals beyond 40 years.

The emphasis is on identifying and characterizing the mechanisms of material and component degradation during service and on using research results in the regulatory process.

The research includes evaluating methods of inspection, surveillance, condition monitoring and maintenance as a means of managing aging effects that may impact safe plant operations.

The specific goals of the program are the following three: To identify and characterize aging effects that could

cause degradation of components, systems or structures.

To identify methods of inspection, surveillance and monitoring and to evaluate residual life of components, systems and structures that will ensure timely protection of significant aging effects before loss of safety function.

To evaluate the effectiveness of storage, maintenance, repair and replacement practices in mitigating the rate and the extent of degradation caused by aging.

Those are the objectives. I expect the results of this program will be reflected in the sessions to be held during the workshop.

Additional information on the aging research programs can be obtained in the proceedings of the 17th Water Reactor Safety Information Meeting which was held toward the end of October and the proceedings of that are available. If you would like a copy and don't have one, let us know.

There is a great deal of information also available in other publications of the Nuclear Plant Aging Research Program.

Returning to the agenda, I look forward to a stimulating meeting and dialogue and to a productive two days. I want to emphasize that license renewal is one of the top priority Nuclear Regulatory Commission programs and it will receive all the attention needed to get the NRC's part of the job done.

I also want to stress the importance that we place on your input to the process leading to a license renewal rule. We intend to do this job right the first time and you can help us do just that.

I appreciate the opportunity to open this important workshop. Thank you.

We will hear next from Mr. Sniezek.

MR. SNIEZEK: Good morning. Thank you, Eric.

Good morning, ladies and gentlemen. My name is Jim Sniezek. I'm the Deputy Director, Office of Nuclear Reaction Regulation.

I'm pleased to see the good turnout this morning at this most important workshop. As Eric mentioned, the first license will expire the year 2000 and about 43 percent of the current licenses will expire by the year 2010. As you can see, we have no time to waste. We have to get a license renewal program in place because we recognize that a utility needs 12- to 15-year led time for planning purposes so, even though the licenses aren't expiring tomorrow, for all practical purposes they are.

Today and tomorrow you will hear from representatives of the Office of Research, Office of Nuclear Regulation and the Office of General Counsel who will be able to respond to your questions and receive the comments and concerns you have regarding the approach we may be taking.

I will be talking about setting the stage for the future discussions today and tomorrow. The four basic topics I will touch on are the purpose of the workshop, briefly on the background and the history of our effort to date, the regulatory philosophy -- I should say the staff's regulatory philosophy regarding the license renewal process and the program plan for license renewal to ensure we can get the process in place promptly.

What are we doing here today. We want to inform the industry and the public of the staff concept for license renewal. We want to make sure that you walk away with a good understanding of the approach the staff intends to take.

I think it's important for you to realize also that the Commission has not yet endorsed the staff approach. They are awaiting the results of this workshop before they decide whether or not the staff approach is the correct approach for license renewal.

We need to obtain feedback on the technical and policy issues which we will discuss today. Based on the feedback we receive from you, we may change our approach in various areas so it's important that you question and you comment.

We have provided you a framework of the regulatory language. You should understand that this is the initial attempt to place the staff philosophy and concepts in

regulatory language

It's important for us to get feedback on whether or not this regulatory language captures the philosophy and concepts that we will be talking about today.

We also need to determine whether we have missed some important issues, important issues from a safety standpoint, important issues from a process standpoint, so we will need your comments especially in that area.

Eric talked quite a bit about the background so I'm going to pass over it quite quickly.

As you can see from the slide, we haven't just started this process. It's been in existence for three or four years and I'm sure various portions of the industry have been thinking about it for a lot longer time than that.

From the work we've done so far, we've progressed to the point where initially we were going to issue a policy statement followed by a rule to where we are now we are ready to go into a proposed rulemaking stage.

The staff has identified three major policy issues which must be addressed by the Commission prior to issuance of a proposed rule: The license renewal basis and scope, severe accident treatment and environmental impact treatment.

The staff has reached a preliminary position in each of these major areas. They will be discussed in depth during this two-day workshop. I will now highlight the general staff

approach in each of these areas.

I should remark at this time that I have the easy job. What I'm doing, I'm setting up the rest of the speakers for a lot of detailed questions.

The license renewal philosophy. That's probably the most important aspect of this whole workshop. What is it and how will it be implemented?

There are two fundamental precepts from which implementation should flow. The first is that the current licensing basis is sufficient for adequate protection of public health and safety.

The key words here are current licensing basis. It's defined in the regulatory language in Section XX3A and will be the subject of quite a bit of follow-on discussion.

The second basic principle is that we intend to maintain the current level of plant safety during the extended plant life. What does that mean? It means that the plant will be as safe at year 60 as it is at year 39 as it is at year five.

We do not intend to let safety degrade. On the other hand, the license renewal process will not call for an enhanced level of plant safety. We expect the same level of safety at year 60 as year 39.

What's the approach for maintaining the current level of plant safety? First, ensure that the systems, structures

and components important to safety will perform their intended function.

I used the term "important to safety" -- systems, structures and components important to safety. That's defined in the proposed regulatory language, Section XX3C.

It's also important to mention that this term structures, systems and components important to safety only applies to the license renewal process. There is no intended further regulatory application of that term as defined in this regulatory language.

We need to focus attention on the managing of age-related degradation unique to extended life. The key word here is "unique," unique to extended life. That means that we intend to focus our attention on those degradation mechanisms that are specifically applicable during the years 40 through 60.

If there are other degradation mechanisms that are applicable during the years one through 40, we should be applying those now so the key is those degradation mechanism unique to life extension.

We intend to take credit and you may take credit for ongoing regulatory and utility programs. What does that mean? That means in controlling degradation, in monitoring degradation, in responding to potential degradation that the existing programs you have in place and that we have in place

may be sufficient in some cases.

We do not intend to do a completely de novo review for the license renewal application. For example, the emergency preparedness program in place today should be adequate for license renewal. The QA program in place today should be adequate for license renewal. Your technical specifications in place today should cover many of the areas important to license renewal. The same way with your IST program, your ISI program, fire protection program.

There is an area that when we did our initial work to look at the technical issues that we identified as needing more attention and we saw that as greater attention in the maintenance area of the plant, what processes are in place to really detect degradation and to correct it before it has a negative impact on the safety of plant operations.

We intend to use to the extent possible the industry technical studies, the studies under the auspices of NUMARC for resolution of issues on a generic basis.

We envision that the NUMARC topical report, NUMARC studies technical reports will be treated as topical reports and SERs will be issued. Once the staff would write an SER on a NUMARC technical report it means it's there to be referenced by the licensee and that should complete the licensee's required submittal in that area unless they have plant unique features that go beyond the NUMARC technical report.

Eric gave a brief rundown on the research program in the area of aging. We would intend to use the research program findings for development of NRC acceptance criteria as a guidance which the NRC will be issuing in the license renewal process.

The focus of that, of course, is on age-related degradation, especially the degradation unique to license renewal.

Severe accidents, the second issue that the Commission must address before it issues the proposed rule.

The staff concept is that the severe accident issues will be resolved under the terms of the current license. That means that prior to submittal of the license renewal application, we would expect to see the IPE conducted and submitted to the staff, the results submitted to the staff. We would expect to see the accident management program in place. Any corrective actions identified by the utility as a result of the IPE program would be identified to the staff and agreed to by the staff and the NRC would have approved schedules for corrective actions for those actions that had not been completed by the time of the application submittal.

The third major area that has to be addressed by the Commission is the treatment of the environmental impacts in compliance with NEPA.

First off, for the rulemaking that we're about now,

addressing the technical and procedure requirements for license renewal, we would at a minimum have to issue an environmental assessment.

For the actual relicensing of the plants, we would need to either have an environmental assessment or environmental impact statement. It's not clear yet which was we'll be going.

Our intent is to handle as many issues as possible under NEPA in a generic manner. We may be able to do that in the environmental assessment or we may be required to have a generic environmental impact statement but the intent is to handle as many issues as we possibly can in a generic manner.

Regarding the plant licensing, we will need a plant specific environmental report as a supplement to the existing environmental report. We would envision that that environmental report would only have to address changes to the existing environmental report and items outside the scope of the generic environmental impact statement or the generic environmental assessment, whichever way we go.

The license renewal program plan. It's got five key aspects and all of them need to come together if the program is to be successful and implemented in a timely manner.

Both the NRC and the industry have a lot to do. We need the rulemaking. We need the generic treatment of the NEPA issues. We have to develop the regulatory guidance in the form

of reg guides, standard review plans or potentially SERs on industry technical reports.

We need the industry under the leadership of NUMARC to develop the technical reports. An example of a very important technical report would be a report on the acceptable screening criteria, what criteria will the industry use to determine what is in and what is out of the license renewal program.

Then of course we have the lead plant program. We're on a very tight schedule. It's quite ambitious but it's doable if we all do our role. We expect by June of next year to publish the proposed rule for comment and this is where this workshop is so important, to get the feedback from you, the industry and the public, whether or not you believe we are going in the right direction, what issues need to be addressed that we haven't thought of yet.

By December of next year we expect to publish the proposed key regulatory guides, standard review plan sections and the generic environmental assessment or generic environmental impact statement.

June of '91 we expect the first lead plant application followed by the next year, in April of '92, publishing the final rule, the key reg guides and when we talk about key reg guides we're thinking of such things as the format and content of the application and potentially

acceptable screening criteria but that may be an SER if NUMARC develops a technical report on that issue.

We expect to have the standard review plans in place and the final generic environmental treatment. We would like to have everything in place at one time so that we the staff and you the industry will know the total scope and depth of the task in front of us. We don't want to come up piecemeal with the key documents.

There may be some additional regulatory guidance in the less important areas that would come out about a year later, a year after the publication of final rule and the key regulatory guidance.

We also expect to be in a position in June of 1993, assuming the June 1991 schedule holds, of issuing the SER on the first pilot plant.

With those tasks behind us, by June 1993 you would understand the full scope and depth of the process for license renewal and then we believe it could proceed in a very orderly fashion for which other plants elected to come in for license renewal.

That concludes the overview remarks that I wanted to make. At this time I would turn the meeting over to Frank Gillespie, who with the help of some other individuals will be discussing in more detail the regulatory approach and concept.

MR. GILLESPIE: I'm going to duplicate a lot of the

information that Jim went through. What I would like to do is go through a presentation of the content of the rule as we have it conceptualized and what you saw in the Federal Register notice.

I will not go through the lengthy questions. People who preregistered in the mail got a question package of the types of questions that we're very, very interested in having answers to. Session one has a very lengthy set of questions. We are deliberately going to overflow into session five, which is a smaller sessions, to give people a chance to talk to us more in a smaller setting, but also to touch on one of two key elements to the whole procedure and that's maintenance, maintenance trending, record keeping, testing, surveillance, so this afternoon in session five we want to start getting into that because the rule itself, as you probably read it, didn't have a lot of meat in there.

As Eric said, one of the major things we would like very much to get out of here today and tomorrow is an idea of how much information should be in the rule and how specific it should be and how much should be in guidance and where do we draw the line.

We've drawn the line in maintenance and screening at one point in here and there are several points of view. One is to put the details in the regulatory guide, put the details in an SER approving an industry approved topical report.

Another is put some of that in a rule. We've put it in a rule, it's clear and hopefully everyone understands it and you know what the rules are and we know what the rules are. A guide, though, is easier to change as technology changes, so something we really could use some input on is how much do you want to see in the rule and how much should we have in the guide.

Important timing. Jim put up a schedule with our milestones. It is a very ambitious schedule but in the process we're going through it's important also if we're successful in coming out a proposed rule is getting the industry on an ambitious schedule also and not just the plants.

As you can see, we've got some momentum up. We're working on a rule now to get it out. We're working on guidance. We're reviewing industry technical reports.

If we have two pilot plants come in and then have a five- or six-year lull, we very well could find ourselves doing this all over again so it's reasonably important to us organizationally and in a way of continuity to get on with the process that's well defined, well understood, to encourage people who are going to take advantage of it to cue up early. Otherwise, we're all going ot be left in the lurch with a certain high level of uncertainty.

Let me go on to the rule itself. I tend to go through the rule fairly quickly and then to take about a half

an hour to answer questions. This is not for the statements people who were preregistered we're going to allow them to make, but to answer questions on the intent of what you read.

It's important that the articulation in the rule be understood by both you and us the same way and if we have a different understanding of what we wrote than you did when you read it, it's important for us to understand your comments to have it in that context.

I'm going to go through all the major pieces of the rule. Several questions which are not addressed in the rule right now which we really do need some feedback on.

Renewal philosophy Jim just covered. Licensing basis is fairly all-inclusive in what we have written right now. It includes the entire docket.

Severe accidents. I'll raise a question we internally have on the specific wording.

Content of the application, this is very important. This could be too much for us to handle or so little that we have to ask a lot of questions. Content of the application and the philosophy of the whole process and in the rule you read, there is a built-in screening process within the rule which basically says evaluate your systems, come up with your systems that are important to safety, within those systems identify the components which allow that system to continue to function. You can screen out the ones that are not necessary.

Within those components identify based on their characteristics, material properties and their environment, what degradation mechanisms would be taking place, what would that component be seeing as far as degradation.

Then you could look to current ongoing programs and say that program, that surveillance, that inspection, that operational test is done frequent enough to catch a flaw, to catch that degradation mechanism before failure and it is appropriate to that degradation mechanism then no further action should be necessary on that component.

On components where it is not currently in a program or where the frequency or test is inappropriate, we expect that it will either be added into the maintenance program, it will be assigned a life, something extra will be done with it and that's one of the things we want to get into very deeply in session five this afternoon, what are the various options that you see being done with it, could we expect the topical report on something like that, can items be classed.

This is the information that we'll draw very heavily on the research program and the insights on degradation versus various classes of components and structures.

Standards for issuance. Standards for issuance are in the rule and a question came up about a week ago and I was asked to please explain as best I can the difference between a standard and a prerequisite.

The standards for issuance I'll go over are those measures, those topics against which a license will be measured. If you fit the standards then we would issue a license.

A prerequisite and the most notable prerequisite I think in what we have written is severe accidents. Severe accidents, completion of the IPE process before submission is a prerequisite. It is not a standard against issuance of a renewal license would be measured.

There are a number of prerequisites in the rule itself that you see but are not reflected in the standards. Our intent there was that the standards are the only thing that we would see going into a litigation process if there was going to be a hearing on a renewal license so the standards become very, very important to focus on.

Are they the right standards? Are they all-inclusive enough or are the too inclusive.

Backfit considerations. This has had any number of people even on the staff who have read the rule came away with a question mark and wanted to explain what they thought they read and they were right.

Backfit does not apply to this rule as it's written. This rule is on the issuance of a license. Backfit applies to the existing license and once this license is issued backfit then applies to this issued license.

Now to clear up any ambiguity, we propose a change to 5109 to make sure that that was clear and I think I said it clearly enough people can understand it. We had a problem in the articulation. It seems when people read this they didn't understand that there's a void in this rule itself.

There will be additional requirements that come out of this rule. There will be additional commitments. We all know there are components out there that are going to have extra things done to them. Those extra things to make up for time related degradation would not be considered under the backfit rule but once the issue is licensed 5109 is again in effect.

Hearings. The hearing process you'll find is generally absent from discussion because we feel that we'll be going with the current hearing process. There are people who have suggested other processes and Larry Chandler is here from the Office of General Counsel and he'll be ready to take questions and field comments on the hearing process.

Maintenance and records. Again maintenance and records are very important. How it's going to be done, when it's going to be done. How much data in advance should you be collecting right now?

The two pilot plants which we've met with, they have programs in place to collect data from surveillances that were done, measurements were taken but measurements weren't recorded

but now they see that there's a fruitful body of information there that by recording the measurements in order to use trend analysis to justify component life versus just a go-no-go test.

We'll leave the details of maintenance for this afternoon.

License renewal philosophy. The current basis is sufficient for adequate protection of the public health and safety and we're trying to maintain the current level of plant safety during the extended plant life.

Everyone thinks of this concept differently. I'll give you my thoughts since I've got the microphone.

If I had a line with a slope that went from the day that plant started to 40 years and at 40 years all of that design margin was conceivably used up and you throw the plant away. The slope is now less. You're taking that dot at 40 years and you've moving it out to 60 years on the scale so that the last day the plant operates with a 60-year life it should be in the same condition as the last day it operates with a 40-year life.

That conceptually is how I see this thing in my mind and I think most of the people that worked on it see it that way. Similar to what Jim said, at 39 years and at 60 years it should be in the same condition.

Licensing basis. Establish the envelope of regulatory compliance and enforcement for the renewal term.

Our licensing basis definition is all-inclusive. I've already been told by the two pilot plants they don't like it so inclusive so other people might also have opinions on it.

We do want the opinions. In order to get this conceptual rule out and get something as a point of departure, we made it all-inclusive. Virtually everything on the docket -- one thing you'll find missing is compliance items. Compliance is against current rules and it's a current problem so you will not find on here anything related to inspection reports or responses to inspection reports.

Regulatory programs not subject to review. There is a list in the Federal Register notice. We are right now in the process of developing a statement of considerations to support this exclusion so expect this exclusion to be in the statements of consideration.

Is this everything we should exclude? Our criteria for exclusion was generally anything that was periodically updated. If we're getting an annual update to something or you're required to do an annual update, if there is ongoing training then we would anticipate it being excluded from coverage in this rule.

That does not mean that it's excluded from regulatory oversight. Current rules continue to apply. That's a very important aspect. In some other meetings with at least a state representative got lost, he got very worried when we said we

were excluding these. He said you mean nothing is going to apply to them.

Current rules currently apply and we have no reason to believe in looking at these areas that current rules are not fully adequate to take care of it.

With that, these are our exclusions and we are going back -- there is a complicated problem in it and several of these, the wording in the legislative history or the statement of considerations for these areas had not anticipated license renewal so we do have a procedural problem we're trying to correct because in some of these areas it talks of the issuance of a license. A renewal license is the issuance of a license so we've got some procedural problems to get around.

As Jim said, initially we feel this will be resolved under the current licenses. This is a prerequisite for submitting an application.

I will point out a wording problem and feel free to comment because this is where the articulation of what we've written in ruling could become very important. Let me read exactly what we have written.

Sufficient documentation showing that the individual plant examination required by generic letter 88-20 has been completed and approved by the NRC staff. That's pretty good.

And a description and technical basis for all staff approved corrective actions. You may want to comment on that.

If we have in fact already approved corrective actions and already reviewed it, in going back and re-reading this I wasn't sure why we were going to ask you to submit it all again.

It's important to look at the articulation and the words. We were not perfect in getting this out.

While this can be a prerequisite, I am not sure that we really need the technical basis for the staff's position to be resubmitted.

Completion of the IPE. We do have it including external events. Everyone knows external events are somewhat delayed to the internal events. That should present us I think only a problem with the two pilot plants and we believe we can work around that with them. They'll either have it done because of some things they've done in the past already or will do something else.

Content of application. This starts getting into the meat of how many trucks we do not want to see pull up at our new building. Everyone knows who has been to our building we have cubicles now so people are very limited to the amount of paper they can store over their desk. They are only allowed one set of shelves directly over their counters.

Content of application really bears on how we're going to license, the process we're going to license as well as the information you will need to develop to support the

license.

Every renewal is an operating plant. It's an operating entity with a lot of information. If in fact we are going to be asking within this rule that for each components which falls out of a straining process that the component's characteristics and material properties, the environment it sees and the degradation mechanisms applicable be developed, that's an extremely long list, 10, 20, 30,000 components.

I do not believe at this point in the content of the application we would want 30,000 components worth of information.

The application here, really we want to focus on how you get there and enough insight with enough examples so that we can understand the process and actually do a site visit if we want to audit the rest of the components that are not part of the application.

So in the application itself we would not necessarily see copies of all the paper and all the analysis that would have to get generated to support it. We would see the screening process, a certification of the licensing basis saying that this is what you think it is and you're in compliance with it, a technical evaluation and the systems, structures and components screening process, the process that you use and describe.

We are currently reviewing the NUMARC screening

topical report and I could see from our first look at it than on an individual plant basis the screening process would have a need to go to a next level of detail down so there is a possibility the screening process will need some description in the application.

Degradation mechanism is covered. There is a list in the rule -- One comment we've gotten already is on that list in the rule we need to define them. I could put one in and take one out and as long as I define it right I'll still cover the whole spectrum of everything I want to cover.

You'll notice right now they are just named. Is naming them good enough or should be putting definitions on them? Is the term of art close enough or do we need a lot more detail so that there's no ambiguities between the people doing the reviewing and the requiring and the people trying to comply.

The basis for conclusion that degradation is properly monitored or corrected. There are two pieces to this. There is components which are currently covered by programs already in existence. We would expect something maybe more than a list but something very close to a list of those components if it's already covered.

If it's not already covered then it's going to require a little more explanation, not necessarily on a component by component basis but maybe on a class basis.

Technical specifications, environmental report update. They're pretty straightforward.

The standards for the issuance of the license. As I said, this identifies only those areas where the staff has to make a finding. In those areas not included in the standards we would not expect to make a finding and when you look at the standards the standards focus very much on identifying degradation mechanisms, systems, structures and components involved and not on prerequisites.

The standards themselves. The first one I think is relatively straightforward. We have an agreement on what the current licensing basis is, how inclusive is it, how inclusive is it not.

This is a standard that the licensing renewal issuance would have to make a finding on.

The screening process. The systems, structures and components important to safety adequately identified, not only just the right ones but the process of identifying them is very important.

What the rule does not have in it is a list of components. Although there are certain components that everyone has generally agreed upon will fall out.

Something that could be in the rule and we'll be happy to take comments on, should the rule list certain major components, components liable for degradation or components

where we have an uncertain knowledge about, should they be listed in the rules specifically.

We've chosen not to. We've chosen not to. We've chosen to go with the screening process that we would hope is all inclusive enough to pick all the right components.

The degradation mechanisms that they've been identified. The rule itself identifies and lists degradation mechanisms. I think we probably do have to put some definitions in to show that they are all-inclusive but for any individual component where you've looked at the component's material, its installation history and its operating environment, have the appropriate degradation mechanisms been identified with that component.

Appropriate actions taken or accounted for for degradation. Type of flaw and rate of growth. There are two elements that have to be accounted for. Surveillance, is the inspection frequent enough and is it the right one.

An applicable program for trending and evaluating degradation effects. The standards become extremely important because that's what we have to make a finding on to issue a renewal license.

Backfit I've already covered. It seems always to evoke emotion so I'll go over it rapidly.

Someone made a comment to me when they were giving me the comment on backfit and overlapping that there's two

overlapping lines and there's a void in the middle and this is the void in the middle that takes us from one step to the other and I said that's right but if you want to get that to change you'll probably have to find an advocate on the staff for putting a rule on ourselves. Jim Sniezek does this to us all the time so anyone who wants to do that, write to Jim.

[Laughter.]

I'm not going to go through all the questions. There was just so many of them that we came up with for session one.

In the Federal Register notice it does ask for written comments by December 1st to help us with the proposed rule. If you have a comment and it relates to any of those questions, or if you have a comment that says no, I don't think you should do this, they would be very much appreciated.1

The broader spectrum of input we can get the better off we're going to be in having a proposed rule that comes closest to the mark the first time out.

I will hit a couple of the high points in the questions and the approach overall.

Is there anything that exists, any technical reasons that would argue against the approach taken in the rule? Is there a good reason why the vessel should in fact be included in the rule? Is there a good reason why --

Last week someone talked to me about weld overlays and BWRs, should they be included in the rule.

I guess there's two different points of view and we're looking for both of them. I don't know that there is necessarily a right answer because those are exactly the kind of components we would expect to fall out of a screening process but there may be some other subtleties.

Is the philosophy implemented by the framework, the wording in the conceptual rule. Does the articulation come across in the rule that we put in the philosophy.

The philosophy in the Federal Register notice reads like a misstatement of considerations. It's what we intended. It's what our real hope was. Does the rule come across that way or does the articulation in rule language with the paragraph numbers and the little Xs and everything in there come across wrong?

Does it look like more than the philosophy would intend?

A good example of that would be what I just said earlier, whether a component is currently covered by a program or not there is still some basic information we would expect to be developed for that component. You still have to have its environment, its history, its material composition and define what degradation mechanism it sees, which means it's not as easy as saying this is already in my ISI program, that's good enough.

Just being in the program would be this language not

be good enough to just dismiss it.

Is the schedule reasonable in light of public and utility interests? Getting certainty in the process is very necessary from out point of view. I know getting certainty in the process is necessary from your point of view so we both have a mutual interest.

I think we're on right now as optimistic a schedule as we can be on and move forward.

One might ask are we moving too fast. The question has come up why not just hold this rule and license the two pilot plants on somewhat of an ad hoc basis and develop a rule around the process that's used. That's a question that's been asked in the last several weeks.

There's some merit to that. The two pilot plants may not think there's a lot of merit to it.

It's a lot easier to deal with real pipes and vessels than it is in a somewhat abstract atmosphere that we're in here.

[Slide]

MR. GILLESPIE: The screening process important to safety you will catch two things. We catch a lot of secondary plant, balance of plant systems. And another way of saying it, not only does this focus on mitigation systems, the traditional safety systems, to a degree it also focuses on initiators.

So the screening process based on the definition of

important to safety as applied in this rule is a very broad spectrum of systems. Was it intended to be that way when we wrote it? Yes, it was. It was our starting point. If there is any desire to narrow it down, not necessarily that we will do it, but we would like to hear from you on it.

Should the degradation mechanisms be included in the rule at all? Right now we have them included. If we're going to include them we feel that we're probably going to have to define them.

Another way of handling it is -- and it's just a broad general statement -- define all degradation mechanisms applicable. We can replace what we've got in there with that kind of statement.

What's the adequate level of documentation concerning data analysis and program changes?

This bears not only on the rule itself, but to a large degree on the format and content of regulatory guide that we see as somewhat crucial to the rule, which will address not only the documentation required to be submitted in support of the rule but we are going to have to address the documentation expected to be developed and kept on site.

A lot of technical information will be developed, we would foresee, that will not necessarily get submitted without being requested to be submitted.

Is it clear how and why the certification of

compliance is an essential part of the application?

This would be a cop-out but I would bow to Larry Chandler of OGC on that one. I think that's who we were arguing with when we got that put in.

Is there a need for additional guidance?

Well, that's somewhat rhetorical. We feel that there's a need for additional guidance. Maybe there isn't.

[Slide]

MR. GILLESPIE: The screening process is the meat of it. The standards, measure, the screening processes applicability.

Licensing basis: this captures a few of the types of questions that were in there.

Is it clear how the requirements will be met?

At least I'll give Yankee some credit. I visited up there, since they were one of the pilot plants and they've got a room with this bookcase and if you ask them what their licensing basis they point you to the bookcase. I would just as soon they just list it and send it to us. But then again, we may have to ask them for Xerox copies of everything.

What is the necessary level of documentation?

I kind of hit that already.

The exclusion programs: is there anything else that should be excluded?

[Slide]

MR. GILLESPIE: Role of severe accidents. You can sparse this up into the IPE; the accident management program.

Should severe accidents be addressed in this rule at all?

Another comment we've gotten in the various points of preparation is, well, it's obvious that we're all going to take so long to get in for license renewal and with the short time frame on the IPE process that there is no need to address it in the rule.

Well, on the other side I could say, since it's all going to be done, then addressing it in the rule is okay as a prerequisite.

You could take either point of view. You can see which one we took. I do have a question, as I said before, on some of the words we have in there maybe requiring more than just what a prerequisite would require.

[Slide]

MR. GILLESPIE: Standards for issuance. The standards revolve around two things: screening the plant for what components need to be addressed further technically; and how you're going to address them. How they're going to be maintained, surveilled, replaced.

The importance of the screening process has caused it to have its own session. The importance of the maintenance trending recordkeeping aspects of it has caused that also to

take on a major role in Session 5 this afternoon which is a continuation of this one.

The next renewal. Should the next renewal be easier than this one?

There has been some questions raised by people who would like to renew for 30 years. The way our rule reads, the way it's worded here it's a 20 year renewal. I can't say that there is an actual scientific basis for the 20 years. It's as far as we could see ourselves forecasting out technology.

If someone would want to come in with a 30 year renewal package, although they would only get a 20 year renewal a question would be: but would the NRC review it for 30? This rule does not really make that provision, although this rule does not provide a limitation that there can only be one renewal.

But certainly, if you capture another or several thousands of more components within current systems, then the second time someone would want to renew you should not have to go back and recapture those same components; we should somehow be looking at the increment.

And that pretty much covers how we got to where we are at. Some of the questions we have in our own mind on how we can make this a better rule as we go to the proposed stage. The questions are relatively extensive.

I would like to encourage everyone that can look at

the questions. The questions were developed on a consensus basis within the NRC between the Office of Research and Reactor Regulation. As those questions that we will have to address in a statement of considerations to move forward.

So I would ask everyone that could, please look at them. Send us a letter, address as many as possible.

Now, what I would like to do is -- we're pretty close to being on schedule -- is take a few minutes and answer questions that anyone would have on the intent of what we wrote. I'm not trying to defend it, but I do think it's important that you understand why we wrote what we did at least to get something started that we can change to come up with a good proposed rule. And then we will go on to the set speakers and the speakers will be invited up to the podium to speak from here.

Any questions on the questions that are in there? The words in the rule?

Yes, in the back.

MR. O'DONNELL: One quick comment on your philosophy.

I'm Bill O'Donnell and I'm Chairman of the ASME Subgroup on Fatigue.

I think that the philosophy has to be that you maintain the current required level of safety, because if you're going to continue to run the plant beyond 40 years, if you have a fatigue usage factor of let's say of .2 or .3 at 40

years and that's going to get closer to 1 if you run another 20 years. You still are maintaining the current required level of safety because the safety margin that's required is the usage factor of 1.

You cannot maintain -- if you follow your earlier philosophy -- you can't maintain the current level of plant safety because you're going to continue to get fatigue damage.

MR. GILLESPIE: I agree with that. And I'm glad you brought up fatigue. Fatigue was a major problem that we came across when we went through a screening process ourselves in-house. In fact, fatigue is the hardest element in the older plants to address generally due to the lack of fatigue analysis on some of these plants and the lack of detail.

I do agree with what you said.

MR. BOSNAK: I would like to add one thing.

MR. GILLESPIE: Yes, Bob.

MR. BOSNAK: In Sessions 2 and 3, if you look at your questions, there are several questions on the fatigue issue. I agree with what Bill O'Donnell has said. The margin that you have is what is required rather than what you have at a certain incident time.

MR. RASIN: I'm Bill Rasin with NUMARC.

Frank, you mentioned that you would defer to Larry Chandler on the question of the need for certification of compliance with current licensing basis and I wonder if you

could do that now. I'm dying to hear some of the rationale behind that.

MR. CHANDLER: I always appreciate Frank's deference.

The questions that we asked ourselves about certifications and compliance is really whether they -- what and whether they add anything to the overall process. Compliance will have to be established independent of whether there is a certification.

The Staff has, I think, in recent years been looking more to certifications by the utilities -- a fine typical examples in generic letters -- as a way of providing a more direct means of assurance that what has been requested, in fact, has been done. It's an economy of resources, but I'm not sure that from a legal perspective it adds much to what is going to be required under the rule.

MR. GILLESPIE: Anyone else?

Because this is just a conceptual rule, we will answer almost anything.

MR. CHANDLER: Let me add one thing to my response to Bill on that. One of the things, of course, to bear in mind is, there is a provision now in Part 5050.9 talking in terms of completeness and accuracy of information.

The certification that utilities would provide, of course, is something which -- let me turn it around. The requirement that certifications be complete and accurate is

something obviously that would be of significance to us when we look at it. That is one measure of assurance that it does provide.

MR. GILLESPIE: I was going to say, if I didn't get another volunteer I was going to throw something out and see if I could get something stirred up here.

MR. CHANDLER: Somehow I knew it would be Joe Gallo.

MR. GALLO: My name is Joe Gallo from a law firm called Hopkins and Sutter.

From your explanation, Mr. Gillespie, and I just want to confirm it was the NRC's intent, apparently the content -- as I understand it, the content of the application contains a number of information requirements. For example, a demonstration of compliance with current licensing basis. But the standard -- the standard section is something less than what the application envisions being submitted because there is no item in the standard that indicates that the current licensing basis as demonstrated by the applicant in the application is adequate for health and safety reasons.

Is my understanding correct of the intent of the NRC Staff?

MR. GILLESPIE: Yes. Half yes.

[Slide]

MR. GILLESPIE: Let me see if I can reiterate it. There was two questions, I think, in that question. One was:

the licensing basis has been completely and accurately defined. That is one of the standards.

MR. GALLO: But the word "adequacy" is not i there.

MR. GILLESPIE: We are not addressing adequacy in the renewal standards; that is a true statement. There is an assumption that is in there that the current licensing basis, in fact, surpasses adequate in most cases.

I think everyone knows "adequate" is a word we have yet to define precisely as a set of rules. It's an integral set of how a facility complied with this licensing basis.

So that was not a mistake; that was a definite exclusion. We do not want to make that finding a second time.

MR. SNICZEK: Jim Sniczek.

To say it very succinctly, the Commission is satisfied that the current licensing basis is adequate for protection of public health and safety. And if you certify that you meet the current licensing basis by definition, you provide adequate protection to public health and safety.

MR. GILLESPIE: Let me throw something out and maybe someone will respond to this. I'll ask a question. I would assume everyone that read it realized that a PRA isn't required by this rule right now.

Part of the thought process we went through -- and it's one of the exclusions and if I have a minute I'll go through it -- we found it difficult while PRA is a good

integral analysis of a facility, we found it hard to come up with a regulatory purpose or a decision point that we would make based on the PRA. It was not something that we would have probably used.

Also, because the IPE process is anticipated to give us most of the benefits of a PRA being done at each plant; and the benefits were not seen as being those to the NRC but those to the licensee. You will find that no PRA is required by this rule. Of course, this is something that could change because the Chairman about a month ago in a presentation said, let's require a Level III PRA of every plant for license renewal.

So this is one where if you have a comment on the exclusion or the inclusion it will be a valuable comment to bring to bear on how the content of the rule finally ends up on.

So please do not overlook those things which are not mentioned, which you would like to continue to have not mentioned or you would like to have included.

Any other questions?

MR. BOSNAK: Frank, I'd like to add one thing to what you've said and maybe we could have some discussion from the floor.

Is it possible to have a viable screening process without doing APRE?

MR. GILLESPIE: Everyone's holding out for the

screening process meeting.

[Laughter.]

MR. BOSNAK: All right. Let me go to the speakers then and in general, we had in the announcement allowed for 15 minutes for each speaker. We would ask that the speakers try to keep to that amount of time. We have six speakers at 15 minutes each, gets us to about 11:30.

All right. I was just going to keep going. Let's take a 10 minute break. It's now 10 to 10 and let's start again at 10 o'clock and I will ask Terry Pickens of Northern States Power to come to the podium.

[Recess.]

MR. GILLESPIE: Please, we'll give everyone a few minutes to come in. While we're waiting for everyone to come in, during the break I was asked a question which will be covered in the environmental session but let me just throw it out so people can think about it and that's the economic aspect of life extension being considered, things like alternate power supplies, the business advantages of going forth and extending a life versus decommissioning right away.

In general, the same philosophy that we're approaching the technical portion of the rule with, we're going to approach the environmental session and Don Cleary will be heading that group and I'll be there also tomorrow.

With the NEPA requirements being what they are, for

us to exclude something, to exclude looking at alternative power supplies is in fact going to require a change to Part 51 which we are in fact anticipating and that's what Don's session circles around.

So basically, the same philosophy of, if it's not time dependent on 40 years, if it's not dependent on a particular time of the license, we'll carry forward in the environmental area also.

Don could use everyone's opinion if everyone is willing to give it tomorrow at that session. The other thing he's going to cover is how we intend to generically deal with severe accident mitigation devices. That will also be covered in that session.

Now I have to go back on my word. I have had universal requests from all the utility people who had asked to speak to please put NUMARC on first. I guess so, John, would you like to come up and start off?

MR. DeVINCENTIS: Good morning.

[Slide.]

MR. DeVINCENTIS: Looking out at you, I'm sort of reminded of a picture in the men's room of the Public Service of New Hampshire's offices in Manchester. It's a picture of a seedy old cowboy. The caption under the picture is, "They never told me it was going to come to this if I signed up for this outfit."

I've got a couple of general comments I'd like to make before we start in with the presentation. The rulemaking on plant life extension is a vital part of our Nation's electricity supply. It is clear that as more nuclear plants approach the end of their existing license, utilities will have to make decisions on either to try to extend the license of existing plants or build new power plants to replace those whose licenses have expired.

It is quite clear that those plants whose performance and operation's history that are not too good from the standpoint of safety and cost will not be considered by the utility as candidates for license extension. However, for those plants who have good operating histories and whose economics justify continued operation, the process that we are attempting to establish here must be one that does not create an obstacle to continued operation.

As a matter of fact, the process should facilitate continued operation since as a matter of policy, nuclear power must play an important part of the energy mix as we face the next generation, especially with the threat of global climate changes and the continued use of fossil fuels. In recognition of this, the industry initiated efforts over 10 years ago to prepare for plant life extension.

We are pleased to participate in this workshop. It's a milestone event towards that goal. The next slide shows the

topics that I will be discussing.

[Slide.]

MR. DeVINCENTIS: You can see almost everyone of them has been mentioned one time already today. The first few slides focus on the current licensing basis. One of our major comments is that the philosophical approach as outlined by the previous speakers certainly seems to create a buy-in or initiate a buy-in for most of us.

[Slide.]

MR. DeVINCENTIS: We do agree that the focus on license renewal is the management of age-related degradation to assure an adequate level of safety and that the current licensing basis provides that adequate level of safety and that same level of safety is adequate for the renewal. That's based on in the philosophical section of the Commission's initial findings, the Commission's continued oversight and regulatory actions and the licensee's ongoing programs.

[Slide.]

MR. DeVINCENTIS: As I mentioned, the requirements in the conceptual outline are inconsistent with the NRC's philosophical approach. We at NUMARC do not believe that the entire current licensing basis needs to be identified and documented. It is already part of the licensing record. I do not envision us thorough faxing complete copies of those bookshelves that Frank mentioned when he was at Yankee Rowe and

supply them to the NRC.

The focus on license renewal is really on age-related degradation and not the entire current licensing basis. We should identify and document only those portions of the current licensing basis which are pertinent to the management and mitigation of age-related degradation and the exemptions which are acknowledged to be time-dependent.

[Slide.]

MR. DeVINCENTIS: Certification of compliance with the current licensing basis again is not necessary. The NRC oversight and licensing programs ensure compliance is recognized in the NRC's philosophical approach. For that portion of the current licensing basis it is adequate to consider submitting it under oath and affirmation for license renewal applications.

With regard to Section 9(b), the analysis of the entire current licensing basis is not necessary. Once again, the analysis should focus on age-related degradation of equipment and not the entire current licensing basis and only that portion of the current licensing basis which is relevant to age-related degradation of equipment should be considered.

Section 19(a), a complete and accurate description of the current licensing basis is unnecessary. Again, I said this -- I almost -- in the presentation, I almost thought of listing the number of times we said it. The focus on license renewal

is age-related degradation of equipment. In 19(d), provides a standard, a sufficient basis for a finding that an applicant's facility will ensure the health and safety of the public.

We even believe that the definition of the current licensing basis is not needed in the rule if it's adequately defined in the statement of considerations.

[Slide.]

MR. DeVINCENTIS: I've got one slide up there that should summarize what I've put together in the previous four slides and that is that the NRC should find that the current licensing basis for all operating reactors are an adequate and sound foundation for continued operation under renewal licenses.

This determination would be predicated on NRC's ongoing regulatory activities and an analysis of present regulatory requirements that we documented as part of a license renewal rulemaking. Such a demonstration would make it unnecessary to describe and examine and litigate the current licensing basis for adequacy in individual license renewal proceedings except for the effects of age-related degradation.

[Slide.]

MR. DeVINCENTIS: The next topic is structures, systems and components. We are again in agreement with NRC's philosophical approach to license renewal. Again, the focus is on mitigation and management of age-relate degradation and the

approach proposed by NUMARC and the methodology to evaluate plant equipment for license renewal we feel does implement the NRC's philosophy.

[Slide.]

MR. DeVINCENTIS: With respect to the contents of the application, we feel the conceptual outline is inconsistent again with the philosophical approach. 9(c) fails to take into account existing plant inspection, refurbishment, replacement programs, which adequately mitigate and manage age-related degradation. If age-related degradation is adequately addressed, there's no need to analyze design basis events. A program for evaluating, trending the effects of all age-related degradation mechanisms should not be required for components which are repaired, replaced or refurbished on an acceptable interval.

[Slide.]

MR. DeVINCENTIS: With respect to 9(e), technical specifications are not an appropriate mechanism to control programs which manage or mitigate age-related degradation. Some of the tech specs may be appropriate if the particular equipment that is degrading is identified under the surveillance requirements of the appropriate tech spec.

[Slide.]

MR. DeVINCENTIS: With respect to the environmental requirements, NUMARC supports the staff's determination that an

environmental assessment is required to satisfy NEPA in connection with the license renewal application. An EIS need only be prepared if an environmental assessment concludes that significant environmental impacts result from a license renewal. The environmental assessment, however, to the extent practical, should be used to envelop generic environmental effects. The schedule for completion of such an EA must coincide with the rulemaking schedule to satisfy lead plant needs. That's May of 1991.

That is to say, the scope of the environmental assessment with respect to generic issues evaluated has to be defined sufficient to meet the scheduled requirements, if not for completeness, and the environmental evaluation support the revision of Part 51, the so-called SX tables, should be deferred until after the substantive requirements of license renewal are issued as final regulations.

[Slide.]

MR. DeVINCENTIS: We do encourage the staff to modify Part 51.20(b)(2) to allow preparation of an environmental assessment as opposed to an environmental impact statement in connection with individual plant license applications.

Continued plant oversight during a renewal period should not result in significant environmental impacts and that will be discussed further in the session on environmental topics -- session 8, I believe.

[Slide]

MR. DeVINCENTIS: Our position with severe accidents is severe accidents should not be part of license renewal rulemaking. Industry is presently proceeding towards severe accident closure in response to generic letter 88-20. Severe accidents are outside the scope of license renewal, because they are not a product of age-related degradation or even part of the current licensing basis.

Accident management programs are currently being addressed. NUMARC has a working group on severe accidents, which is addressing definition and enhancement of existing plant-specific accident management capabilities and has issued draft guidelines for evaluating accident management capabilities.

[Slide]

MR. DeVINCENTIS: With regard to standards for issuance of license renewal, Section XX.19, we feel it is necessary to make a generic finding similar to that in Part 57(a) that license renewal will not endanger the public health and safety or common defense, as required by the Atomic Energy Act. A generic finding, however, should be based on the adequate level of protection provided by the current licensing basis. A generic finding should be included in the statement of considerations accompanying the license renewal rule.

We are continuing to evaluate the specific findings

or standards issued in the conceptual outline. For the next couple of slides, all we would like to point out is that 19(d) appears to be appropriate to provide reasonable assurance that actions will be taken with respect to age-related degradation, if it's modified slightly to have the words "important to safety"

[Slide]

MR. DeVINCENTIS: That appropriate actions have been taken or will be taken with respect to degradation of those systems, adding "important to safety systems, structures, and components, such that..."

[Slide]

MR. DeVINCENTIS: Now, with respect to the backfit rule, we do support NRC's intention to remove ambiguity pertaining to applicability of the backfit rule. That is, we do believe that the backfit rule should apply during the renewal period. However, we do also believe that the backfit rule should apply during the renewal licensing process and review of the license renewal application. We feel that the staff has significant flexibility in the backfit rule itself to take whatever appropriate actions are required because of age-related degradation.

[Slide]

MR. DeVINCENTIS: With regard to issuance of a renewal license, we feel that there should be an opportunity to

apply for license for more than 20 years, as provided in the conceptual outline, since there is no technical basis for the 20 years. However, we do agree that the applicant must demonstrate the technical basis supporting the additional operation for the renewal term.

We feel that the reference to "estimated useful life" in Section 21(b) should be deleted. "Useful life" is an economic determination that should be made by the licensee, and the NRC should explicitly provide for subsequent renewal terms upon expiration of existing license renewal terms. Frank mentioned that the rule didn't negate that possibility, but it should specific provide for it so there will be no question.

[Slide]

MR. DeVINCENTIS: With respect to the timely renewal doctrine, 3 years prior to expiration of the existing license is a reasonable lead time for filing a license renewal application. However, we feel the staff should provide some flexibility for subsequent filings less than 3 years if the applicant demonstrates an appropriate circumstance that required it.

[Slide]

MR. DeVINCENTIS: With respect to decommissioning and rated fuel management, we support the NRC's postponement of compliance with the decommissioning and rated fuel management requirements until a final determination of renewal application

has been made by the Commission. However, we have problem with the last bullet, in that the decommissioning plan be filed no later than 1 year after expiration date of the operating license. We feel that should be deleted, because we feel it would be improper to have to interrupt the potential litigation to prepare a preliminary decommission plan and that we're not sending the best of messages to employees in the public and the stockholders.

We do feel that the 5-year interval specified in Part 50.75, part 50.54(bb), and the 2-year interval in 50.52, that they should be based on the license renewal expiration date and specifically stated to do so.

[Slide]

MR. DeVINCENTIS: The next topic, exclusion of regulatory programs from review -- NUMARC endorses the concept of excluding those regulatory programs which govern safe plant operation and are not time-dependent from review for licenses renewal. An evaluation submitting and providing the basis for such an exclusion has been submitted to the NRC by NUMARC. Regulatory programs excluded from review will continue to be met during the license renewal term. Documentation of all licensing programs which implements the regulations and commitments, as required by XX.9(a) is inconsistent with this approach.

[Slide]

MR. DeVINCENTIS: The next subject is probabilistic risk assessment. I've got to end this soon; I'm running out of water.

Insights from probabilistic risk assessments are useful and may be beneficial but should not be used as the sole consideration for regulatory decisionmaking.

PRAs should not be required for license renewal. State-of-the-art PRA does not permit quantifying age-related degradation. No consensus acceptance criteria for evaluation of PRAs for licensing decisions currently exists.

[Slide]

MR. DeVINCENTIS: Frank mentioned Level I and II PRAs are currently being performed in the IPEs. They will describe vulnerabilities to core damage and these will be addressed appropriately with the staff.

We feel there is no programmatic value in requiring a Level III PRA for license renewal. Focuses of a Level III on off-site risks are not relevant to age-related degradation. Off-site risks are accommodated in ongoing, existing programs that are established as part of the current licensing basis. However, we do feel that the option for using probabilistic risk assessments in the future should be preserved for those license-renewal applicants who may find it useful, at that time, in the evaluation of their system structures and components.

[Slide]

MR. DeVINCENTIS: My final topic is the maintenance, surveillance, and recordkeeping, which I guess we'll get into much deeper later on this morning or this afternoon.

We feel that the equipment to be addressed should be limited to that important to safety, subject to age-related degradation as a result of license renewal.

Maintenance, surveillance, tests, and recordkeeping activities should be done in accordance with current practices and controls, as supplemented by those activities necessary to manage the age-related degradation.

Supplementary items necessary to manage age-related degradation for license renewal will be controlled by NRC commitments and by administrative controls put in place to insure appropriate reviews are done prior to changing those particular documents.

Regulatory mechanisms to address maintenance, surveillance, and recordkeeping beyond those related to managing of age-related degradation should not be treated in the license-renewal regulation or process.

That concludes my presentation.

MR. GILLESPIE: Okay. Thank you, John. Some good comments there, some things we had probably not thought about. You're going into the -- you nicely went into the next level of detail down in some of the rule areas, and the other thing is,

if you could send us a copy of your slides.

Let me go on to -- several people who were on our speakers list have deferred to John, so we let John take a little more time.

Terry, do you want to go on now?

Terry Pickens from Northern States Power.

[Slide.]

MR. PICKENS: Good morning. My name is Terry Pickens from Northern States Power. I would like to just present a few perspectives from NSP's viewpoint on what has been going on in license renewal and plant life extension, as we've participated over the years.

[Slide.]

MR. PICKENS: Monticello is currently participating as the lead boiling water reactor plant in a program that has been active since 1984, when we started our own internal activities at NSP and then went on to become a pilot study plant for plant life extension, and then moving on as a lead plant. And that is our current status right now.

Co-funding through this whole program since about 1985 has been provided by the Electric Power Research Institute and the Department of Energy through Sandia National Labs. The lead plant program is being done in support of the NUMARC NUPLEX program, so that we as an industry can move forward in some coordinated fashion, instead of acting in isolation.

I just wanted to say that Northern States Power, in participating with the NUMARC organization, endorses fully the positions that are taken by the NUMARC organization throughout the workshop. In fact, later on, I will be speaking again as NUMARC in the screening methodology session.

[Slide.]

MR. PICKENS: Northern States Power, in reviewing the proposed philosophy of the rule and the conceptual outline, found that it agreed with the philosophical approach that was proposed. We agree completely that the current licensing basis provides a level of safety which has been found adequate during the initial license period, and that that same level of safety is also adequate for any continued period of operation.

We think that the license renewal policy and regulations must provide assurance that the level of safety provided by the plants, by the current licensing basis, will not degrade during that renewal period.

[Slide.]

MR. PICKENS: Some of the activities which ensure the adequate safety again are the licensee's programs, and the Commission's continuing oversight of these programs, and the resulting regulatory activities.

The challenge to the continued safe operation from the plant is only from age-related degradations of the structure, systems and components which provide that safety.

The programs which are not associated with the mitigation or management of age-related degradation will be continued by Northern States Power into the renewal period, and we feel do not need to be reviewed as part of the license renewal.

[Slide.]

MR. PICKENS: Those programs which do mitigate and manage the age-related degradation should be reviewed, should be the focus of the license renewal regulation.

[Slide.]

MR. PICKENS: Now, I would like to offer a few perspectives from where we have been coming from as we have gone into this.

What we are doing right now is not a new license application. The plants that are seeking renewal, by the way that you have structured your proposed philosophy, will have a minimum of 20 years of operating history behind them, and a demonstration of their operating history, the adequate level of safety that is provided, and those levels of safety are adequate to protect the health and safety of the public. They have been established, and the ability to maintain these levels has been demonstrated successfully, or else we wouldn't be able to continue operating.

These provisions again should not need to be reviewed unless they are affected by age-related degradation.

[Slide.]

MR. PICKENS: Utilities today have to be concerned about safety and economics. Safety is and always will be the top priority that we need to be concerned with. And that is the primary focus of the rule. But as we put together the process and the rule, and what we need to supply, and all the different parts of the application and what we do as we go through litigation and all those types of things, we must remember that we have to focus the resources to the issues pertinent to the health and safety of the public, and not provide a process that is a burden or requires excess information to be provided.

[Slide.]

MR. PICKENS: General comments on the conceptual outline of the rule:

We found, much like John DeVincentis covered for NUMARC, that the conceptual outline seemed to be inconsistent with the philosophy. It seemed to me to ask for us to provide a great deal of information that is not necessary to determine the effect of age-related degradation on the plant. In the area of the current licensing basis, it required a submittal of a description, finding of completeness and accuracy. When already in our existing programs for utilities, we are doing things like commitment tracking, updating our FSAR on an annual basis, we have a correspondence log, we have many activities

going on internal to our plant which help us to ensure that we are meeting all of the things that we have ever said to the regulators.

Those types of things, with the continuing NRC oversight that is provided by the regions and NRR, in our feeling, should be adequate for everybody to feel comfortable that we know the current licensing basis and what we need to be doing to meet that.

We are interpreting the conceptual outline to also require information on the structure, systems and components in excess of those provided under the original licensing basis. It appears to us that what we are asking for is, just by brief description, that all structures, systems, and components important to safety, that there is a whole litany and list of information that you are asking to be provided: design basis, environmental conditions, degradation mechanisms, programs for addressing those. And that seems to be a lot of information to provide when, with much less information you can make the same determination for adequate safety being provided.

If we can find ways to pare down the amount of information that is required to make the finding that age-related degradation does not impact safety, we should seek to find that. And it requires activities beyond those necessary to mitigate and manage age-related degradation, those things in the areas of severe accidents.

[Slide.]

MR. PICKENS: Some suggestions for the future proposed rule that we would like to see are, we would like to see the findings restructured such that the findings that were made to issue the initial license would be carried forward, except those that would be affected by age-related degradation. I think with a little bit of restructuring, those found in XX.9(d) would be adequate to make that finding on the effect of age-related degradation.

We should limit the content of the application of those items necessary to ensure age-related degradation does not result in a decrease below the level of adequate safety already established, and to provide only that information that is necessary to make that finding. We will be able to go into that a little bit further today during the screening session.

Another item which we discussed a great deal internally when we saw things is, do we want a general rule, do we want a very prescriptive rule, do we want to get into a lot of detail?

Our feeling on this is that we do not think that it would be beneficial to provide specific prescriptive methods in the rule for managing aging. There are many options available out there for how you are going to manage age-related degradation and to what extent. And from utility to utility, there is going to be decisions made as to whether or not they

just want to replace something, whether or not they want to trend it, whether or not, you know, how they want to handle it.

I think that we should be allowed the flexibility in determining those methods and allow the flexibility between utilities to decide those, and I think with that realization also comes the fact that the burden would then be on the utilities in the application to provide the information for the NRC to make the findings that we are adequately aging that, and I think that NSP would say that we are prepared to take on that burden of demonstrating that we are managing age-related degradation sufficiently.

[Slide.]

MR. PICKENS: In summary, the NRC philosophy is technically sound. It results in a finding of adequate health and safety to the public with what they have described. However, the conceptual outline requires work and documentation beyond that necessary to support that finding. I think a much more limited amount of information can be provided. The resources need to be focused. The focus on age-related degradation and not opening other areas is justified based on the extensive operating history.

I think the screening methodology which the industry has put forward goes a long way in focusing the resources that we want to apply. I would like to see us revisit the need for the extent to which we need to document the current licensing

basis, and that a specific prescriptive rule does not allow the needed flexibility. And again, the burden would be on the licensee to demonstrate the adequacy of its approach in its application.

I guess I would like to comment on the schedule which I saw put up this morning which now has a rule being issued in April of 1992, and state that we do have a concern that, as we went into this lead plant program, it was intended to be a demonstration. And I guess it was our hope and understanding that the regulation would be issued prior to the time that our application would go in, so that our application would indeed be a demonstration of the regulatory process.

We would like to urge and see if we can work with the Staff to see if there is a way to accelerate their already ambitious schedule such that it would coincide with the planned submittal of the lead plant application anywhere from June to December of 1991.

That's all my comments. Thank you very much.

MR. SNIEZEK: I have a question.

You mentioned that you would rather have a general rule, not a detailed, prescriptive rule. The current proposal that the Staff has before you, where would you put that as far as a general or prescriptive?

MR. PICKENS: I think that the amount of information that you are asking for, say on the structure, systems, and

components, where you are looking for an actual submittal of, as I understand it, component-by-component in all systems and structures identified for safety, and looking for each piece of information -- design basis, environmental conditions, degradation mechanisms -- I would put that into the category of being very detailed requirements and a large amount of information to be submitted.

MR. GILLESPIE: Now, if I can figure out who cancelled and who still wants to go.

Joe Gallo?

Some people chickened out because it was such a big crowd. They saw you guys at coffee and they all got intimidated.

MR. GALLO: I introduced myself when I asked the questions, but my name is Joe Gallo from Hopkins and Sutter. The lights can stay on, because I don't have any slides. I would just like to provide and underscore several of the points made by the previous speakers with respect to what I think is an important aspect.

I think the NRC should be guided by at least one axiom, and that is that the scope of the application should not require information beyond that which is needed to support the findings or, as set out in the proposed regulations, the standards that are going to be made with respect to the issuance of a renewal license.

The proposed regulation -- let me back up a minute. If one accepts that axiom as a good thing and appropriate, then the proposed regulation violates that axiom in two respects. The easiest example is severe accidents. If it is not intended that a finding or a standard be established that would address severe accidents, then why is it necessary in the application for a renewal license to submit a description and technical basis for all staff to approve correction actions, including accident management program, and also an approved schedule for any items that were not implemented at the time and maybe are still yet to be implemented.

That information, it seems to me, was settled and dealt with, as I think Mr. Gillespie recognized, as a part of the separate IPE examination and severe accident examination, and it should be unnecessary to resubmit it in the context of a renewal application. It's just an inviting target, in my opinion, for an issue in the hearings that might be held in connection with a renewal license.

I think an Atomic Safety and Licensing Board may well have a difficult time excluding an issue on severe accidents when the central topic of the application is that very item. If it's intended to be a prerequisite, then perhaps the current licensing basis could be defined to include addressing severe accidents.

That might be a way for the NRC to assure that

renewal applications -- before they are submitted -- address this issue. The second area that I think is a violation of my axiom is the current licensing basis. XX.9 says that in addition to certifying this current licensing basis, the applicant must submit a description and analysis of how the facility complies with the CLB. That's jargon for the Current Licensing Basis.

Now, that doesn't say that the NRC staff is going to look at the adequacy of the current licensing basis, but it's only a couple of millimeters away. If an applicant submits a description and analysis of how his facility meets the current licensing basis, what is the staff supposed to do with that information?

Are the staff reviewers simply supposed to note that, indeed, that has occurred, or is the staff going to look to see if that analysis and description is adequate? I submit that that's a tantalizing temptation that shouldn't be put before staff reviewers.

[Laughter]

MR. GALLO: What about the intervenors? What are they supposed to do with this description and analysis of how the CLB is supposed to -- the facility meets the CLB? What are the intervenors supposed to do with that? Are they supposed to refrain from contesting whether or not the CLB is adequate, based on the description that's been supplied in the

application?

What about the licensing boards themselves? Are they to ignore that showing? These questions are couched to point out what I see as the difficulty in requiring that kind of submission. I think it's extrinsic to the renewal application, as has been pointed out the by the previous speakers. The real concern and focus ought to be age-related degradation.

I would reinforce the point made by John DeVincentis, that the generic finding should be made in the context of the rulemaking; that if the Commission, as Mr. Sniezek indicated, believes that the current licensing basis is an adequate, safe basis for license renewal, then the place to find that the current licensing bases for the existing population of plants is safe and adequate for license renewal is in the license renewal rulemaking itself.

That finding could be made in the statement of considerations to support the final rule. It then, in my opinion, would be unnecessary to describe the CBL; to describe how the facility meets the CLB; show how it complies, and, indeed, even certify. It seems to me it's inherent in the process, the regulatory oversight process that has gone on for the past 30 years, to be able to conclude that the current licensing basis is adequate.

I think it's also reinforced by the point that through the inspection process and the inspection programs that

the NRC has initiated and conducted over the years, that this is a type of verification of the current licensing basis, and it should be unnecessary to certify it.

I have to say this one thing to my friend, Larry Chandler:

I heard him answer the question by Bill Rasin. It seems to me that Larry was saying that it might be a matter of policy or staff convenience. I did not hear Larry saying that it was necessary to certify the current licensing basis because of some legal requirement.

Finally, details of the regulation; should they be in the Reg Guide or should they be in a rule? Well, that can be debated, and I think appropriately left to the engineers.

I do want to make this one point: if a detail -- for example, if the screening methodology were incorporated into the license renewal rule, then that item would not be subject to litigation in an Atomic Safety and Licensing Board hearing on license renewal.

That is a real benefit. The downside -- and there may be downsides -- should be weighed against that benefit. That completes my remarks. Thank you.

MR. GILLESPIE: Thank you, Joe. Larry, do you want a chance to -- ?

MR. CHANDLER: No.

MR. GILLESPIE: I just thought that with a room full

of engineers and maybe the only two lawyers here, we'd have --

[Laughter.]

MR. CHANDLER: I think the odds are about even.

[Laughter.]

MR. GILLESPIE: I guess two lawyers could word-out 200 engineers. For Yankee Atomic, John Haseltine.

[Slide.]

MR. HASELTINE: Good morning. My name is John Haseltine from Yankee Atomic. As most of you know, we are the lead plant for the PWR, that is, our Yankee Rowe plant.

Today, I'd like to discuss four topics from the conceptual approach and then later on in another session, Jackie will be discussing much more.

[Slide.]

MR. HASELTINE: The first one, which has been discussed already three times, is Current Licensing Basis, but I'm going to come at it from a little different flavor. The flavor is; how do we do it? I'd like to present that approach.

First, let's get some definitions. The Current Licensing Basis defines the structures, systems and components that uniquely meet NRC regulations for each plant. Second, the current licensing basis is the basis upon which the NRC determines that the plant is safe to operate.

Licensing programs and NRC regulatory oversight assure that the current licensing basis is maintained. Now, we

want to go into the license renewal. For the purpose of license renewal, the current licensing basis is defined in the FSAR, the technical specifications and other documents which define the structures, systems and components to assure compliance to the NRC regulations.

Providing the Current Licensing Basis beyond that required for the SSCs is not necessary for license renewal. A listing of the documents used to put together the Current Licensing Basis for the SSCs will be provided in our application for clarity and completeness.

The methods for identifying the documents and updating that list will also be provided so you can see that this is an ongoing list and it is an ongoing committment by Yankee. The listed documents will then be reviewed for time dependencies. Any dependency that we find will be analyzed for the 20 year renewal period and also documented in the application.

Any important-to-safety SSCs subject to aging will be evaluated to assure that their Current Licensing Basis is maintained. Reanalysis of the current licensing basis beyond time dependency and assurance of the current licensing basis for aging SSCs is not necessary because it already part of the licensing record and it applies at all times.

I believe that is a kind of a doable way to do Current Licensing Basis and document it.

[Slide.]

MR. HASELTINE: The next topic I'd like to talk about is the licensing process itself. The licensing process is obviously key to license renewal. The hearing process cannot be as open-ended as currently exists for operating licenses. Yankee recommends that the renewal rule itself state specific time schedules for the hearing process which are applicable to the licensee, the NRC, the intervenors and the hearing boards.

Also, we recommend that the renewal rule should state a specific limit on the number of contentions and interrogatories, and restrict them only to age-related issues.

[Slide.]

MR. HASELTINE: My third topic is timing the rule. The present schedule of Spring, 1992 is too late. It leaves lead plants in regulatory limbo; that is, we've got applications in but no rule. The two advance notices of proposed rulemaking, this workshop, and the proposed rule schedule for May of 1990 will have afforded sufficient opportunity for comment.

The final rule should be issued in May of 1991. I think it can be done if we work at it.

[Slide.]

MR. HASELTINE: The fourth and final area I'd like to discuss today are the regulatory guides. Two regulatory guides have been proposed; one on the format and content of the

application and the other on the screening process. We would agree with both of them, and we'd like to urge that they be published by June of 1990 for use by the lead plants in their applications.

Also, the need for further guides should be based on the experiences gained through the lead plant applications. That finishes my presentation.

MR. BOSNAK: I would like to ask a question with respect to time dependencies. Those things mean different things to different people. Would you like to see a definition some place of what are time dependent processes? Where do we draw the line, in other words, in the rule, the reg guide?

MR. HASELTINE: I believe it should be defined. I know from a practical point of view here what I'm considering time dependency; it would be a licensing agreement or documentation that says that whatever it is is good for 32 effective full power years. Obviously, if that's up, in the renewal period, we'll have to address that for the whole renewal period.

There are others like that in all of our current licensing bases that will have to be addressed. But it's an actual time dependency that's built right in.

MR. BOSNAK: But there are many things. You have to go back to the original design basis. For instance, we mentioned fatigue earlier. How much of the fatigue leg have

you used up, and those kinds of things. In other words, it's a time dependent thing, but it depends on the first 40 years of operation. How much money do you have left in the bank, so to speak, when the time comes for license renewal.

So to me, time dependent processes are very important and there should be some agreement on what they are and how they should be covered.

MR. GILLESPIE: Let me cover one point which has been touched on. I was kind of left a little confused on it, both from our side and from the other side. That's on the need for a generic environmental impact statement versus an environmental assessment; one of the topics of tomorrow's session.

The question we, as the staff, have been asked by the Commission to address and we brought to the Commission's attention was really an option which would have us doing a generic environmental impact statement, but not have it tied with the cause and effect relationship with the technical rule; meaning that the first plants who come in, if we do not have a generic environmental impact statement finished, take on a larger burden than those plants that come in later when we do have it finished.

Now, one of the problems that we identified in our last submittal to the Commission and we very much would like comments on it, so I'd like people to think about this before

they go to tomorrow's session, is that need to disconnect the rule from the generic environmental impact statement in a cause and effect way.

One of the things on the schedule that has us going until April 1992, and, Don, correct me if I'm wrong, but that original schedule date to a large extent was driven by connecting the generic environmental impact statement to the rule. In fact, the technical rule may be ready to go sooner, but the GEIS portion was going to take longer.

And we have been asked to come back to the Commission and specifically address that point. So please, when you go back from this and you're writing in, if it's not in the transcript or it's not in the written record we get and the comments we're collecting, you can't do a whole lot with it. So please send in your opinions on how you think that should go.

We've finished the speakers. I'd please ask that all the speakers give a copy of their slides to the Reporter, if possible, if you have an extra set, if you could. That way we'll have them on record.

Now, if there are no other questions, we're done slightly earlier. Would anyone else like to make a statement? We had several people on for the afternoon.

MR. COWAN: I'm Bart Cowan. I'm with the law firm in Pittsburgh of Eckart, Seamans, and I'm here today representing

Westinghouse Electric Corporation.

I have a couple of questions and then a little statement. What is the justification for the elimination of the backfit rule in connection with plant life extension? Why should all aspects of the plant be open to changes without analysis as to whether, given the 20 year renewal term, the benefits of making the change outweigh the cost?

Requiring definition of the current licensing basis and eliminating the backfit rule as part of plant life extension is going to lead to major problems. You're looking for certainty in the process. We're looking for certainty in the process. Yet, you introduce the ultimate in uncertainty by eliminating the backfit rule in determining plant life extension.

The purpose of the backfit rule was not to prevent required changes. Rather, the purpose of the backfit rule was procedural, to provide a rationale decision-making process to instill a discipline, if you will, on the determinations as to when changes are required in regulatory requirements above the minimum and in changes to the plant.

As applied to plant life extension, it should apply that discipline in connection with what is required to those things that are central to plant life extension, namely age-related degradation. The backfit rule would require a hard analysis of the benefits to be derived from proposed changes to

the plant that relate to age-related degradation, and the cost of implementing those changes.

There is no justification for requiring backfits that can't be justified and there is no justification for opening up the entire plant to backfits without the backfit rule.

Now, there may, of course, be some things that may be required as a minimum regulatory requirement, in which case the cost benefit aspect of the backfit rule would not apply. Beyond this, however, and that is contemplated by the backfit rule, you should not gut the rule in connection with plant life extension.

One other comment on the backfit rule. The rule applies to the rulemaking the Commission will be undertaking as part of plant life extension. It applies to all Commission rule makings. Thus, it will be necessary to justify why and how the suspension of the backfit rule, for example, meets the test of the backfit rule before the new plant life extension regulations can go into effect.

You will have to analyze the proposed rule in order to set out the gains from the approach being proposed, as well as the costs, in order to do the analysis that the backfit rule calls for. This will be true in other aspects of the plant life extension rule which is proposed, except for those aspects which establish minimum regulatory requirements, the cost benefit analysis will not be required.

MR. GILLESPIE: Everyone is shaking their heads no. I'm not going to argue. Actually, philosophically, I think, if you looked at the philosophy that we had there, I don't think the philosophy is necessarily inconsistent with what was just said, and it's a useful comment.

It's going to receive -- I think that's one area where we're going to receive a lot of attention when we do go to the Commission in two or three weeks, Don, we're supposed to go with a summation of the meeting here.

Any other questions, comments, anyone who'd like to speak? This is the last time you get to speak to the whole group. How about the NRC staff? We've got a lot of people here. I know we've got generally the Engineering Branch chiefs and the Systems people from NRR. Do you have any questions for the industry speakers?

[No response.]

MR. GILLESPIE: Nothing. All right. Then I think what I'm going to do is opt for adjourning a half-hour earlier and we'll start this afternoon's session at 1:15 in accordance with the calendar. Thank you.

[Whereupon, at 11:18 o'clock, a.m., Session 1 was adjourned.]

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Marilyn Nations

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Official Reporter
Ann Riley & Associates, Ltd.

PUBLIC WORKSHOP
ON
TECHNICAL AND POLICY CONSIDERATIONS
FOR
NUCLEAR POWER PLANT LICENSE RENEWAL

November 13 - 14, 1989

Reston, Virginia

U.S. NUCLEAR REGULATORY COMMISSION

APPROACH TO ESTABLISHING SCOPE OF TECHNICAL ISSUES

1. DEFINES A PROPOSED SCREENING PROCESS FOR EQUIPMENT AND STRUCTURES TO BE REVIEWED

2. DEFINES STRUCTURES, SYSTEMS, AND COMPONENTS FOR EVALUATION

3. DEFINES SPECIFIC SET OF DEGRADATION MECHANISMS FOR EVALUATION

4. DEFINES REQUIREMENTS FOR CORRECTIVE ACTION WHEN DEGRADATION IS NOT BEING MONITORED

LICENSE RENEWAL WORKSHOP

SESSION 3

FLUID AND MECHANICAL SYSTEMS

1. ADDITIONAL CRITERIA FOR PERIODIC SURRVEILLANCE AND PREVENTATIVE MAINTENANCE TO ENSURE OPERABILITY OF MECHANICAL EQUIPMENT BEYOND INITIAL DESIGN LIFE

2. AUGMENTED INSPECTIONS/ANALYSIS TO ADDRESS AGING MECHNAISMS IN PUMPS AND VALVES

3. FUNCTIONAL TESTING OF SYSTEMS AS A PREREQUISITE FOR LICENSE RENWAL

4. LONG TERM EFFECT OF FATIGUE ON CLASS I COMPONENTS

5. RESIDUAL FATIGUE LIFE FOR CLASS 3 AND 3 PIPING AND COMPONENTS

6. EFFECTS OF WATER ENVIRONMENT AND ELEVATED TEPERATURES ON FATIGUE OF PIPING AND COMPONENTS

7. PROOF TESTING AND HOT FUNCTIONAL TESTING TO DEMONSTRATE INTEGRITY AND OPERABILITY

NRC LICENSE RENEWAL WORKSHOP

November 13, 1989

Time	Subject	Session Leader(s)	Place
7:30 am	Registration		Foyer of Room A
8:30 am	Introduction	E. Beckjord	Rooms A, B, & C
8:45 am	Regulatory Philosophy and Approach	J. Sniezek	Rooms A, B, & C
9:30 am	**Session 1** - Overview of Conceptual Approach to a License Renewal Rule	F. Gillespie, R. Bosnak, L. Chandler	Rooms A, B, & C
10:00 am	Break		
10:15 am	Session 1 Continued		Rooms A, B, & C
12:00 am	Lunch		
1:15 pm	Concurrent Sessions		
	Session 2 - Reactor Pressure Boundary	J. Richardson, L. Shao	Room C
	Session 3 - Fluid and Mechanical System	J. Wermiel, M. Vagins	Room B
	Session 4 - Screening Methodology for System, Structures and Components Important to Safety	A. Thadani, M. Cunningham	Room A
	Session 5 - Overview of Conceptual Approach and Regulatory Framework - continued discussion from Session 1	C. Thomas, R. Bosnak, L. Chandler	Room 5
2:45 pm	Break		
3:00 pm	Sessions 2, 3, 4, and 5 Continue		
5:00 pm	Adjourn		

NRC LICENSE RENEWAL WORKSHOP

November 14, 1989

Time	Subject	Session Leader(s)	Place
8:00 am	Registration		Foyer of Room A
8:30 am	Concurrent Sessions		
	Session 6 - Containments	J. Richardson, L. Shao	Room C
	Session 7 - Electrical Systems	A. Thadani, M. Vagins	Room B
	Session 8 - Environmental Effects	F. Gillespie, D. Cleary	Room A
10:00 am	Break		
10:15 am	Sessions Continue		
11:45 am	Lunch		
1:15 pm	Summary of Concurrent Sessions	T. Speis, All Session Leaders	Rooms A, B, & C
2:45 pm	Break		
3:00 pm	Comments and Discussion	T. Speis, All Session Leaders	Rooms A, B, & C
4:00 pm	Summary and Conclusion	T. Speis	Rooms A, B, & C
4:30 pm	Adjourn		

SPEAKERS AND SESSION LEADERS

WORKSHOP ON LICENSE RENEWAL

OFFICE OF NUCLEAR REGULATORY RESEARCH:

Eric S. Beckjord, Director
Themis P. Speis, Deputy Director for Generic Issues
Lawrence C. Shao, Director, Division of Engineering
Robert J. Bosnak, Deputy Director, Division of Engineering
Milton Vagins, Chief, Electrical and Mechanical Engineering Branch, Division of Engineering
Mark A. Cunningham, Chief, Probabilistic Risk Analysis Branch, Division of Systems Research
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James H. Sniezek, Deputy Director
Frank P. Gillespie, Director, Program Management, Policy Development and Analysis Staff
James E. Richardson, Director, Division of Engineering Technology
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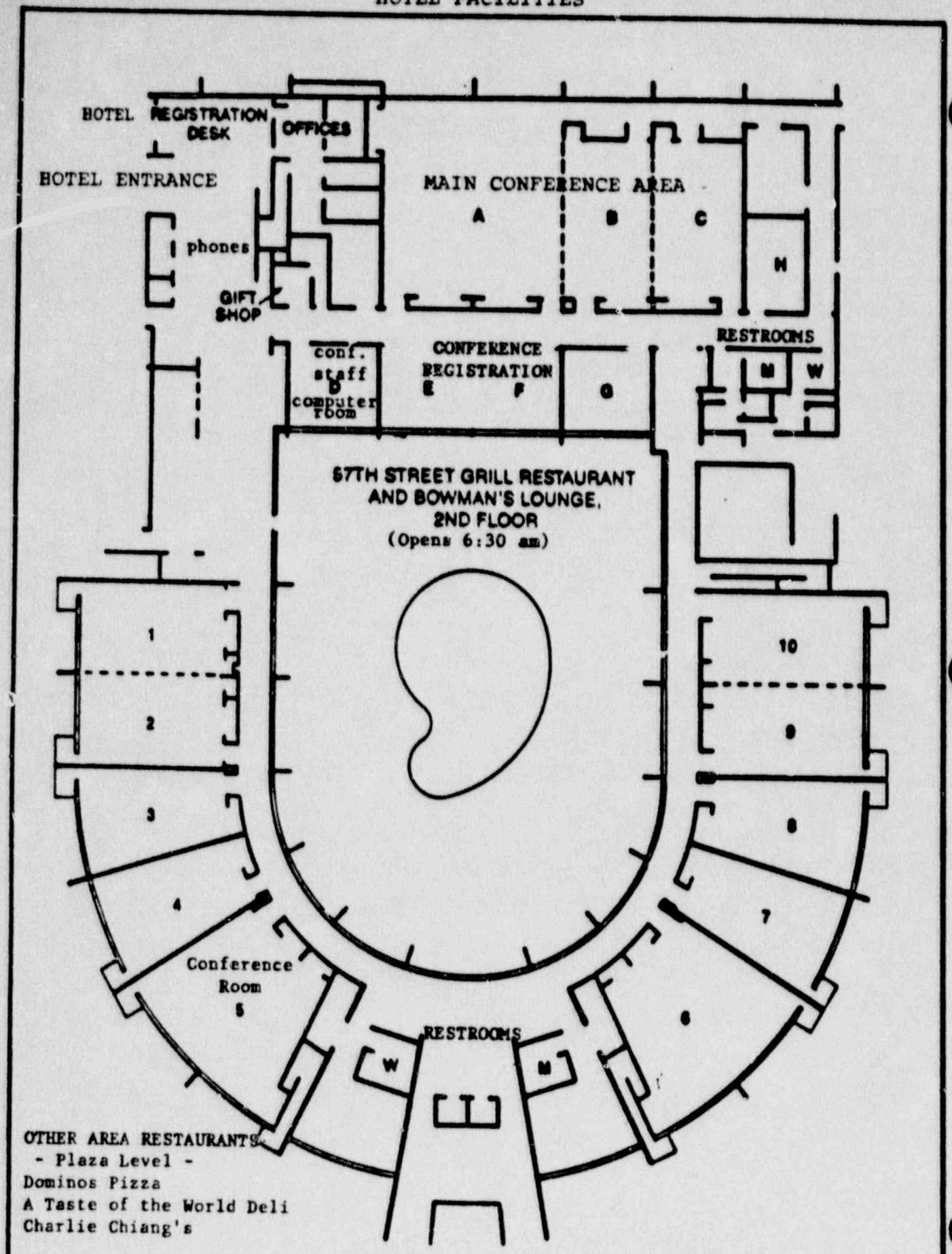
OFFICE OF THE GENERAL COUNSEL:

Lawrence J. Chandler, Assistant General Counsel for Hearings and Enforcement

HOTEL FACILITIES



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U.S. NUCLEAR REGULATORY COMMISSION PUBLIC WORKSHOP
ON NUCLEAR POWER PLANT LICENSE RENEWAL
RESTON, VIRGINIA
NOVEMBER 13-14, 1989

Eric S. Beckjord, Director
Office of Nuclear Regulatory Research
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Good morning ladies and gentlemen. I want to welcome you to the U.S. Nuclear Regulatory Commission's Public Workshop on Nuclear Power Plant License Renewal. The purpose of this workshop is to elicit public views on technical and policy considerations for nuclear power plant license renewal. I appreciate your attendance at this meeting and look forward to the discussion and obtaining your comments.

Extending the life of nuclear power plants beyond the current 40 year license period has the potential to save the country considerable energy resources. Nuclear power now produces about 18% of our electrical energy needs. By safely extending the life of a typical nuclear power plant by 20 years, it is estimated that the net benefit for each plant is about $1 billion. Since the licenses of the current operating reactors will start to expire by the year 2000, it is important to establish the terms and conditions for license renewal by the early 1990s.

The NRC has been working on license renewal for several years and has actively sought public participation in this process. On two previous occasions, public comments have been solicited through the Federal Register. The first solicitation on seven major license renewal issues was published in November, 1986. The second solicitation was part of an advance notice of proposed rule-making published on August 29, 1988. The advance notice requested comments on NUREG-1317 entitled Regulatory Options for Nuclear Power Plant License Renewal. Over fifty written responses to NUREG-1317 were received. For those who are interested in reviewing the responses, a summary and analysis are presented in NUREG/CR-5532. The process of obtaining public input as the Commission develops its plans for license renewal is continuing with this workshop.

For the benefit of you who may not be familiar with the NRC's program on aging research, I would like to describe briefly this program since it is an important contributor to license renewal. The NRC has for a number of years been carrying out a program of aging research. Much of this effort can be directly applied to assuring the continued safety of operating nuclear plants for which extended licenses may be granted. The principal concern of the NRC's aging research is that plant safety could be compromised if the degradation of key components or structures and the effects of such degradation on system operation were not detected and mitigated well before a loss of functional capability. The technical safety issue here is that age-related degradation could result in a reduction of defense-in-depth.

The NRC aging research effort is directed toward gaining an understanding of degradation processes within nuclear power plants. This hardware-oriented engineering program is a rigorous and systematic investigation into the potentially adverse effects of aging on plant components, systems, and structures during the period of normal licensed plant operation, as well as the potential period of extended plant life for license renewals beyond 40 years.

The emphasis is on identifying and characterizing the mechanisms of material and component degradation during service and on using research results in the regulatory process. The research includes evaluating methods of inspection, surveillance, condition monitoring, and maintenance as a means of managing aging effects that may impact safe plant operation. Specifically, the goals of the program are

- Identify and characterize aging effects that could cause degradation of components, systems, and structures.

- Identify methods of inspection, surveillance, and monitoring, and evaluate residual life of components, systems, and structures that will ensure timely detection of significant aging effects before loss of safety function.

- Evaluate the effectiveness of storage, maintenance, repair, and replacement practices in mitigating the rate and extent of degradation caused by aging.

I expect that the results of this program will be reflected in the sessions to be held during this workshop. Additional recent information on the aging research program can be obtained in the proceedings of the Seventeenth Water Reactor Safety Information Meeting.

I wish to review briefly the agenda for this workshop. The agenda has been arranged to obtain views on the technical and policy issues involved in license renewal. Input is requested as to what should be appropriately addressed in the rule and what should be included in regulatory guides to support a proposed rule. This morning's plenary session will open with the staff's presentation of regulatory philosophy and approach for license renewal. This will provide an overview of the basis for developing technical, policy and legal positions regarding a license renewal rule and the regulatory guides to support the rule. Following this presentation a series of questions which have been made available in the handout will be used to guide the presentation of comments. This session will generally track the conceptual rule as presented in the Federal Register Notice. The intent is to complete an overview tour through this material so that only a limited time will be spent on individual parts. This overview will then be expanded on in the concurrent sessions to be held this afternoon and tomorrow morning.

This afternoon's sessions will consist of four concurrent meetings with the topics being Reactor Pressure Boundary, Fluid and Mechanical Systems, Screening Systems Structures and Components Important to Safety and continuation of session one. The staff will make a very short introduction at the start of

each session, which will be guided by the series of questions for that session presented in the handout, followed by comments by parties who have previously notified the Commission. Additional comments may be allowed at the discretion of the individual session chairmen as time permits. Tomorrow morning's sessions will consist of three concurrent sessions with the topics being Containments, Electrical Systems and Environmental Effects and will be conducted in a similar manner. On tomorrow afternoon, a summary session will be held with all participants. Each chairman of the individual sessions will present a brief summary of his session. This will enable all participants to get an overview of the entire workshop. This will be followed by a general session for comments and conclusions. For your information, a verbatim transcript will be taken of all sessions, and will be available about the end of this week.

I wish to emphasize the importance that we place in obtaining your input to the Preliminary Regulatory Philosophy and conceptual approach to a License Renewal Rule. Thank you again for your attendance and participation in this workshop.

REGULATORY APPROACH AND PHILOSOPHY

by

JAMES H. SNIEZEK
DEPUTY DIRECTOR
OFFICE OF NUCLEAR REACTOR REGULATION

PUBLIC WORKSHOP ON LICENSE RENEWAL
NOVEMBER 13, 1989

Session 1
Overview of Conceptual Approach to a License Renewal Rule

Public Workshop
on Technical and Policy Considerations
for Nuclear Power Plant License Renewal
U. S. Nuclear Regulatory Commission
November 13-14, 1989, Reston, Virginia

SESSIONS 1 AND 5

OVERVIEW OF A CONCEPTUAL APPROACH TO A LICENSE RENEWAL RULE

I. Approach

1. Is the approach taken reasonable in light of known technical information?

2. Are the two principles stated in the philosophy discussion supported by the rule wording?

3. Are there any known technical or safety issues that would argue against the selected approach?

4. What areas of the philosophy need additional clarification?

5. Is the schedule for the rulemaking adequate to permit utilities to consider license renewal as an option for assuring adequate electrical supply?

II. Definition of the Licensing Basis

1. Has the current licensing basis been adequately defined?

2. What requirements, if any, should be included or deleted?

3. Are the requirements clear and is it clear how the requirements will be met?

4. What type and amount of documentation should be required as part of a renewal application?

5. What are the problems or issues in meeting the proposed requirements and is regulatory guidance needed in this area?

III. Exclusion of Regulatory Programs from Review

1. Should any identified programs or any other programs be included or excluded from review during a renewal application review? If so, identify those programs or issues and provide the technical or safety basis for the need to review or for exclusion from review.

2. Is it clear how the regulatory requirements of the programs excluded from review will continue to be met during a renewal term?

Sessions 1 and 5 Continued

IV. Envelope of Structures, Systems and Components to be Considered

1. Is equipment "important to safety" adequately defined and comprehensive?

2. Is it clear how the requirements will be met and what problems exist with establishing the envelope of "important to safety?"

3. Is it clear that this rule requires the review of mild environment electrical equipment in systems important to safety to the identified degradation mechanisms?

V. Degradation Mechanism

1. Are there any additional known degradation mechanisms which should be included in a license renewal rule? If so, identify the mechanism and cite references to technical information describing the mechanism.

2. Is it clear how the requirements for identifying the mechanisms will be met or is there a need for additional regulatory guidance in this area or are definitions needed for the categories of the degradation mechanisms?

3. Should definitions of the mechanisms be included in the rule?

VI. Severe Accidents

1. Should the staff require a completion of the Individual Plant Examination as a precondition to submission of a renewal application?

2. Should severe accidents have any additional role in a decision on renewal of an operating license?

3. Are the requirements clear and is it clear how the requirements can be met?

4. What are the problems or issues in meeting the proposed requirement and is additional regulatory guidance needed in this area?

5. Should the Accident Management Program be required to be in place?

VII. Content of Application

1. Are the requirements for what should be submitted clear and is it clear how those requirements are to be met?

2. Should a new FSAR be submitted in support of a renewal application or an addendum to the existing document?

Sessions 1 and 5 Continued

3. What amount of documentation of data, analyses and program changes should be provided in the application? Should the rule propose the types of information that can be retained in auditable forms at applicant locations?

4. Is additional regulatory guidance needed in this area and should publication of additional guidance in this area be linked to publication of the final rule?

5. Is more detail needed to provide a regulatory framework in the conceptual rule for a well-defined and acceptable screening process?

VIII. Certification of Compliance

1. Is the requirement clear and is it clear how the requirement will be met?

2. Should the NRC require applicants for renewal licenses to describe deviations from the SRP as is required of initial OL applicants?

IX. Environmental Information

1. Should the staff prepare a generic environmental statement which would discuss and envelope as many environmental issues as possible and which would then be used as a cited reference and preclude litigation in any relicensing proceeding?

2. Need for Separate rulemaking on Part 51 separate or with proposed rule?

X. Standards for Issuance of a Renewed License

1. Is it clear what the standards require and how the standards can be satisfied?

2. Do the specified standards provide reasonable assurance that a facility can be operated beyond its initial time or subsequent renewal terms? If not, what additional standards should be established for the issuance of renewal licenses?

3. Should a limit be placed on the number of renewals permitted at any one facility?

XI. Postponement of Compliance in the area of Decommissioning and Fuel Managements

1. Should a license renewal rule include an automatic postponement of the existing requirements or should it be necessary to have the renewal applicant specifically request a postponement or exemption from the stated requirements?

OVERVIEW OF CONCEPTUAL APPROACH TO A LICENSE RENEWAL RULE

F. GILLESPIE, NRR (POLICY ISSUES)
R. BOSNAK, RES (TECHNICAL ISSUES)
L. CHANDLER, OGC (LEGAL ISSUES)

PUBLIC WORKSHOP ON LICENSE RENEWAL
NOVEMBER 13, 1989

2. Is the postponement period reasonable or should it be more limited in time, e.g. for one year or 2 years only?

XII. Maintenance, Surveillance and Recordkeeping

1. What, if any, maintenance practices should be required by a license renewal rule? (such as reliability centered maintenance.)

2. What type of process should be required by this regulation to assure that future changes in the maintenance or surveillance programs do not reduce the effectiveness of these programs in monitoring plant degradation mechanisms?

3. What specific standards for maintenance practices should be developed and issued in a ragulatory guide related to license renewal?

4. What types and amount of documentation of existing or newly proposed maintenance practices should be submitted as part of a renewal application?

5. What types of documentation can provide a verification of insitu equipment condition and how much onsite inspection should be performed to validate the documentation?

6. What, if any, use and participation in NPRDS should be required in a license renewal application?

7. What steps should be required as part of a license renewal to assure that programmatic aspects of an enhanced maintenance program are effectively implemented?

8. What credit, if any, should be given for voluntary adoption and implementation of an industry standard for maintenance?

9. What type of information should be included or required of maintenance records for license renewal?

10. What specific requirements should be included for monitoring aging effects on specific critical components?

11. Should the proposed license renewal rule require a program for tracking maintenance records (performance trending) on specific safety-related equipment in order to monitor system performance, and how soon prior to submittal of the licensee renewal request should such a program be implemented?

12. When inspections have not been made or operating history records and trending information documentation have not been maintained, what alternative measures can be taken to justify extended life?

13. Can components which are "routinely maintained" be excluded from license renewal considerations unless there are agreed upon reliability goals for these components?

LICENSE RENEWAL PROGRAM PLAN

- Rulemaking
- GEA/GEIS
- Regulatory Guidance Development
- Industry Technical Report Program
- Lead Plant Program

OVERALL SCHEDULE

o Publish proposed rule for comment	June 1990
o Publish proposed key Regulatory Guides SRP Sections, and GEA/GEIS	December 1990
o Pilot plant application	June 1991
o Publish Final Rule, key RGs, SRP and GEA/GEIS	April 1992
o Publish additional RGs or SRP, as necessary	April 1993
o Issue SER on Pilot Plant application	June 1993

SEVERE ACCIDENT TREATMENT

- Resolved prior to submittal of license renewal application
  - -- IPE completed and submitted to staff
  - -- Accident Management Program in place
  - -- Corrective actions identified and agreed to by staff
  - -- Approved schedule for corrective actions

ENVIRONMENTAL IMPACT TREATMENT

- o Comply with NEPA requirements
  - -- Rulemaking to specify technical and procedural requirements
  - -- Actual relicensing of plants
- o Handle issues in generic manner
  - -- Environmental Assessment
  - -- Environmental Impact Statement
- 0 Plant-specific Environmental Reports

LICENSE RENEWAL PHILOSOPHY

- Current licensing basis is sufficient for adequate protection of public health and safety

- Maintain the current level of plant safety during the extended plant life

APPROACH FOR MAINTAINING CURRENT LEVEL OF PLANT SAFETY

- Ensure that systems, structures and components will perform intended functions
- Focus attention on managing age-related degradation unique to extended life
- Credit given for ongoing regulatory and licensee programs
- Use industry technical studies for resolution of issues on generic basis
- Use NRC research findings for development of acceptance criteria

BACKGROUND

- FRN on License Renewal Policy Development, November 6, 1986

- SECY-87-179, Status of Staff Activities and Report on Public Comments - July 21, 1987

- Advance Notice of Proposed Rulemaking and NUREG-1317, "Regulatory Options for Nuclear Plant License Renewal," August 29, 1988

- NUREG/CR-5332, "Summary and Analysis of Public Comments," March, 1989

MAJOR ISSUES REQUIRING RESOLUTION PRIOR TO PROPOSED RULEMAKING

- o License Renewal Basis and Scope
- o Severe Accident Treatment
- o Environmental Impact Treatment

PLANNED DISCUSSION TOPICS

- o Purpose of the workshop
- o Background
- o Regulatory Philosophy
- o Program Plan for License Renewal

PURPOSE OF THE LICENSE RENEWAL WORKSHOP

- To inform the industry and public of the staff concept for license renewal
- To obtain feedback on technical and policy issues
- To obtain feedback on the framework regulatory language
- To determine whether there are additional issues which should be dealt with in the regulatory process

Session 2
Reactor Pressure Boundary

Public Workshop
on Technical and Policy Considerations
for Nuclear Power Plant License Renewal
U. S. Nuclear Regulatory Commission
November 13-14, 1989, Reston, Virginia

SESSION 2

REACTOR PRESSURE BOUNDARY

1. Since the surveillance programs required by Appendix H of 10 CFR 50 to monitor radiation embrittlement of reactor vessels generally have been designed for a 40 year period, what additional requirements should be implemented to comply with this Appendix for the extended life?

2. In view of the uncertainties involving the material properties of aged cast austenitic stainless steel, what measures are needed to assure safe operation of components manufactured of this material during extended plant life?

3. Do the current ISI and IST programs adequately address aging mechanisms in the reactor pressure boundary systems and components?

4. Many operating plants with piping which cracked due to IGSCC have had weld overlay repairs. While this repair is safe for current operations, NDE is difficult and stress patterns have been changed in the piping system. What bases exist to permit the continued use of such piping for extended plant life?

5. Since plants have used less efficient NDE techniques than are available today, should they be re-baselined with modern techniques? Should ISI intervals and extent of sampling remain the same? Considering loss of toughness with aging, should flaw acceptance standards be modified? Because of uncertainties in the level of degradation and in the effectiveness of ISI, should continuous monitoring NDE techniques be applied during extended life?

6. Existing fatigue requirements do not take into account the accelerated damage caused by water environment and higher temperatures of LWR plants. What provisions should be required to permit operating life to be safely extended without more definitive knowledge of this effect and how should these provisions affect the application of Miner's rule and the S-N curves applied in the ASME design code incorporated by reference into the NRC regulations? Should NDE techniques be used that give measures of remaining fatigue life and levels of toughness?

7. Are there any kinds of tests that should be done to demonstrate integrity and operability to qualify for extended life?

ROLE OF SEVERE ACCIDENTS

- Should completion of IPE be an precondition of application?
- Should an Accident Management Plan be required?
- Should the question of severe accidents have any role in a license renewal decision?

STANDARDS FOR ISSUANCE

- Do the specific standards provide reasonable assurance that a facility can be operated safely for an extended term?

- Should a limit be placed on the number of renewals?

- Should a process for renewal of a renewal license be different than that for the first renewal and what would be a reasonable approach?

SCREENING PROCESS AND CONTENT OF APPLICATION

- Is equipment "important to safety" adequately defined?
- Should degradation mechanisms be included in the rule?
- What is an adequate level of documentation concerning data, analyses and program changes?
- Is it clear how and why the certification of compliance is an essential part of application?
- Is there a need for additional guidance?

LICENSING BASIS

- Has licensing basis been adequately defined?
- What is the necessary level of documentation in application?
- Is it clear how the requirements will be met?
- Are other regulatory programs candidates for exclusion from review for license renewal?

BACKFIT CONSIDERATIONS

- Requirements specified in rule are not covered by backfit rule

- Previous decisions on backfit for some technical issues may be revisited to determine if additional life significantly affects previous position

- Backfit rule to apply after issuance of renewal license

LICENSE RENEWAL APPROACH

- Are there any known technical or safety issues that would argue against the selected approach?
- Is the philosophy implemented by the wording of the framework?
- Is the schedule reasonable in light of public and utility interests?

STANDARDS FOR ISSUANCE OF LICENSE

- Identifies only those areas on which the staff must make findings in order to issue a renewal license

- Regulatory areas not identified are not basis for issuance of renewal license

STANDARDS FOR ISSUANCE (CONT.)

- Standards include:
  1. Licensing basis has been completely and accurately defined
  2. SSC important to safety have been identified
  3. Applicable degradation mechanisms have been identified
  4. Appropriate actions have been or will be taken to account for degradation
  5. Acceptable program for trending and evaluation degradation effects

SEVERE ACCIDENTS

- Subject to be resolved under initial license

- Precondition in rule to assure completion prior to application

- Completion includes:
  - IPE including external events
  - Accident Management Plan
  - Approved schedule or completion of licensee proposed modifications

CONTENT OF APPLICATION

- o Definition of licensing basis
- o Certification of licensing basis
- o Technical evaluations and SSC screening process
- o Degradation mechanisms covered
- o Basis for conclusions that degradation is properly monitored or corrected
- o Technical specifications
- o Environmental Report update

LICENSING BASIS

- Establishes the envelope of regulatory compliance and enforcement for the renewal term

- Includes: Regulations of 10 CFR
  - Orders
  - License Conditions
  - Exemptions
  - Adjudicatory decisions
  - Technical Specifications
  - NRC Bulletins
  - Generic Letters
  - Docketed Correspondence

PROPOSED REGULATORY PROGRAMS NOT SUBJECT TO REVIEW FOR LICENSE RENEWAL

- Programs excluded:
  - Staffing and training programs
  - Operational QA programs
  - Health physics and ALARA programs
  - Security programs
  - Approved ISI and IST programs
  - Containment testing programs
  - Emergency plans
  - EQ covered by 10 CFR 50.49

- Compliance concerns with above programs to be treated under 10 CFR 2.206

TOPICS OF DISCUSSION

- Renewal philosophy
- Licensing basis
- Severe accidents
- Content of application
- Standards for issuance
- Backfit considerations
- Hearings
- Maintenance and records

LICENSE RENEWAL PHILOSOPHY

- Current licensing basis is sufficient for adequate protection of public health and safety

- Maintain the current level of plant safety during the extended plant life

Session 3
Fluid and Mechanical Systems

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U. S. Nuclear Regulatory Commission
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SESSION 3

FLUID AND MECHANICAL SYSTEMS

1. What additional criteria should the proposed license renewal rule and associated regulatory guidance contain regarding periodic surveillance and preventative maintenance to ensure the operability of mechanical equipment important to safety and fluid system performance beyond their initial design life?

2. What type of augmented inspections and/or analyses are needed to address aging mechanisms in pumps and valves, such as:

   - detection of degradation in pump and valve internals (e.g., erosion and corrosion due to flow turbulence and chemical attacks)

   - detection of possible cumulative fatique of pump shafts which may lead to cracking.

   - detection of possible cumulative fatique effects to valve discs and hinges due to cyclic stresses and impact loading from valve operation and flow excitations.

3. What should the proposed license renewal rule require regarding functional testing of systems important to safety as a prerequisite for license renewal, recognizing that such functional testing may not have been performed previously as part of the original licensing basis?

4. In light of the great variability in the treatment of fatique in the design of Class I (or quality group A) piping and components, there is a need that license extension requirements be based on operating history of individual plants. How should the NRC confirm that Class I components have not exceeded their original fatique design requirements? Also, should the industry address this issue in a topical report?

5. How can the residual fatique life for Class 2 and 3 piping and components be determined for license renewal?

6. Existing fatique requirements do not take into account the accelerated damage caused by water environment and higher temperatures of LWR plants. What provisions should be required to permit operating life to be safely extended without more definitive knowledge of this effect and how should these provisions affect the application of Miner's rule and the S-N curves applied in the ASME design code incorporated by reference into the NRC regulations? Should NDE techniques be used that give measures of remaining fatique life and levels of toughness?

7. Are there any kinds of proof tests or hot functional tests that should be done to demonstrate integrity and operability to qualify for extended life?

PUMPS

- CUMULATIVE FATIGUE EFFECTS TO SHAFT
- BEARING WEAR
- DEGRADATION OF SEALS, GASKETS AND PACKING
- EROSION AND CORROSION OF INTERNALS
- DISTORTION OF SUBCOMPONENTS
- LOOSENING OF PARTS

VALVES

- CUMULATIVE FATIGUE EFFECTS TO DISC AND CONNECTIONS
- SEAT WEAR
- DEGRADATION OF SEAL AND MOTOR INSULATION
- SET POINT DRIFT
- EROSION AND CORROSION OF INTERNALS
- DISTORTION OF INTERNAL PART
- STEM AND GEAR WEAR
- DISC/SEAT BINDING
- WORN OR BROKEN BEARINGS
- TORQUE SWITCH OR LIMIT SWITCH BINDING

STEAM GENERATOR TUBES

- PRIMARY SIDE STRESS CORROSION CRACKING
- SECONDARY SIDE STRESS CORROSION CRACKING
- FATIGUE (FLOW INDUCED VIBRATIONS)
- DENTING (SUPPORT PLATE CORROSION)
- INTERGRANNULAR ATTACK
- FRETTING & WEAR (FOREIGN OBJECTS)
- PITTING
- WASTAGE
- STEAM GENERATOR PLUGS

PIPING

- INTERGRANULAR STRESS CORROSION CRACKING (IGSCC)

  CAUSED BY - SENSITIZED MATERIALS

  - RESIDUAL STRESSES

  - OXYGEN CONTENT AND IMPURITIES IN COOLANT WATER

- EMBRITTLEMENT DUE TO AGING AT OPERATING TEMPERATURE (PWR CAST S.S.)

- THERMAL STRATIFICATION

- EROSION/CORROSION

PRIMARY PRESSURE BOUNDARY

- REACTOR VESSELS
- STEAM GENERATORS
- PIPINGS
- PUMPS
- VALVES

REACTOR VESSEL

- NEUTRON IRRADIATION EMBRITTLEMENT OF BELTLINE MATERIALS

- REGULATORY GUIDE 1.99, REV. 2 PROVIDES COMPUTATION METHOD FOR CALCULATING EMBRITTLEMENT

- COPPER, NICKEL, NEUTRON FLUENCE AND IRRADIATION TEMPERATURE ARE IMPORTANT VARIABLES AFFECTING EMBRITTLEMENT

- THERMAL FATIGUE

- IRRADIATION ASSISTED STRESS CORROSION CRACKING OF VESSEL INTERNALS AND CORE SUPPORT STRUCTURE

Session 4

Screening Methodolcgy for Systems, Structures and Components Important to Safety

Public Workshop
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SESSION 4

SCREENING METHODOLOGY FOR SYSTEMS, STRUCTURES AND COMPONENTS IMPORTANT TO SAFETY

1. Is the scope of the systems covered by the conceptual rule adequate to assure safety?

2. Are the requirements clear?

3. Is it clear how the screening process in the rule works and is it clear how the requirements of the rule will be met?

4. Should the regulation permit the use of screening methods that are based on probabilistic risk assessments? If yes, describe the type of assessment and the specific rule of the risk assessment. If no, provide an explanation for your answer.

5. Should experimental aging models be required in probabilistic risk assessments to estimate aging degradation effects?

6. What are any additional issues or problems that might arise in meeting the proposed requirements and how can these concerns be dealt with through regulatory instruments?

7. Can defense in depth be incorporated into the screening methods?

8. How should the NRC judge the adequacy of an aging data model for use in PRA?

9. What, if any, should be the role of a mandatory plant-specific data base in license renewal?

10. What types of data analysis should be used to detect increasing failure rates of components?

11. It is well known that the data used in PRAs can change the results as well as the ranking of the contributors to core damage frequency. If a PRA is used in license renewal, what role should plant specific data play in this area? How much data are required for plant specific applications?

12. PRAs normally do not include passive components as basic events in the logic models. How should passive components be treated in PRA for license renewal?

13. If a PRA is used in a screening process for license renewal, how should the human error probabilities be treated so that the PRA reflects the design and not the human actions?

Session 4 Continued

14. To what level of detail does a PRA need to be for use in license renewal? Does specific guidance exist for performing a PRA for license renewal?

15. What is the role of Level I PRA in license renewal? Level II? Level III?

APPROACH TO ESTABLISHING SCOPE OF TECHNICAL ISSUES

1. DEFINES A PROPOSED SCREENING PROCESS FOR EQUIPMENT AND STRUCTURES TO BE REVIEWED

2. DEFINES STRUCTURES, SYSTEMS, AND COMPONENTS FOR EVALUATION

3. DEFINES SPECIFIC SET OF DEGRADATION MECHANISMS FOR EVALUATION

4. DEFINES REQUIREMENTS FOR CORRECTIVE ACTION WHEN DEGRADATION IS NOT BEING MONITORED

LICENSE RENEWAL WORKSHOP

SESSION 4

SCREENING METHODOLOGY FOR SYSTEMS, STRUCTURES AND COMPONENTS IMPORTANT TO SAFETY

1. THE ADEQUACY OF THE SCOPE OF SYSTEMS COVERED BY THE PROPOSED RULE

2. THE CLARITY OF REQUIREMENTS IN THE RULE

3. THE CLARITY OF THE SCREENING PROCESS

4. THE APPLICABILITY OF PRAs

5. THE NEED FOR EXPERIMENTAL AGING MODELS

6. THE RESOLUTION OF POTENTIAL ADDITIONAL PROBLEMS IN MEETING THE PROPOSED REQUIREMENTS

7. INCORPORATION OF DEFENSE IN DEPTH

LICENSE RENEWAL WORKSHOP

SESSION 4 - CONTINUED

SCREENING METHODOLOGY FOR SYSTEMS, STRUCTURES AND COMPONENTS IMPORTANT TO SAFETY

8. THE ADEQUACY OF THE AGING DATA MODEL

9. THE ROLE OF MANDATORY PLANT-SPECIFIC DATA BASE

10. DATA ANALYSIS TO DETECT INCREASING FAILURE RATES

11. THE ROLE OF PLANT-SPECIFIC DATA IN PRAs USED IN LICENSE RENEWAL

12. THE TREATMENT OF PASSIVE COMPONENTS IN PRAs USED IN LICENSE RENEWAL

13. THE TREATMENT OF HUMAN ERROR PROBABILITIES IN PRAs USED IN LICENSE RENEWAL

14. THE LEVEL OF DETAIL AND THE NEED FOR SPECIFIC GUIDANCE FOR PRAs USED IN LICENSE RENEWAL

15. THE ROLE OF LEVEL I THRU III PRAs IN LICENSE RENEWAL

Session 5

Overview of Conceptual Approach and Regulatory Framework

(continued discussion, see Session 1 questions and notes)

Public Workshop
on Technical and Policy Considerations
for Nuclear Power Plant License Renewal
U. S. Nuclear Regulatory Commission
November 13-14, 1989, Reston, Virginia

Session 6
Containments

Public Workshop
on Technical and Policy Considerations
for Nuclear Power Plant License Renewal
U. S. Nuclear Regulatory Commission
November 13-14, 1989, Reston, Virginia

SESSION 6

CONTAINMENTS

1 What additional measures should be taken to monitor and address anticipated and unanticipated structural degradations (including the loss of prestressing forces) such that an acceptable level of safety is maintained during the extended life?

2. For what additional degradation environments or mechanisms should containments be monitored or inspected? Also, how can detrimental long term chemical interactions in concrete containment be measured and predicted in the future?

3. Prior to granting a license renewal, should the licensee be required to implement (a) containment leak rate qualification test, (b) containment structural integrity test, and (c) containment configuration (including foundation) surveillance? For other Category I structures (including ultimate heat sink, water retaining structures), what type of surveillance should be required for detection of likely degradations during extended license?

SESSION 6
CONTAINMENTS

Background

- Defense-In-Depth Concept
  Last Barrier To Contain Uncontrolled Release Of Fission Products In A Multiple Overlapping Successive System

- Regulatory Design Requirements In 10 CFR 50, APP. A
  - Establishment Of A Leak-Tight Barrier
  - Assurance Of Not Exceeding Design Requirements For Postulated Accident Conditions

TYPES OF STRUCTURAL DEGRADATIONS

- Loss Of Tendon prestress in prestressed Concrete Containments
- Corrosion Of Tendons
- Corrosion Of BWR Mark I Drywell Shell
- Corrosion Of BWR Torus
- Corrosion Of PWR Ice Condenser Containment
- Potential Corrosion Of Rebars In Reinforced Concrete Containments
- Corrosion Of Rebars And Spalling Of Concrete In Intake Structures

Session 7
Electrical Systems

Public Workshop
on Technical and Policy Considerations
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SESSION 7

ELECTRICAL SYSTEMS

1. What should the proposed licensee renewal rule and associated regulatory guidance contain regarding additional criteria for testing, analysis, or replacement of electrical equipment currently included in the 10 CFR 50.49 Equipment Qualification Program which is qualified for a life less than the original license term plus the renewal period but is not subject to periodic replacement?

2. What additional programs are necessary to address aging degradation issues associated with electrical equipment important to safety but located in mild environments? What should the proposed license renewal rule or other associated regulatory guidance require with regard to additional qualification or operability verification for electrical equipment in mild environments which has a design life less than the license renewal period but which is not subject to periodic replacement?

3. Licensees have identified electrical components important to safety that have been assumed to have a life expectancy of 40 years but have been found to fail, or otherwise become unreliable, after 5 to 10 years in service. To what extent has the industry identified electrical equipment that is known to exhibit high failure rates in less than 40 years and what should be done to ensure reliable equipment performance to support license renewal?

4. Most cable has been qualified by manufacturers for 40 years. The 40 year life was predicated on certain installed and application conditions (including environmental stressors, cable electrical loading and cable mechanical loading) for which the cable was designed. Given that manufacturers have provided certain important initial parameters for new cable, what kind of program should be proposed that could be instituted to establish the insitu condition of cables and the potential degradation that would take place beyond the current design life? In addition, what insitu monitoring methods would be useful for an aging assessment of circuit breakers, relays, reactor protection systems, and electrical distribution systems?

5. What requirements should NRC issue as part of a license renewal rule for electrical equipment important to safety?

6. What should the proposed license renewal rule require regarding functional testing of electrical equipment important to safety as a prerequisite for license renewal, recognizing that such functional testing may not have been performed previously as part of the original licensing basis?

APPROACH TO ESTABLISHING SCOPE OF TECHNICAL ISSUES

1. DEFINES A PROPOSED SCREENING PROCESS FOR EQUIPMENT AND STRUCTURES TO BE REVIEWED

2. DEFINES STRUCTURES, SYSTEMS, AND COMPONENTS FOR EVALUATION

3. DEFINES SPECIFIC SET OF DEGRADATION MECHANISMS FOR EVALUATION

4. DEFINES REQUIREMENTS FOR CORRECTIVE ACTION WHEN DEGRADATION IS NOT BEING MONITORED

SESSION B

ENVIRONMENTAL EFFECTS

1. Is there any compelling reason not to permit the NRC the option of preparing an environmental assessment rather than an environmental impact statement (or supplement to) in individual relicensing actions as now required in 10 CFR 51?

2. To what extent might a generic environmental impact statement reduce the number and scope of environmental issues which would need to be addressed in individual relicensing actions?

3. What are the advantages and disadvantages of concurrent NEPA (10 CFR 51) and health and safety (10 CFR 50) rulemakings? Should these rulemakings be combined and pursued on the same schedule?

4. What are the potential sources of environmental effects from relicensing?

5. What are the potential magnitudes and significances of such environmental effects?

6. What experiential knowledge, studies and data are available to perform generic evaluations of potential environmental effects?

7. To what extent would such environmental effects differ from those experienced during the initial term of operation?

8. What should be the focus and scope of analysis of severe accident consequences in a generic environmental impact statement?

9. Should plant specific Level III PRA's be required in the NEPA severe accident consequence analysis?

10. To what extent should future availability of spent fuel storage capacity be a consideration in the generic environmental impact statement?

11. What should be the focus and scope of analysis of alternatives to relicensing the current generation of LWRs?

12. What role might utilities and Federal and State agencies play in the process of developing a generic environmental impact statement?

LICENSE RENEWAL WORKSHOP

Session 8

Environmental Effects

- NEPA Review Is Required for:
  - License Renewal Rule -- NOW!
  - License Renewal Actions -- NOW or LATER?
- Alternative NEPA Documents
- Schedule Implications
- Sources of Environmental Effects
- Analysis

LICENSE RENEWAL WORKSHOP

SESSION 7

ELECTRICAL SYSTEMS

1. ADDITIONAL CRITERIA FOR ELECTRICAL EQUIPMENT INCLUDED IN THE E.Q. PROGRAM BUT NOT PERIODICALLY REPLACED

2. ADDITIONAL PROGRAMS TO ADDRESS AGING DEGRADATION OF ELECTRICAL EQUIPMENT LOCATED IN MILD ENVIRONMENTS

3. PROGRAMS TO ESTABLISH THE INSITU CONDITION OF CABLES AND COMPONENTS AND THE POTENTIAL FOR FUTURE DEGRADATION

4. REQUIREMENTS WITHIN THE RULE FOR ELECTRICAL EQUIPMENT IMPORTANT TO SAFETY

5. FUNCTIONAL TESTING OF ELECTRICAL EQUIPMENT AS A PREREQUISITE FOR LICENSE RENEWAL

Session 8
Environmental Effects

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LICENSE RENEWAL WORKSHOP

Session 8

Environmental Effects - Continued

- Significance of Effects
- Severe Accident Consequences
- Spent Fuel Storage Capacity
- Alternatives to Relicensing
- Contribution of Federal and State Agencies to a Generic Review

Lunch noon — 1:00

continue then

T-7 Dgot them
late -
Will help

SESSION 1

OVERVIEW OF CONCEPTUAL APPROACH TO A

LICENSE RENEWAL RULE

PRESENTED BY
JOHN DEVINCENTIS,
CHAIRMAN, NUMARC NUPLEX WORKING GROUP

NOVEMBER 13, 1989

TOPICS TO BE ADDRESSED

- CURRENT LICENSING BASIS
- STRUCTURE, SYSTEM, COMPONENT EVALUATIONS
- ENVIRONMENTAL REQUIREMENTS
- SEVERE ACCIDENTS
- STANDARD FOR ISSUANCE OF RENEWAL LICENSE
- BACKFIT RULE
- ISSUANCE OF RENEWAL LICENSE
- TIMELY RENEWAL DOCTRINE
- DECOMMISSIONING
- EXCLUSION OF REGULATORY PROGRAMS FROM LICENSE RENEWAL REVIEW
- PROBABILISTIC RISK ASSESSMENT
- MAINTENANCE, SURVEILLANCE, & RECORDKEEPING

CURRENT LICENSING BASIS

- NUMARC IN AGREEMENT WITH NRC PHILOSOPHICAL APPROACH TO LICENSE RENEWAL
  - FOCUS OF LICENSE RENEWAL IS MITIGATION AND MANAGEMENT OF AGE-RELATED DEGRADATION TO ENSURE ADEQUATE LEVEL OF SAFETY
  - CURRENT LICENSING BASIS PROVIDES ADEQUATE LEVEL OF SAFETY AND THAT SAME LEVEL OF SAFETY IS ADEQUATE FOR RENEWAL GIVEN:
    - COMMISSION'S INITIAL FINDING OF ADEQUATE PROTECTION
    - COMMISSION'S CONTINUING OVERSIGHT AND REGULATORY ACTIONS
    - LICENSEE'S PROGRAMS

CURRENT LICENSING BASIS (CONTINUED)

- o REQUIREMENTS IN CONCEPTUAL OUTLINE ARE INCONSISTENT WITH NRC's PHILOSOPHICAL APPROACH
  - XX.9(a): ENTIRE CURRENT LICENSING BASIS NEED NOT BE IDENTIFIED AND DOCUMENTED
    - * IT IS ALREADY PART OF THE LICENSING RECORD
    - * FOCUS OF LICENSE RENEWAL IS AGE-RELATED DEGRADATION

      IDENTIFY AND DOCUMENT ONLY:
      - + THOSE PORTIONS OF CURRENT LICENSING BASIS WHICH ARE PERTINENT TO THE MANAGEMENT AND MITIGATION OF AGE-RELATED DEGRADATION
      - + EXEMPTIONS WHICH ARE TIME DEPENDENT

CURRENT LICENSING BASIS (CONTINUED)

- XX.9(B): CERTIFICATION OF COMPLIANCE WITH CURRENT LICENSING BASIS IS NOT NECESSARY

  * NRC OVERSIGHT AND LICENSEE PROGRAMS ENSURE COMPLIANCE AS RECOGNIZED IN NRC's PHILOSOPHICAL APPROACH

  * FOR THAT PORTION OF CURRENT LICENSING BASIS SUBMITTED, OATH OR AFFIRMATION IS SUFFICIENT FOR LICENSE RENEWAL APPLICATION

- XX.9(B): ANALYSIS OF ENTIRE CURRENT LICENSING BASIS IS NOT NECESSARY

  * FOCUS OF LICENSE RENEWAL IS AGE-RELATED DEGRADATION OF EQUIPMENT

  * ONLY THAT PORTION OF CURRENT LICENSING BASIS RELEVANT TO AGE-RELATED DEGRADATION SHOULD EVEN BE CONSIDERED

CURRENT LICENSING BASIS (CONTINUED)

- XX.19(A): A COMPLETE AND ACCURATE DESCRIPTION OF THE ENTIRE CURRENT LICENSING BASIS IS UNNECESSARY

  * FOCUS OF LICENSE RENEWAL IS AGE-RELATED DEGRADATION OF EQUIPMENT

  * XX.19(D) PROVIDES A SUFFICIENT BASIS FOR A FINDING THAT AN APPLICANT'S FACILITY WILL ENSURE THE PUBLIC HEALTH AND SAFETY

o NUMARC BELIEVES THAT XX.3(A) IS UNNECESSARY FOR LICENSE RENEWAL

  - DEFINITION OF CURRENT LICENSING BASIS IS NOT NEEDED IN THE RULE IF CURRENT LICENSING BASIS IS ADEQUATELY DEFINED IN STATEMENT OF CONSIDERATIONS

  - CURRENT LICENSING BASIS IS NOT UNIQUE TO LICENSE RENEWAL

STRUCTURES, SYSTEMS & COMPONENTS EVALUATION

- NUMARC IS IN AGREEMENT WITH NRC's PHILOSOPHICAL APPROACH TO LICENSE RENEWAL
  - FOCUS OF LICENSE RENEWAL IS THE MITIGATION AND MANAGEMENT OF AGE-RELATED DEGRADATION OF EQUIPMENT TO ENSURE AN ADEQUATE LEVEL OF SAFETY
  - THE APPROACH PROPOSED BY NUMARC IN THE METHODOLOGY TO EVALUATE PLANT EQUIPMENT FOR LICENSE RENEWAL IMPLEMENTS THE NRC'S PHILOSOPHY

STRUCTURES, SYSTEMS & COMPONENTS EVALUATION (CONTINUED)

- o REQUIREMENTS OF CONCEPTUAL OUTLINE ARE INCONSISTENT WITH NRC's PHILOSOPHICAL APPROACH

  - XX.9(c): FAILS TO TAKE INTO ACCOUNT EXISTING PLANT INSPECTION, REFURBISHMENT, AND REPLACEMENT PROGRAMS WHICH EFFECTIVELY MITIGATE AND MANAGE AGE-RELATED DEGRADATION

  - XX.9(c): IF AGE RELATED DEGRADATION OF EQUIPMENT IS ADEQUATELY ADDRESSED NO NEED TO RE-ANALYZE DESIGN BASIS EVENTS

  - XX.9(c)(5): A PROGRAM FOR IDENTIFYING, EVALUATING AND TRENDING EFFECTS OF ALL RELEVANT DEGRADATION MECHANISMS SHOULD NOT BE REQUIRED FOR COMPONENTS WHICH ARE REPAIRED, REPLACED OR REFURBISHED ON AN ACCEPTABLE REPLACEMENT INTERVAL

  - XX.9(e): TECHNICAL SPECIFICATIONS ARE NOT THE APPROPRIATE MECHANISM TO CONTROL PROGRAMS WHICH MANAGE OR MITIGATE AGE-RELATED DEGRADATION

ENVIRONMENTAL REQUIREMENTS

- o NUMARC SUPPORTS STAFF's DETERMINATION THAT AN EA IS REQUIRED TO SATISFY NEPA IN CONNECTION WITH LICENSE RENEWAL RULEMAKING.
  - AN EIS NEED ONLY BE PREPARED IF EA CONCLUDES THAT SIGNIFICANT ENVIRONMENTAL IMPACTS RESULT FROM LICENSE RENEWAL.
  - THE EA TO THE EXTENT PRACTICAL SHOULD BE USED TO ENVELOPE GENERIC ENVIRONMENTAL EFFECTS.
  - SCHEDULE FOR COMPLETION OF SUCH AN EA MUST COINCIDE WITH THE RULEMAKING SCHEDULE TO SATISFY LEAD PLANT NEEDS: MAY, 1991
  - ENVIRONMENTAL EVALUATION TO SUPPORT THE REVISION TO PART 51, GENERIC TREATMENT OF ENVIRONMENTAL EFFECTS FOR LICENSE RENEWAL, SHOULD BE DEFERRED UNTIL AFTER THE SUBSTANTIVE REQUIREMENTS OF LICENSE RENEWAL ARE ISSUED AS FINAL REGULATIONS
- o A GENERIC EIS IS NOT NECESSARY TO ENVELOPE GENERIC ENVIRONMENTAL EFFECTS.

ENVIRONMENTAL REQUIREMENTS (CONTINUED)

- NUMARC ENCOURAGES STAFF TO MODIFY 10 C.F.R. 51.20(B)(2) TO ALLOW PREPARATION OF EA, AS OPPOSED TO EIS, IN CONNECTION WITH INDIVIDUAL LICENSE RENEWAL APPLICATIONS SINCE
  - CONTINUED PLANT OPERATION DURING RENEWAL PERIOD SHOULD NOT RESULT IN SIGNIFICANT ENVIRONMENTAL IMPACTS.

T-8

SEVERE ACCIDENTS

- o SEVERE ACCIDENT CLOSURE SHOULD NOT BE PART OF THE LICENSE RENEWAL RULEMAKING

  - INDUSTRY IS CURRENTLY PROCEEDING TOWARDS SEVERE ACCIDENT CLOSURE IN RESPONSE TO GENERIC LETTER 88-20.

  - SEVERE ACCIDENTS ARE OUTSIDE OF THE SCOPE OF THE LICENSE RENEWAL RULEMAKING BECAUSE THEY ARE NOT A PRODUCT OF AGE-RELATED DEGRADATION.

- o ACCIDENT MANAGEMENT PROGRAMS ARE CURRENTLY BEING ADDRESSED

  - NUMARC WORKING GROUP ON SEVERE ACCIDENTS - ADDRESSING DEFINITION AND ENHANCEMENT OF EXISTING PLANT-SPECIFIC ACCIDENT MANAGEMENT CAPABILITIES

  - DRAFT "GUIDELINES FOR EVALUATING ACCIDENT MANAGEMENT CAPABILITIES" RECENTLY ISSUED FOR COMMENT

STANDARDS FOR ISSUANCE OF RENEWAL LICENSE

- o IT IS NECESSARY TO MAKE A GENERIC FINDING SIMILAR TO THAT IN 10CFR50.57(a), THAT LICENSE RENEWAL WILL NOT ENDANGER THE PUBLIC HEALTH AND SAFETY OR COMMON DEFENSE, AS REQUIRED BY THE ATOMIC ENERGY ACT.
  - GENERIC FINDING SHOULD BE BASED ON THE ADEQUATE LEVEL OF PROTECTION PROVIDED BY CURRENT LICENSING BASIS.
  - GENERIC FINDING SHOULD BE INCLUDED IN THE STATEMENT OF CONSIDERATIONS ACCOMPANYING THE LICENSE RENEWAL RULE.
- o THE FINDINGS CONTAINED IN XX.19 SHOULD BE MODIFIED SINCE IT IS ONLY NECESSARY TO MAKE FINDINGS REGARDING THE MANAGEMENT AND MITIGATION OF AGE-RELATED DEGRADATION

STANDARDS FOR ISSUANCE OF RENEWAL LICENSE (CONT.)

- XX.19(A) SHOULD BE DELETED FROM THE CONCEPTUAL OUTLINE BECAUSE IT IS UNNECESSARY TO FIND THAT THE ENTIRE CURRENT LICENSING BASIS HAS BEEN COMPLETELY AND ACCURATELY DESCRIBED SINCE IT IS ALREADY PART OF THE LICENSING RECORD.
  - ONLY THAT PORTION OF CURRENT LICENSING BASIS RELEVANT TO MITIGATION AND MANAGEMENT OF AGE-RELATED DEGRADATION SHOULD BE SUBJECT OF FINDING.
  - XX.19(D) PROVIDES A REASONABLE ASSURANCE THAT APPROPRIATE ACTIONS HAVE OR WILL BE TAKEN WITH RESPECT TO AGE-RELATED DEGRADATION.
- XX.19(B) SHOULD BE DELETED AND XX.19(D) MODIFIED AS FOLLOWS:
  - XX.19(D) APPROPRIATE ACTIONS HAVE BEEN TAKEN OR WILL BE TAKEN WITH RESPECT TO DEGRADATION OF THOSE <u>IMPORTANT TO SAFETY</u> SYSTEMS, STRUCTURES, AND COMPONENTS, SUCH THAT...

- XX.19(c) SHOULD BE DELETED SINCE IT IS SUFFICIENTLY COVERED IN XX.19(D)

- FINDING REQUIRED BY XX.19(E) IS ALSO COVERED IN XX.19(D) AS AN APPROPRIATE ACTION

- XX.19(D) MAY BE A SUFFICIENT FINDING FOR INDIVIDUAL APPLICANTS FOR LICENSE RENEWAL

BACKFIT RULE

- NUMARC SUPPORTS NRC's INTENTION TO REMOVE AMBIGUITY PERTAINING TO APPLICABILITY OF BACKFIT RULE.

- BACKFIT RULE SHOULD APPLY THROUGHOUT LICENSE RENEWAL PROCESS INCLUDING THE PROMULGATION OF THE RULE AND REVIEW OF LICENSE RENEWAL APPLICATIONS.

ISSUANCE OF A RENEWAL LICENSE

- o LICENSE RENEWAL APPLICANTS SHOULD BE ALLOWED TO REQUEST MORE THAN 20 YEARS IN ADDITION TO THE YEARS REMAINING UNDER THE EXISTING LICENSE.
  - THERE IS NO TECHNICAL BASIS FOR THE 20 YEAR LIMITATION IN XX.21(B).
  - APPLICANT MUST DEMONSTRATE TECHNICAL BASIS SUPPORTING PLANT OPERATION DURING RENEWAL TERM.
  - RENEWAL TERM NOT TO EXCEED 40 YEARS.
- o REFERENCE TO "ESTIMATED USEFUL LIFE OF THE FACILITY" IN XX.21(B) SHOULD BE DELETED.
  - USEFUL LIFE IS AN ECONOMIC DETERMINATION AND SHOULD BE MADE BY THE LICENSEE.
- o NRC SHOULD EXPLICITLY PROVIDE FOR SUBSEQUENT RENEWAL TERM(s) UPON EXPIRATION OF EXISTING LICENSE RENEWAL TERM.

TIMELY RENEWAL DOCTRINE

- THREE YEARS PRIOR TO EXPIRATION OF THE EXISTING LICENSE IS A REASONABLE LEAD TIME FOR FILING A LICENSE RENEWAL APPLICATION AS REQUIRED IN XX.5(F).

- STAFF SHOULD CONSIDER ACCEPTING LICENSE RENEWAL APPLICATIONS IN LESS THAN THREE YEARS PROVIDED FOR IN XX.5(F) IF

  - LICENSEE DEMONSTRATES A CHANGE IN CIRCUMSTANCES.

  - RENEWAL APPLICATION WAS MADE AS SOON AS REASONABLY POSSIBLE AFTER CHANGE IN CIRCUMSTANCES.

DECOMMISSIONING

- NRC SHOULD POSTPONE COMPLIANCE WITH DECOMMISSIONING REQUIREMENTS UNTIL A FINAL DETERMINATION ON A RENEWAL APPLICATION HAS BEEN MADE BY THE COMMISSION.
  - 5 YEAR INTERVAL SPECIFIED IN 10CFR50.75(F) SHOULD BE BASED UPON THE LICENSE RENEWAL EXPIRATION DATE
  - REQUIREMENT IN XX.13(a) THAT DECOMMISSIONING PLAN BE FILED WITH NRC "NO LATER THAN ONE YEAR AFTER THE EXPIRATION DATE OF THE OPERATING LICENSE CURRENTLY IN EFFECT," SHOULD BE DELETED.

EXCLUSION OF REGULATORY PROGRAMS FROM REVIEW

- NUMARC ENDORSES THE CONCEPT OF EXCLUDING THOSE REGULATORY PROGRAMS WHICH GOVERN SAFE PLANT OPERATION AND ARE NOT TIME DEPENDENT FROM REVIEW FOR LICENSE RENEWAL.
  - AN EVALUATION, JUSTIFYING AND PROVIDING THE BASIS FOR SUCH EXCLUSION, HAS BEEN SUBMITTED TO NRC.
  - REGULATORY PROGRAMS EXCLUDED FROM REVIEW WILL CONTINUE TO BE MET DURING THE RENEWAL TERM.
  - DOCUMENTATION OF LICENSEE PROGRAMS WHICH IMPLEMENT REGULATIONS AND COMMITMENTS AS REQUIRED BY XX.9(a) IS INCONSISTENT WITH THIS CONCEPT

PROBABILISTIC RISK ASSESSMENT

- o INSIGHTS FROM PROBABILISTIC RISK ASSESSMENTS ARE USEFUL AND MAY BE BENEFICIAL BUT SHOULD NOT BE USED AS THE SOLE CONSIDERATION OR REGULATORY DECISION-MAKING MECHANISM.

- o PROBABILISTIC RISK ASSESSMENT SHOULD NOT BE REQUIRED FOR LICENSE RENEWAL.

  - STATE OF THE ART PROBABILISTIC RISK ASSESSMENT DOES NOT PERMIT QUANTIFYING AGE-RELATED DEGRADATION.

  - NO CONSENSUS ACCEPTANCE CRITERIA FOR EVALUATION OF PROBABILISTIC RISK ASSESSMENT FOR LICENSING DECISIONS EXIST

PROBABILISTIC RISK ASSESSMENT (CONTINUED)

- LEVEL I & II ARE CURRENTLY BEING PERFORMED AS PART OF THE INDIVIDUAL PLANT EXAMINATIONS (A SEPARATE PROGRAM)
  - VULNERABILITIES TO CORE DAMAGE WILL BE IDENTIFIED
  - VULNERABILITIES WILL BE ADDRESSED
- NO PROGRAMMATIC VALUE IN REQUIRING A LEVEL III PROBABILISTIC RISK ASSESSMENT.
  - FOCUS ON OFF-SITE RISKS NOT RELEVANT TO AGE-RELATED DEGRADATION
  - OFF-SITE RISKS ARE ACCOMMODATED IN ON-GOING, EXISTING PROGRAMS THAT ARE ESTABLISHED IN CURRENT LICENSING BASIS.
- OPTION OF USING PROBABILISTIC RISK ASSESSMENT IN THE FUTURE SHOULD BE PRESERVED FOR THOSE LICENSE RENEWAL APPLICANTS WHO FIND IT USEFUL IN THE EVALUATION OF SYSTEMS, STRUCTURES, AND COMPONENTS.

MAINTENANCE, SURVEILLANCE & RECORDKEEPING

- o EQUIPMENT TO BE ADDRESSED SHOULD BE LIMITED TO
  - IMPORTANT TO SAFETY EQUIPMENT, SUBJECT TO AGE-RELATED DEGRADATION AS A RESULT OF LICENSE RENEWAL
- o MAINTENANCE, SURVEILLANCE, TESTS AND RECORDKEEPING ACTIVITIES SHOULD BE DONE IN ACCORDANCE WITH THE CURRENT PRACTICES AND CONTROLS, AS SUPPLEMENTED BY THOSE ACTIVITIES NECESSARY TO MANAGE AGE-RELATED DEGRADATION
- o SUPPLEMENTARY ITEMS NECESSARY TO MANAGE AGE-RELATED DEGRADATION FOR LICENSE RENEWAL WILL BE CONTROLLED BY:
  - NRC COMMITMENTS
  - ADMINISTRATIVE CONTROLS PUT IN PLACE WILL ENSURE APPROPRIATE REVIEWS ARE DONE PRIOR TO CHANGES BEING MADE
- o REGULATORY MECHANISMS TO ADDRESS MAINTENANCE, SURVEILLANCE, RECORDKEEPING BEYOND THOSE RELATED TO THE MANAGING OF AGE-RELATED DEGRADATION FOR SYSTEMS IMPORTANT TO SAFETY SHOULD NOT BE TREATED IN THE LICENSE RENEWAL REGULATION OR PROCESS

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

NOV 21 1989

MEMORANDUM FOR: Public Document Room
Nuclear Documents System

FROM: Donald Cleary, Senior Task Manager
Reactor and Plant Safety Issues Branch
Division of Safety Issue Resolution

SUBJECT: NUCLEAR REGULATORY COMMISSION, PUBLIC WORKSHOP ON TECHNICAL AND POLICY CONSIDERATIONS FOR NUCLEAR POWER PLANT LICENSE RENEWAL, SESSION 1 - 9

Enclosure are 9 Volumes of NRC Workshop Official Transcript of Proceedings, from November 13 - 14, 1989 and a copy of the workshop handout for placement in the Public Document Room. These documents are associated with rulemaking on license renewal. A set of these documents have also been submitted for placement in NUDOCS, Code 3914.04.

Donald P Cleary

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