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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

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BRIEFING ON PROPOSED RULE FOR
LICENSE RENEWAL - PART 54

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PUBLIC MEETING

Nuclear Regulatory Commission
One White Flint North
Rockville, Maryland

Friday, June 10, 1994

The Commission met in open session, pursuant to notice, at 10:00 a.m., Ivan Selin, Chairman, presiding.

COMMISSIONERS PRESENT:

IVAN SELIN, Chairman of the Commission
KENNETH C. ROGERS, Commissioner
FORREST J. REMICK, Commissioner
E. GAIL de PLANQUE, Commissioner

STAFF SEATED AT THE COMMISSION TABLE:

WILLIAM C. PARLER, General Counsel

JOHN HOYLE, Acting Secretary

JAMES TAYLOR, Executive Director for Operations

WILLIAM RUSSELL, Director, NRR

WILLIAM TRAVERS, Deputy Associate Director, Advanced Reactors and License Renewal, NRR

STEVEN REYNOLDS, Leader, License Renewal Rule Working Group

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

10:00 a.m.

CHAIRMAN SELIN: Good morning.

The Commission is very pleased to welcome the members of the staff to brief us on the proposed revision to the License Renewal Rule, 10 CFR Part 54, and on the supporting documents.

The staff proposed, and the Commission agreed, to revise the current license renewal rule to establish greater credit for existing licensee programs, to resolve ambiguities between the statement of considerations and the rule and, most importantly, to establish a more efficient, stable and predictable process.

In the document before us, the staff proposes a draft rule to be published for a 90 day comment period and to publish a draft revised regulatory guide and a standard review plan some six months after the issuance of a rule amendment in final form.

The staff has described its proposed revisions to the license renewal in SECY-94-140. Copies of both the basic documents and the viewgraphs are available at the entrances to the room.

Commissioners?

Mr. Taylor, would you proceed, please?

MR. TAYLOR: Good morning. With me at the table are Bill Russell, Bill Travers and Steve Reynolds from the Office of Nuclear Reactor Regulation.

I would open by noting that the staff has advised me that they did brief the ACRS yesterday.

CHAIRMAN SELIN: And at least thr of them have survived the briefing.

MR. TAYLOR: They came here this morning in good shape.

With that thought, I'll turn it over to Bill Russell, who will start the detailed briefing.

MR. RUSSELL: Good morning.

(Slide) Can I have slide 1, please?

I'm going to cover background and approach to rulemaking and some of the objectives. I'll go through this rather quickly so that we can really get to the meat of the presentation, which Bill Travers is going to go through and we're going to identify what has not changed in the rule, what we've retained and then also what we're proposing to change and why. Following that, Steve Reynolds is going to discuss some more details on the integrated plant assessment, time-limited aging analysis and the standards for issuance of a renewed license, and then I'll come back and discuss schedule.

(Slide) Can I have slide 2, please?

Most of the background you're familiar with. I'm going to skip that. I would like to highlight that after receiving the SRM from the Commission with some initial staff work on developing a reply and proposed rule, we did have a public meeting with Nuclear Energy Institute and discussed the approaches that the staff was considering so that we did interact with them between the SRM and coming forward with this proposed rule. As Jim has mentioned, we've also met with the ACRS yesterday.

(Slide) Can I have slide 3, please?

Just to establish a background, the SRM identified that we should retain the principles of license renewal. We'll discuss these in more detail, but it's essentially the first principle is a regulatory process with the exception of age-related degradation unique to license renewal and some other safety issues is adequate to ensure that the licensing basis for operating reactors maintains an adequate level of safety in the term beyond end of license, in a renewal term. The second principle is that the current licensing basis must be maintained through a program to manage age-related degradation. These are key because it says really the effects of aging beyond the initial license

term are the primary issues that we need to address.

Additionally, as the Chairman mentioned in his opening remarks, the staff was directed to look at providing maximum credit for current licensee programs and to explicitly consider how the maintenance rule interacts with the renewal rule and we'll be discussing that in this briefing.

In order to ensure that there was a high level focus for conducting this work and to complete it in a timely manner, we established a steering group. I was the chairman of that steering group. I also had Jack Heltemes from Research, Marty Malsch from OGC, and Jim Milhone, the Deputy EDO. There was extensive line management involvement with Dennis Crutchfield and Bill Travers who is here today to present the results of that effort and the working group, which was led by Steve Reynolds. That was made up of dedicated staff members from NRR, Research and OGC to ensure that we got a timely response.

(Slide) Slide 4, please.

Before we get into the details of what we've done, I'd like to identify what were the objectives that we used in trying to be responsive to the SRM. First, we wanted to be clear on what is and what is not subject to review. So, while we still have cast the net broadly

in the IPA process, we have explicitly identified the types of things which would be subject to an aging management review. We've simplified the rule. We've taken out terms which were confusing. We no longer use "age-related degradation unique to license renewal" in the rule, "important to license renewal," et cetera. We've tried to, in fact, identify in the rule language what are the specific attributes or characteristics that we were looking for rather than using such shorthand and definitions.

We also wanted to maintain flexibility in how the licensee proceeded to implement and we will discuss that with some specific examples as to how the process has been revised to allow different orders of screening or review. So, instead of providing information at each step, we're interested in the final result and we feel that that has been an important contribution.

These three, that is the clarity, simplicity and flexibility that we provided we think will result in a process which is stable and predictable. We think that that will encourage licensees to, in fact, make a decision about license renewal which is based more on economics or other matters and not on the regulatory stability. We do recognize that it's probably going to

need to be tested before licensees really believe that, but that was the objective that we set out.

With that introduction, I'd like to turn it to Bill Travers and actually go through what has not changed and then what we have changed and why.

MR. TRAVERS: Thanks.

As Bill mentioned, I'd like to highlight some of the key aspects of our proposed revision, including how the revision would and would not affect the current Part 54. Although we are proposing a fair number of changes, if you go through the document you'll see quite a few changes from Part 54, we think to begin with, what I'd like to emphasize is what revisions would not change of the existing Part 54.

Fundamentally, it would not change the underlying regulatory philosophy established and depicted in the two principles of license renewal as it exists today in Part 54.

The essence of the first principle continues to be that aging, the effects of aging in the extended period of operation would continue to be the issue for renewal. Except for the possible detrimental effects of aging and the extended period of operation, the regulatory process would continue to ensure that the plant-specific licensing basis will continue to provide

an adequate level of safety.

As a result to maintain an adequate current licensing basis, the license renewal process really must focus on ensuring that equipment is addressed and that the effects of aging is addressed for equipment which today may not be subject to adequate programs for the extended period of operation.

Maintaining the current licensing basis and the extended period of operation continues to be the second principle of license renewal. This exclusive focus on the effects of aging only in the extended period of operation was the conceptual basis for the rule's current use of the term "age-related degradation unique to license renewal." And ARDUTLR and the way it's used in Part 54 is really intended to be a tool to focus the review exclusively in that area. Of course the experience we've had since issuing Part 54 as indicated, that it has, in fact, resulted in a lot of confusion about how you would implement the rule.

As a result, in addition to approving the recommendations that we put before in SECY-93-331, the Commission directed the staff to delete that term from the rule and we've done that and we've made a number of other conforming changes. While that term is no longer in the rule, it is explained, certainly the conceptual

basis for the philosophy of the rule is explained in the statement of consideration and we believe that the underpinnings of the rule and the philosophy expressed in terms of managing, the need to manage aging and the extended period of operation is intact. We believe that the construction that we've proposed in this revision will avoid, virtually eliminate the confusion that we've identified in attempting to implement the rule to date.

(Slide) Can I have the next slide, please?

Some of the additional key features that would not be changed as a result of the revisions that we're proposing are listed here. Principally the rule is still a process rule. It does not include specific technical decision criteria. The heart of the rule, the core of the rule remains the integrated plant assessment. Within the integrated plant assessment we still start with a rather broad consideration of plant equipment, but the integrated plant assessment provides a quick means to focus the review and we think today in this revision an even quicker mechanism to focus the review. A simple measure of how we've simplified the IPA is that it's reduced from some six steps to about three.

Another key issue that has been retained in the existing recommendations to the Commission is that

the initial scope of license renewal will be retained the same as it is in Part 54. Basically that scope was defined as important to license renewal. That term has been eliminated. But principally the beginning step in the integrated plant assessment is the beginning scope is safety-related equipment, equipment whose function could impact the function of safety-related equipment, equipment needed for compliance with certain regulations, fire protection, station blackout, ATWS, PTS and EQ. And lastly, equipment subject to technical specification limiting conditions for operation. So, that scope remains the same.

Another area where we have retained fundamentally what exists today in Part 54 is the requirement that a review of certain time-limited aging analysis will be required. Currently, a requirement for reviewing time-limited aging analysis which are specific to 40 years is included within the definition of AEDUTLR. We've removed that. We've made it separate. We think we've clarified more in this revision what is and is not expected and what would have to be reviewed for license renewal. In our implementation efforts there was some confusion about what explicitly would be included within that review and we've tried in making these revisions to make that much more clear.

So, together with the results of the environmental review under Part 51, the basis for issuance of the renewed license would continue to be focused on the results of the integrated plant assessment and the results of the time-limited aging analysis under Part 54.

CHAIRMAN SELIN: I'd like to stop you for a second, Mr. Travers.

MR. TRAVERS: Yes.

CHAIRMAN SELIN: There's always been a certain amount of tension in the license renewal between the idea of summarizing 40 years of experience and finding out what's gone well and what's gone badly in the plant, sort of taking stock on the one hand, versus saying there's nothing magic about the 41st or the 45th year except in some very specific areas and therefore concentrating the review on those very specific areas.

Is there anything left in the review of the first aspect? In other words, does the IPA give some kind of a summary of what we've learned about the plant or does it concentrate exclusively on those relatively few items that have to be continued?

MR. TRAVERS: Well, I think basically the construct of what the rule would require needs to be evaluated says something -- and our justification for

why that is the scope of renewal -- says something about our experience or lack of it. In this case, of course, we're going to be focused on passive, long-lived, non-redundant equipment. There are a number of justifications provided in the statement of considerations for why that is the focus, the exclusive focus for renewal and why other equipment, active equipment, equipment which is replaced on a relatively frequent basis or equipment which is redundant need not be addressed for license renewal.

So, what we have included in the statement of considerations is a recognition that for passive equipment, equipment where degradation of performance or condition may not be as readily observable as determinable as active equipment, where our experience really in long aging impacts on this equipment is not very well established, that we're going to conservatively, some may say conservatively, we think appropriately, focus the review in those areas, to the exclusion really of other areas that we think the current licensing basis today adequate addresses and would in any extended period continue to adequately address.

So, really the construct of the rule that sets the boundaries for what our experience has led us

to determine about what continuation of the CLB could reasonably continue --

CHAIRMAN SELIN: So, the --

MR. RUSSELL: To specifically respond to your question, Mr. Chairman, the generic analysis that supports the rulemaking would be the basis for excluding those matters and there would not be a plant-specific review further of those matters. So, for active components, for example, we've concluded that the regulatory processes are sufficient. However, for some passive components where we don't have that same experience, we were not able to conclude generically that there were adequate programs in place today.

If in the future we go through a rulemaking, for example, and impose requirements on particular passive components which would give us the basis for concluding that they would be adequately maintained, we would propose that as a part of that rulemaking that we would at the same time amend Part 54 such that they would also be excluded so that you wouldn't have to continue to do case by case review where you have an adequate regulatory process in place for assuring that they would continue to perform even in the renewal part.

CHAIRMAN SELIN: From a safety point of view, we're looking at those items that are not covered

by the current licensing basis.

MR. TRAVERS: May not be adequately covered for the extended period.

CHAIRMAN SELIN: In terms of the operating experience, that would really -- if a plant has had a lot of problems with corrosion or whatever, that really would translate into economic factors and that's the proper function of the state regulatory agency to look at and say, "Based on the experience of this plant, is the economic basis for renewal adequately covered?" That's just clearly not our business. We have no desire to get into this issue. So, we concentrate on safety. We have a CLB. We keep that constantly refreshed and we look at those items that may not be covered by the CBL.

The sort of cumulative what have we learned during the basic time period, if it's not in the CLB it would be more of an economic than a safety piece and that's clearly the function of the states and we have no desire to preempt the states on their economic decision as to whether a license should be renewed or not.

MR. TRAVERS: We're really making a judgment on what, for renewal at least, should be examined. It's not to say --

CHAIRMAN SELIN: From a safety point of view.

MR. TRAVERS: From a safety point of view. That's not to say that when we look at current programs that are applied to even these passive long-lived, non-redundant could be found to be perfectly adequate for the extended period. But it's really the process of making a judgment on what needs to be evaluated and that's --

CHAIRMAN SELIN: So the proper answer to the people who say this is the time to look at the cumulative operating experience, we do that continuously from a safety point of view. If it's an economic question you're looking at, that's clearly the province of the state regulators and that's where they should be looking for it.

MR. RUSSELL: I think the correct characterization would be we are going to ensure that there are programs and processes in place that if the unit operates it would operate safely. The question of economics as to whether it operates or not is left to others. So, we will put processes in place that would require corrective action to be taken when conditions occur that would require that for a safety basis. The costs of those corrective actions, they'd be such that they would conclude that they would not wish to continue to operate.

CHAIRMAN SELIN: That sort of leads us to a second point, which is admittedly a little off the topic, but relevant to this question. That has to do with the economic analysis within the environmental impact statement in Part 51, not 54. We're just doing what the law requires us to do there. The real economic analysis will be done in the state regulatory regimes. I mean ours is just sort of a scrub. If the economics are so bad that they can't satisfy the EIS requirements, that's fine. Most likely, they'll pass our scrub, but it doesn't mean that the state regulators will be content that these are good investments.

MR. RUSSELL: That's correct. This is probably the more controversial part of the Part 51. It's the need for power and alternatives. We're trying to comply with NEPA as we read it and understand it. There clearly are issues which relate directly to economic regulation which are not in our preview or authority. So, we've tried to keep that, but that is the subject of a separate paper that we are working on to bring to you and a separate decision. So, we're really focusing today on the Part 54, what is needed for safety, to ensure that if it operates it will operate safely, not to address the question of whether it should or not on an economic basis.

CHAIRMAN SELIN: Okay.

MR. PARLER: Mr. Chairman, if I may, this context, the separate paper that Mr. Russell talked about which will be forthcoming, I have been involved a little bit in that and it is my judgment that as a result of the revisions to the approach that we initially proposed satisfy our need for a procedural responsibilities, that there will be a refined focus which certainly should eliminate the concerns of state officials and others who interpreted what we were proposing earlier to perhaps get involved in their decisions.

As you have said, that was not the intent and that economic area and decisions about need is their judgment to make at the appropriate time. All that we would be doing here from our standpoint in carrying out our NEPA responsibilities is to make it clear that we are preserving the option for one of these plants to be considered at the appropriate time both by us for licensing purposes and, as Mr. Russell has pointed out, by the state and the public utility commission officials from the standpoint of the need and the economics.

CHAIRMAN SELIN: Very good.

MR. TRAVERS: (Slide) Can I have slide 7, please?

I'd like to turn now to discuss some of the principal changes that the proposed revision would make from Part 54. A number of these issues have been previously addressed with the Commission in SECY-93-331, but let me touch on them just briefly. The first one is very important. Basically it's meant to correct the situation where the current rule, at least the statement of considerations, can be read to emphasize a review for license renewal that focuses on the identification of individual aging mechanisms versus the identification of managing aging through programs that look at performance or condition of the vital equipment and its function, regardless of the aging mechanisms themselves that may be at work

So, we have corrected that language in the SSC. We've emphasized that performance or conditioned monitoring programs, the kinds of programs that are essentially used today in most maintenance efforts should be recognized in the absence of a specific identification of individual mechanisms as effective and the kinds of programs that we would expect would continue to be effective in any extended period of operation.

The second issue has to do with a question that arose as to whether or not a focus in renewal,

renewal or review on functionality exclusively could support a Commission finding that the CLB would be maintained in the renewal period. It was our view and remains our view that a renewal review that focuses exclusively on the functionality, the continued functionality of important equipment is appropriate for renewal and by virtue of the fact that other elements of the somewhat broader CLB carry over into the renewal term would support with the finding of functionality of important equipment, the continued maintenance of the CLB in the renewal term.

So, we've modified the statement of considerations and our emphasis on the way the reviews for license renewal will be conducted to focus on functionality of equipment and the Commissions findings has also been adjusted somewhat to recognize this fact.

(Slide) Bill Russell has already mentioned that we have eliminated a number of terms, including ARDUTLR. Slide 8 has a listing of them. I'm not going to propose putting it up now, but we think the net outcome of that is that we've taken a number of the concerns even individual commissioners have raised on this subject and simplified the rule really by eliminating some terms that could result in some considerable debate as you go to implement the rule.

(Slide) The next slide, please.

By far the most significant change though that we've made in Part 54 revision would be to narrow the focus of the equipment that would require a specific aging management review for license renewal. The key concern here has been that existing programs really have not been recognized in the construct of this rule to the extent that they should be. This has certainly been the industry's principal concern and the efforts we've had to interact with them. Clearly our workshop results pointed out this concern in some detail.

The rule revision would propose to narrow that focus by recognizing that for certain equipment, existing activities and the regulatory process, including things like the maintenance rule, can and in fact should be relied upon to continue to manage the detrimental effects of aging. This proposed change is based on a consideration of the types of activities which are currently being conducted by licensees to mature the functionality of plant equipment and it's also based on additional consideration of our existing regulatory requirements in the maintenance rule. This revision focuses the license renewal aging management review exclusively on passive, long-lived and non-redundant equipment. This change is intended to require

the review of only that plant equipment for which activities and requirements today may not be sufficient to manage the effects of aging in the extended period of operation, and I emphasize may not be.

The statement of consideration provides justification for this categorical exclusion of active and other equipment and we've modified the discussion to include these justifications at some length.

Bill Russell has pointed out, but let me emphasize again that we've indicated specifically in the SEC is that as we get additional experience with aging on passive equipment and as we promulgate new regulations we intend to revisit whether or not even this scope for license renewal could be further reduced and we intend to take that on explicitly.

COMMISSIONER ROGERS: I don't know if this is a good place to ask it or not, but at some point I wonder if you could just elaborate a little bit on your choice of the term "time-limited aging analysis" rather than just aging analysis. You have something specific in mind there and I wonder if you could make that clear.

MR. RUSSELL: We'll come to that and give you some specific examples during Steve's presentation.

MR. TRAVERS: (Slide) Next slide, please.

Some of the other principal changes are

listed on this slide. We have simplified the integrated plant assessment. Steve Reynolds is going to cover this in some detail. Previously it was a rather prescriptive set of steps. It had to be done in a particular order. We think that the ultimate outcome of what we've done is to provide a measure of flexibility, appropriate flexibility to really quickly focus on the passive long-lived non-redundant equipment. It, for example, eliminates the need to provide intermediate lists of specific components as you work through this process. So, we think there's a considerable measure of savings and effort involved. Certainly the methodology by which you carry out this review would still be required in connection with the application.

Additionally, we have changed the rule to require a greatly reduced amount of information in the FSAR supplement. Currently the entire application would be submitted as part of an FSAR supplement. We've revised the rule to provide that most information which supports the results of the IPA and time-limited aging analysis could be provided in the application and only really a summary description of the outcome of the results of those evaluations would be included in an FSAR supplement. We think that fundamentally that's more consistent with the kinds of information that are

currently required to be in the FSAR and it should actually eliminate burdens associated with updating that document periodically.

The last thing I'd like to point out before turning it over to some more detailed look at IPA and time-limited aging analysis is the fact that this revision would greatly reduce reporting and control requirements that were established especially within Part 54. This says minimized, but it virtually eliminates the special requirements that were incorporated in Part 54 for changing the information that would have been submitted in the application. Fundamentally we believe as we go through our reviews that we have an opportunity if something is so significant to incorporate that within technical specifications or license condition and that the existing regulatory process already provides appropriate controls for the kind of information that would be submitted in both the application and the supplement to the FSAR.

With that, I think Steve Reynolds has some additional information.

CHAIRMAN SELIN: Before you go on, is there any downside to slimming down the FSAR as opposed to the supplement, including just the summary. Is there any

loss to the general -- particularly from the point of view the general public? Do they still have the same essential information available?

MR. TRAVERS: The information would still be available in the application even if it's not called an FSAR supplement and, as I understand it, would still be open in any hearing that might result. The key comes into play as to the specific regulatory controls that are applicable to that information. Since a summary of the results, the important results, would continue to be included in the FSAR supplement, we think the thrust of what we are trying to achieve in Part 54 would still be captured, albeit with a little less formality.

CHAIRMAN SELIN: Okay.

MR. REYNOLDS: What I want to spend the next couple minutes on is talking about some of the specific changes we made to what we consider the heart of the rule. Hopefully you will see how by changing the rule we made it simpler and clearer. I'll also go through some of the flexibility that we proposed to allow an applicant. I'm going to talk about integrated plant assessment, time-limit aging analysis and the finding we made.

I want to point out in the current rule the technical rule was really done under just the IPA. In

our proposed rule we have a technical review on an integrated plant assessment and time-limit aging analysis issues. So, it's two pieces. I think when I go through it you'll see how they're necessary but they're separate for a good reason.

(Slide) If I could have slide 12, please.

This is the first step in the integrated plant assessment. As Bill Travers said earlier, we've simplified the integrated plant assessment one way, just by simply reducing the number of steps. We had six steps. We reduced it to three. This first step here that you see used to be three steps and it was very prescriptive. You had to do step one, then step two, then step 3. We looked at it and we said, "Well, all we're really interested in was step three. We're only interested in what is going to be subject to review for license renewal." We looked at that and giving maximum credit for the maintenance rule and giving maximum credit for existing activities and programs, we said, "What we're willing to look at for license renewal is just those structures and components that are passive, long lived and non-redundant. I'll spend the next couple of minutes trying to walk through what we mean by passive, long-lived and non-redundant.

(Slide) If we could have the next slide.

With our reliance or giving credit for existing maintenance activities and in the maintenance rule, we decided or concluded that we can exclude from review active equipment. We also determined we need to focus in on passive. When you compare active to passive, passive equipment doesn't readily reveal itself, the effects of aging, through performance and condition monitoring that we had a lot of experience with, so we said we need to focus on passive.

One of the things we looked at was do we want to stick the term "passive" in the rule. Based on a comment that you made at a previous Commission meeting to look at some existing standards, we did that. We ended up doing a detailed review of over 40 definitions of passive. Some of the definitions worked real well to capture mechanical equipment, some of them worked real well to capture electrical equipment. There wasn't one that we really liked to capture everything we want, so we ended up taking an ANS definition and modifying it slightly to say what we want for license renewal. Basically the definition we came up with is equipment that performs intended function without moving parts or without a change in configuration of properties is what we're after.

Also realizing that this still may not be

real clear, we decided to actually put in the rule language itself examples of what we mean, what is passive and examples of what is not passive for our case.

In addition to some of the examples in the rule language, we have examples in the statement of considerations. They include things like the accumulator, storage tanks, steam generators, spent fuel racks, and some examples of what we consider is not passive in addition that's in the rule, things like cooling plans, switch gears, snubbers, diesel generators.

I want to point out though, just by including these components in the rule language doesn't necessarily mean that they will finally be subject to aging management review because it has to be a combination of passive, long-lived and non-redundant. These are just examples of what's passive. They may, in fact, be screened out later because they're not non-redundant or they're not long-lived.

(Slide) I'll go on now to talk a little bit about a long-lived and we have the next slide.

Here we propose to give generic exclusion to all equipment that's not long-lived because it's replaced on a specified time period or based on a

qualified life. We're comfortable with that process that exists today, so we don't need to look at it. But we do need to look at structures and components that aren't replaced on that specified time period.

Also again here, just like passive, we decided not to stick the term "long-lived" in the rule. There was no question of what we meant by it. We actually stuck in the words "equipment that's not subject to replacement based on qualified life or a specified time period."

COMMISSIONER REMICK: What does equipment mean?

MR. REYNOLDS: Equipment? We're talking about structures and components.

COMMISSIONER REMICK: Okay. I'll bring that up later. It's not defined. You generally talk about structures and components, systems sometimes. But in the document on a number of occasions suddenly equipment occurs and it's not clear what equipment refers to. I'll come back to that.

MR. REYNOLDS: Okay. That's a good point. Okay.

One of the things we looked at for a replacement was should we give generic credit for replacement based on a performance or condition

monitoring program. We said no. If you realize in the passive equipment, based on our experience, doesn't readily reveal the effects of aging through existing performance condition monitoring, it seemed we couldn't apply the reverse logic to exclude it based on performance condition monitoring generically. However, a licensee does that the option if they want to come in on a plant-specific basis and say, "Yes, I do have this performance conditioned monitoring program and it will work well for this passive equipment," and we can review it. We just didn't know enough today to give that generic exclusion for replacement based on performance or condition.

(Slide) I'd like to go on to non-redundant in the next page, please.

Before I jump into what I really mean here, I want to remind everybody that the license renewal, our requirements on the integrated plant assessment and the timing aging analysis, in addition to the current requirements we have today. It's not in place of. So, whatever programs the licensee have today, requirements they have today, they have to continue to meet them. The second principle carries forward.

So, we looked at this, again giving maximum credit to what we're doing today, maintenance rule. We

determined that for the integrated plant assessment we don't need to look at redundant equipment. However --

CHAIRMAN SELIN: Yes. I've had a little question about this in the non-redundant. If you have two items, each of which has a reliability of 75 percent and one fails, you still have a second item, but your overall reliability has gone down quite a bit. I don't think that was what you meant by excluding redundant devices. If they're not truly redundant, they just are devices that back each other up. You basically would get increased risk if one of these failed, even though you wouldn't be sure that the device would fail.

MR. RUSSELL: What we looked at, clearly the degradation continuing in a non-redundant, passive, long-lived component, that's typically reactor coolant pressure boundary, for example. That kind of equipment, we believe, has clearly a much higher safety significance and risk associated with it. For those which are redundant, even though they may be passive, ECCS system piping where you have redundant trains, the conclusions we came to would be that the affects of aging would not likely occur at the same time in the same system.

So, from a failure standpoint, considering the kinds of things we did in the maintenance rule and

the fact that required corrective action would be taken to address this, we felt that the risk associated with those was, in fact, smaller and that that was an acceptable level given that there are processes in place to require corrective actions for failures which did occur independent of whether they're passive or active.

CHAIRMAN SELIN: I mean what I didn't understand -- I understand about -- if you're saying it's a passive device, you're saying it's a device in which failure might not exhibit itself. So, if it's passive and redundant is the assumption that somehow -- I mean the idea of redundancy, of not excluding the redundant advice is that if it failed and we knew it failed, we'd have time to fix it and we still would have the other device to depend on.

But what I'm missing is in a passive redundant device, are you assuming that failure of the passive redundant device would make itself known and therefore there'd be time to fix it?

MR. RUSSELL: Yes.

CHAIRMAN SELIN: Why would it make itself known? I thought the passive nature might obscure the fact that it had failed.

MR. RUSSELL: No, that's not -- for example, it could reveal itself with through-wall leakage or

could reveal itself through in-service inspection that's required pursuant to the code for piping systems, could reveal itself through erosion, corrosion and leakage. So, we believe that there are a number of ways that it may reveal itself. Given that that does occur, we've sort of put it into the same context we did the maintenance rule. That is, you may have a preventive maintenance program and it may be functioning satisfactorily. The evidence of that is an absence of failures. If you have a failure, we require that there be an in-depth evaluation of that failure with the corrective action taken and it's not until the second failure that we conclude that it is significant enough to give it treatment under A-1 of the maintenance rule.

So, in this case, we felt that these were of lesser safety significance and that the safety net, per se, is that you don't expect these to occur at the same time, that they would reveal themselves either through programs or through time and that there would be in in-depth evaluation of the root cause of that failure and corrective action taken. So, that was principally the basis for excluding the redundant long-lived passive. When you're talking about structures, they are typically not redundant. So, you're typically talking about piping, fluid systems, potentially cabling, things like

this which may be in effect in more than one train.

So, that was the logic that we used and put forth in the statement of considerations for excluding redundant, passive, long-lived components. It's predicated upon having processes that would require those failures be evaluated because these are still within the scope of the maintenance rule so that failures would be evaluated and corrective action taken.

CHAIRMAN SELIN: Okay. I'm not convinced. The hole I see is the assumption that even though it's passive, the failures would manifest themselves. Given that they would manifest themselves, the redundancy I see protects you. It gives you time to fix the one train. But to me that's a point that's not proven. It may be true, but it's not proven. We say, "Let's inspect the pressure vessel at 40 years because we don't normally inspect it along the way." Well, that's not because it's non-redundant, it's because it's an inspection we don't routinely do. So, I think you have to satisfy me that for passive redundant items there are procedures in place that would normally detect the failures. Otherwise, in my opinion they would have to be inspected as part of license renewal, redundant or not.

Clearly, if they're non-redundant, the

manifestation of failure would itself be a problem. You'd have to close down the system while you fixed it.

MR. TAYLOR: Let us look at it. We'll clarify it.

CHAIRMAN SELIN: Okay.

MR. REYNOLDS: I'd just like to finish up on redundant, non-redundant. Again, to avoid some confusion, we're not going to use the term in the rule. We're going to say structures and components whose failure would result in a loss of system function.

COMMISSIONER REMICK: I have a question on that. It says, "structures and components whose failure would result in loss of intended system or structure function." I understand that much of it, but you define components as such things as primary piping, pressure vessel, et cetera. It seems to me that you could -- if a component failed, it's not a structure and it may not be part of a system, from the examples I've given you. It seems to me that you would want to add -- let me read it, "structures and components whose failure would result in loss of intended system, structure or component function. It's not only result in the loss of a system or structure, but, as I say, the pressure vessel or the primary system, if that is a component, and I think you defined them as components. The

component might lose its function too.

MR. REYNOLDS: Right. We wrestled with that a little bit because some plants do count their vessel as a component, some as a system. We meant if they call their vessel a component, they'd have to maintain that component function. So, maybe our language needs to be fixed there. I understand your point.

MR. RUSSELL: To just stay with intended function, this was one that came up earlier when Bill was discussing it and I think it's an important point to make. That is we've phrased the intended function. Instead of going to the process we had before where you looked at the scope activities and you came up with a list, you end up then with structures, systems and components, or structures and components on the list, some of which are on that list because they had intended functions, others of which are on the list and they have other functions because they had a dual activity. So, you may have a system that performs a safety function and a non-safety function that ends up on a list. We had an elaborate process before for screening those out. What we've done is we've tied this to intended functions, which basically gets back to what is the safety purpose of that particular component or structure.

So, we may be able to resolve or clarify the point by just sticking with intended function and that's what we are using.

COMMISSIONER REMICK: Or maybe you said intended safety function perhaps.

MR. RUSSELL: There may be non-safety -- we specifically stayed away from the safety, non-safety division because there are non-safety equipments that can perform safety functions that become very significant. So we wanted to keep it to intended function and not differentiate between safety and non-safety.

COMMISSIONER REMICK: But, I agree, I think system and structure should not be there. As I'll point out later, I'm still having trouble understanding when you use system, when you use structures, when you use component or combinations of those three. I get very very confused and I think I can point out some inconsistencies to you.

MR. REYNOLDS: I can try it now or I can do it when I go to findings, because I --

COMMISSIONER REMICK: No. Go ahead.

MR. REYNOLDS: It jumps right out at you when I go over the findings.

COMMISSIONER REMICK: Whenever it's logical.

MR. REYNOLDS: Okay.

CHAIRMAN SELIN: That's what they meant by increasing flexibility.

MR. REYNOLDS: (Slide) If we go to page 16.

On page 16 is the last two steps of the IPA. The first step here on the page is basically the step where we've allowed a lot of flexibility. Here we want the licensee or the applicant to justify and describe their methodology for coming up with the list of structures and components that are subject to aging management review. We haven't been prescriptive here. However they decide to get down to those pieces of equipment, structures and components that are passive, long-lived and non-redundant, that's what we're interested in. We don't care really so much as every step in the way, just their methodology for doing it and what's the bottom line. On the last step here they're going to have to describe how their aging management programs are going to be effective in maintaining the intended functions.

CHAIRMAN SELIN: You know, this comes back to Commissioner Remick's question. We don't want to call them safety functions, but we are only interested in things that contribute to the PRA. In other words, we don't except them to review their rad waste facility

or something. Does the language someplace say that these are functions which contribute to safety?

MR. REYNOLDS: What we did and what used to be the definition of SSC and ITLR, we changed that now to be a scope step, 54.4. It's still the same type of equipment, but we've added a new Part 54.49(b) that talks about intended function. Those functions that cause the safety-related equipment, equipment that's in by tech specs or in by regulations. So, it's functions that that equipment meets to satisfy those requirements.

CHAIRMAN SELIN: Okay. So, if people are foolish enough to have tech specs that cover things, they either have to go to our standard tech specs or they have to be hoist by their own petard basically, right?

MR. REYNOLDS: Right.

MR. RUSSELL: That's one of the, hopefully, motivating factors to get people to take things out of their tech spec either by proposing line item improvements or going through tech spec conversion to eliminate that which would not meet the Commission's policy statement or, as you're aware, we've proposed a rule to take it from a policy statement to actual rule language to better, more sharply define what is necessary to be in tech specs and what can be removed

from tech specs.

CHAIRMAN SELIN: That's good because it keeps the license extension and the current licensing basis on the same basis. If it's in the tech specs today, it's effectively in the tech spec for license renewal. If it shouldn't be there, it shouldn't be there today. Let them fix it or live by it basically.

MR. REYNOLDS: Right.

MR. RUSSELL: That's the approach.

MR. REYNOLDS: One of the things I want to go through in integrated plant assessment overall is some of the flexibility we think we've added. We don't mean for a licensee and applicant to have to determine what's passive first, then long-lived and then non-redundant or whatever. They can go long-lived first and then non-redundant or passive or any combination, just so -- however they get it to the final list it's passive along with non-redundant. They can do that whichever way is best for them.

We also intend that -- say a licensee doesn't want to spend the time to determine what's non-redundant and what's redundant. If they want to tell us what's just passive and long-lived, they have that flexibility. Or if they want to tell us just what's passive, that's fine. Just so long as the list they

give us includes the complete. So, it can be bigger. If they want to give us bigger, that's fine. Actually, for some licensees, the way they have their databases and systems set up, it may actually be easier for them to give us a bigger scope. Their programs may cover the broad issues. So, if we're not being so prescriptive, they have to cut it finer if that's not worth it for them.

CHAIRMAN SELIN: In other words, if they have programs that cover redundant --

MR. REYNOLDS: Right, exactly.

CHAIRMAN SELIN: -- that's maybe easier to show that the system is covered than that it's --

MR. TRAVERS: Than spending the time to redefine system boundaries.

CHAIRMAN SELIN: Okay.

MR. REYNOLDS: Right. That's all I was going to say on integrated plant assessment. We'll go on to timely aging analysis.

(Slide) Go on to page 17.

Bill Travers talked about earlier -- we skipped page 8 where all the definitions we deleted for clarity and simplicity. Here's one case where we thought we needed to add a definition to be clearer and simpler and I want to point that out. There appeared to

be some confusion by exactly what we meant by timely aging analysis.

In the current rule it was subsumed or it was part of the definition of ARDUTLR. In SECY-93-331, we highlighted it special and now even more so with deletion of ARDUTLR, we need to point out that we need to review it. What we mean by it is the calculations, analysis that a licensee relies upon himself to determine that there are systems, structures and components will perform their functions and for what we mean for timely aging analysis has to consider effect of aging, has to be aging-related, and has to be explicit assumptions based on a 40 year life.

To give you some examples of what we mean by timely aging analysis, reactor vessel embrittlement, in-service flaw growth, projections like concrete containment, pre-stress tendon analysis. We think the number -- based on our review so far of the number of timely aging analysis is fairly small and I think our short list in our statement of considerations is our comprehensive list, that we've gone through a fairly good review. It was a small list. I know people saying it's got to be bigger. That's as many as we've identified so far. There may be some plant-specific ones, but on a generic basis we do think it's a small

number of timely aging analysis.

COMMISSIONER ROGERS: Well, I'm just taking the term itself literally. The time limited, that suggests a specific time for everything or a limited time appropriate to a particular system, structure or component? Is the time limited period the life of the plant, the entire life, including the extended period, or is it different from that?

MR. REYNOLDS: Okay. Let me walk through two examples and I'll explain it. At the end of the 40 year license is what we're after. Like reactor vessel neutron embrittlement. When they do the initial licensing, they evaluate it for 40 years. So, at the end of 40 years, it all has to be reanalyzed at going beyond that. For in-service flaw growth projections, the time limit is when you identify the flaw you project it out to the end of the license. So, if you identify the flaw at year 15, you project it out for 25 years. So, it ends at 40 years. For license renewal, you'll have to project it out for the additional period of extended operation, for another 20 years.

So, the time limit is the end of the current operating license. It may not be a 40 year period, like for in-service flaw growth. If it is, 25 years. But what we mean by time limited is 40 years, for the end of

the current operating license.

Did that clear things up?

COMMISSIONER ROGERS: Not entirely. But go ahead. That will be part of your answer? I have a little problem with it.

COMMISSIONER REMICK: Excuse me, Ken.

I have a different question. As I understand -- and by the way, I'm not differing with what you have, I'm trying to understand. As I understand the aging management review process in 54.21, I guess, is primarily aimed at structures and components is the word. The one exception is where you introduce systems is in time-limited aging analysis. I tried to understand why we switch -- first of all, I tried to consider why it's only structures and components that are primarily in aging management review and I finally rationalized, well, systems are made up of structures and components, so okay. But now when we come to time-limited aging analysis, we include systems and I say -- I'm still having this problem of when systems, structures and components, when structures and components and it's just purely a matter of trying to understand.

MR. RUSSELL: Let me give you an answer. If we say grant that an exemption for a particular system

to not meet a regulation because the time frame that that system was going to operate was relatively short to the end of life of that particular facility, say they had eight to ten years remaining and we concluded in doing an analysis that the cost and the benefits of upgrading that were not justified, that could change if you were to look at that for an additional 20 years of operation and it may justify upgrading that system.

So, there could be some cases where we have granted exemptions based upon the remaining life of the plant where looking at that time frame we would come out with potentially a different answer if we were to look at it for an additional 20 years of operation. So, there could be some systems where we have granted that based upon system performance and that's the exemption. That's the time-limited analysis that needs to be picked up, but that's not necessarily tied to aging, but that's tied to performance and we captured that within the exemption process.

CHAIRMAN SELIN: The unit is the system, right?

MR. RUSSELL: That would be a unit of a system.

CHAIRMAN SELIN: Therefore you need system in the definition because time-limited for a component

might not make any sense.

MR. RUSSELL: Correct. Time-limited for a component may be an aging aspect. As the example given earlier, you've done an examination, you're projecting what the flaw growth rate is and you're saying that it would be good for this amount of time. You may have to either do more inspection or project it would be for a greater amount of time. That would be a component that would be aging. But since we tried to combine the two together, then there may be some systems for which there is a time-limited aspect. We tried to capture that as well.

COMMISSIONER REMICK: No, that's understandable. But why then in most of the aging management review it's structures and components -- for the reason of my conjecture, that every system is made up of structures or components?

MR. RUSSELL: Yes.

COMMISSIONER REMICK: And/or components. Is there any reason why if in general we talked about systems, structures and components, in every case there's a disadvantage in doing that or does everybody understand why? I'm the only one who doesn't see why we flip-flop back and forth and I will try to demonstrate later I think inconsistently.

MR. TRAVERS: We ultimately focus the integrated plant assessment on the identification of parts of systems, structures and components and carry out, at least for passive, long-lived, non-redundant, an aging management review on those portions of systems. So, it's --

COMMISSIONER REMICK: On those portions, what do you mean by portions?

MR. TRAVERS: The structures and components, right. So, the screening that we've done or established under Part 54, even if it's somewhat muddled by some confusion, depending on the terms, we tried to clear that up here and the intent has been the same, to ultimately get to structures and component level determinations of functionality for license renewal ultimately, by doing the aging management.

COMMISSIONER REMICK: And there is a distinct disadvantage of including the term "systems" in that.

MR. TRAVERS: If the intent is to go to the structure and component level, I think there is.

COMMISSIONER REMICK: Okay.

MR. TRAVERS: It's not clear.

MR. REYNOLDS: You may get a lot more structures --

COMMISSIONER REMICK: Yes.

MR. REYNOLDS: -- that really need to look at or thinking about or --

MR. RUSSELL: But I've not precluded combining like components. So, if you have a number of pieces of piping segments and they're treated the same in a licensee's program, we would expect that they would describe what that program is for treating those segments. It may cut across systems. So, what we were really focusing on is components age or structures age. Systems are made up of pieces of those and we may have different focuses.

MR. TRAVERS: And the other aspect of that is we intended to eliminate at the structure and component level structures and components that are not required for a system to carry out its function. So, when you screen, you can actually eliminate those when you carry out the integrated plant assessment.

COMMISSIONER REMICK: Is there any place that it makes sense to talk about systems and structures and not components? SSs.

MR. RUSSELL: I don't think we looked at it that completely. Based upon the comments, I think it is appropriate to go back and relook --

COMMISSIONER REMICK: You referred to it

that way and that just adds to my confusion and I'd point that out.

COMMISSIONER do PLANQUE: That's a non-redundant definition, the system and structure, which we just said maybe should go out.

COMMISSIONER ROGERS: Just along the same line, the answer you just gave, is that the reason that you eliminated the term "systems" from the definition of the IPA in your definitions? It's not in -- systems not there. Structures and components only and it's for the reason that you've just given.

MR. TRAVERS: What's the ultimate outcome or the result of the integrated plant assessment. It's a judgment on structure for component level functionality.

COMMISSIONER ROGERS: This particular point has come up before, I know, when we've discussed this some time ago. I now remember it, now that you've made your point. But I think the fact that it's easy to forget what your emphasis is here and what your philosophy is, I think that somehow maybe some words someplace, maybe in the statement of considerations or something, would be helpful to explain that point. I think we all kind of heard it at one time and forgot it and we don't reconstruct it automatically ourselves when the question comes up. So, I think there needs to be a

little bit more --

MR. TRAVERS: We've spent a lot of time thinking about it and it probably is fair to say that we could have explained --

COMMISSIONER ROGERS: Well, it's burned into your brains at this point, but not ours. That's the problem.

MR. TRAVERS: I understand.

COMMISSIONER ROGERS: Yes. Right.

MR. REYNOLDS: (Slide) I'll go on to page 18.

This is the actual part of the application where they have to provide a list of those timely aging analysis. Again here in the rule language, we think we've provided substantial flexibility because we give them a variety of options of how they can demonstrate that the system, structure or component will continue to perform its intended function. They can demonstrate that the analysis that they had for 40 years is still good and it covers extended period of operation, or they can redo their analysis and project it out longer. Here when we talk about projecting out the analysis, we intend it to be either use their current licensing basis, not current standards. If they don't have the latest -- if their CLB doesn't have the latest revision

of a code and they committed to an early version, that's the same version of the code they'll be using to extend their analysis.

Then we gave them another option of saying instead of extending the analysis or explaining it's valid, if you can come up with some aging management programs or activities that will ensure that the system, structure or component will perform its intended functions, that will be acceptable too.

So, you can do any one of these three or any combination. We added some flexibility for the licensee on how they do it. Our bottom line was to ensure that the system, structure or component would perform its intended function.

Before I leave timely analysis, I want to point out that we're going after any system, structure and component that has timely aging analysis, not just those that are passive along with non-redundant. So, when we get to cable and the timely aging analysis under EQ, we will be reviewing the redundant cable.

COMMISSIONER de PLANQUE: Just to make this clear, are there any SS or Cs that fall under the passive long-lived non-redundant category and the category that requires time-limited aging analysis? If so, like the pressure vessel, I would think.

MR. REYNOLDS: Oh, yes.

COMMISSIONER de PLANQUE: Okay. Does that cause you any complication because they fall in both categories?

MR. REYNOLDS: No.

COMMISSIONER de PLANQUE: Okay.

MR. REYNOLDS: We're focusing the time-limited aging analysis, like the vessel, we want to focus on neutron embrittlement.

COMMISSIONER de PLANQUE: Right.

MR. REYNOLDS: And they may be able to use whatever they do in the surveillance programs, their shelf energy, how they project that out, whatever they use for timely analysis, they can reference that for their aging management of that. But we want them to distinguish time-limited aging analysis. As special distinct issues in our standard review plan right now, aging management activities are not spelled out specifically in our current standard review plan.

(Slide) The last thing I want to talk about, page 19, is the finding that the NRC will have to make to issue a license.

Due in part because we deleted the term "ARDUTLR," and we added or we split the technical review up into the IPA and timely aging analysis we had to

modify the standard. The standard now goes whatever actions the licensee have taken or will have to take with respect to structures and components subject to aging management review, we're going to have to make that finding. We'll also make the finding that they will take or have taken actions to ensure the functionality of our systems, structure and components subject to timely aging analysis.

Due to some confusion that we had or we perceived that existed on current term issues versus license renewal issues, we added two new sections to 54.29(b) and (c) and it's intended to say that a current operating issue will be handled as a current operating issue, not as a license renewal issue.

I think you can see from the specific changes we made to the rule language itself and with our examples and the discussions that we have in our statement of considerations that our proposed rule will be simpler and clearer and will provide a substantial amount of flexibility for the applicant. I think we feel that this proposed rule which does give maximum credit to the maintenance rule and maintenance programs and activities will provide a substantial stability, predictability for -- allow a licensee to determine whether or not they want to pursue license renewal.

COMMISSIONER de PLANQUE: In the text of the rule, in that part, is there something wrong with the designation of the reference in 54.29?

MR. TRAVERS: Yes, there is.

COMMISSIONER de PLANQUE: Okay.

MR. TRAVERS: Instead of (b)(2) it would be --

COMMISSIONER de PLANQUE: Lead you to the wrong place. It goes to --

COMMISSIONER ROGERS: Okay. I've got the same question.

MR. TRAVERS: It should be (c).

COMMISSIONER de PLANQUE: (c).

MR. TRAVERS: Apologize for that.

COMMISSIONER de PLANQUE: It's also in the table of comparisons.

MR. REYNOLDS: If you look at 54.29(b)(1), we refer you to (b)(2) and it should be (c).

COMMISSIONER ROGERS: It should be (c), but I think you have the same problem with (c) though that I have. But you say that 54.29(b)(1) should refer to (c)? I don't know. I'm going to ask the question when my turn comes, so maybe we can wait until then. But there seems to be some confusion in what you really mean in 54.29(b) because it seems to be referring to itself.

I mean (b)(2) --

COMMISSIONER REMICK: Yes, circuit.

COMMISSIONER ROGERS: Yes.

MR. TRAVERS: And that's exactly the problem. Let me see if I can point out exactly --

COMMISSIONER ROGERS: So, how do you --

MR. TRAVERS: If you look at 54.29(b), there's a reference to (b)(2) there.

COMMISSIONER ROGERS: Right.

MR. TRAVERS: That should be a reference to (c) and not (b)(2).

COMMISSIONER ROGERS: So, that would just be (c).

COMMISSIONER de PLANQUE: Yes.

MR. TRAVERS: Correct.

COMMISSIONER ROGERS: And what about (c)? That seems to me to have the same kind of a problem.

COMMISSIONER de PLANQUE: You're looking at the table.

COMMISSIONER ROGERS: "As determined by paragraph (b)(1)."

COMMISSIONER de PLANQUE: Okay. It's in the table.

COMMISSIONER ROGERS: Yes, I'm talking about the table in the --

MR. TRAVERS: Oh, I'm sorry.

COMMISSIONER de PLANQUE: You've got a different problem in the table because --

COMMISSIONER ROGERS: Page 12.

COMMISSIONER de PLANQUE: -- it should just refer to (b) there.

MR. TRAVERS: Okay. Yes. May I commit to correct that?

COMMISSIONER ROGERS: All right. Well, there seems to be some circularity in both of -- in (b) referring to --

MR. RUSSELL: We have an error in the table and an error in the rule.

COMMISSIONER de PLANQUE: And they're both different.

COMMISSIONER ROGERS: Yes.

COMMISSIONER de PLANQUE: It's just editing.

COMMISSIONER ROGERS: Okay. All right.

CHAIRMAN SELIN: Two rights make a wrong.

COMMISSIONER de PLANQUE: It keeps you in the same circle.

COMMISSIONER REMICK: Is Mr. Taylor looking for that page I talked about yesterday?

MR. RUSSELL: Before going to slide 20, I'd like to go back to a question that the Chairman raised

regarding the discussion of redundant to make sure that I understand it and we can follow up. It appears that the concern is that the staffs analysis is based upon a premise that failures in the non-redundant -- failures in the redundant components would be revealed either through operation or through some program that is being implemented. The question is -- and what we have not done is articulated the basis for that conclusion in the statement of considerations. Whether there is a sufficient basis to conclude that generically or not or whether that is something that should be reviewed on a case specific basis as to whether a licensee has a particular program that would identify failures before they reveal themselves.

For example, degradation that might be related to a capability to withstand a seismic event, clearly you don't have seismic events that often. But if it were degraded, two trains could be degraded, the seismic event could occur and you would find that both would be impacted. So, the issue really focuses on the ability to detect the failure and take corrective action as compared to having a non-detected failure which continues.

(Slide) Slide 20, please.

This was mentioned in the Chairman's opening

remarks. We are looking at a schedule that would be based upon a 90 day comment period with an assumption that in July we go out with a proposed rule, we propose a 90 day comment period that would take us up to October. We would then evaluate those comments, complete ACRS, CRGR review and develop a final package to have back to the Commission by March of '95. We would propose to work the standard review plan and regulatory guides . parallel with the end of that process such that that would be completed about six months after issuance of the final rule.

That completes the staff presentation and we're ready to respond to questions.

CHAIRMAN SELIN: Commissioner Rogers?

COMMISSIONER ROGERS: Well, first I want to say that I think you've done a very fine job. I'm very pleased with the whole approach that's been taken in this redoing of the rule. I really want to compliment you for taking it on and simplifying it the way you have. It certainly meets a number of the concerns that I had. So, basically I'm very positive on what you've done.

I think there may be a little further corrective action may be needed on some of these details, but it seems to me that the way you've

approached it is really very fine.

I just have -- most of my questions you've answered along the way. I did have one though, a little detailed question. It goes beyond perhaps just whether the wording is quite right or something. It relates to the proposed definitions that are in Appendix 5 of the SECY on page 7 of that appendix relating to 54.4. "The plant systems, structures and components within the scope of this rule are," then there are several sections, 1, 2 and 3. The question that I have is whether the systems, structures and components listed in section 3 aren't really implicitly covered under 1 and 2, why they are specifically broken out and then this is a little more philosophical point of view, that 1 and 2 are quite general statements, 3 is very specific, item by item, and there's always a danger when you try to give an itemized list that there's some item you didn't put on the list that should be on the list.

So, can you say something about why section 3 is such a detailed list and why those items aren't implicitly covered under 1 and 2?

MR. REYNOLDS: First of all, this is the same scope we've had since the final rule. We're not proposing to change it. In the proposed rule before the current rule, we had a scope step that basically said

all equipment or systems, structures, components relied upon our safety evaluations. The Commission said that's a little too broad and we should focus it down on just a subset on there. We looked at that and we came back and we said, well, these things, even though parts of them may be covered in one and two above, these are regulations where a good part of them may not, in fact, be caught by 1 and 2, and we wanted to review them specifically.

COMMISSIONER ROGERS: So you don't believe that --

MR. TRAVERS: They're not covered.

MR. REYNOLDS: There may be some.

MR. TRAVERS: The philosophy here was to go beyond an examination of classically safety-related equipment, recognizing that the equipment that would be needed to comply with a number of the Commission's regulations that are stipulated here would not necessarily be safety-related. The inclusion of the tech spec limiting condition for operation was, I believe, at the Commission direction. I think that was included to recognize the importance of tech specs and the equipment that is referenced within tech specs, particularly equipment that's related to limiting conditions for operation.

So, as an attempt to go beyond safety-related most fundamentally and then to draw some boundaries on it, this was the set that was chosen in consult with the Commission.

MR. RUSSELL: We did debate this within the steering group because there were arguments on both sides as to whether we wanted to come back and suggest dropping number 4 out, particularly in light of what we're doing with respect to tech specs. If you look at tech specs, you generally capture the safety-related stuff which is item 1, plus those things which are risk-significant and that's generally ATWS, station background, et cetera. So, it appeared to be redundant. We debated that back and forth. We felt it was better to have the potential redundancy and the rationale for why it was in rather than to exclude it and potentially miss something.

Plus, frankly I was interested in a little incentive for folks to square away their tech specs and eliminate the unnecessary stuff. So, if there's unnecessary stuff in their tech specs and they don't implement either the tech spec improvement or the line item improvement, then they have potentially a larger scope of stuff to address for renewal. So, there may have been a little Machiavellian approach there.

COMMISSIONER REMICK: Bill, I can't help the question if that's adequate basis, keep it in. But another thing that concerns me, it's inconsistent with the maintenance rule. We're talking about SSCs, same plants, everything and it's inconsistent. I was going to have a question, if Commissioner Rogers will allow me, at this point.

COMMISSIONER ROGERS: Sure.

COMMISSIONER REMICK: Does the staff think that it's really important to keep that in there? Would we miss anything of significance? So, the question is really is it worth keeping it in, and once again pointing out that it's inconsistent with the definition of SSCs in the maintenance rule? Do we buy it by keeping it in?

MR. RUSSELL: When we debated that, I guess we looked at it from the standpoint of not taking something out that the Commission had previously said to put in rather than otherwise. Giving you the candid answer to the question, we did look at it and there are not strong reasons particularly in light of the policy statement on tech specs and what should be in tech specs.

COMMISSIONER ROGERS: I don't know why that should concern you when you ARDUTLR out.

MR. RUSSELL: That was in the SRM to consider.

COMMISSIONER ROGERS: I have no more questions. I think you've done a fine job.

CHAIRMAN SELIN: Commissioner Remick?

COMMISSIONER REMICK: Yes. Let me just -- following up on that, just to make sure I understand, you're basically saying that if it was taken out, you're not aware of any significant loss of system, structures or components? Okay.

MR. RUSSELL: The maintenance rule. It would be from a logical standpoint nice if they were identical definitions, but we believe that once you go through you'll find that it's essentially the same important equipment, particularly if you have a set of tech specs that are consistent with the policy statement.

MR. REYNOLDS: There may be some older tech specs, custom tech specs that would actually screen in additional systems, structures and components, but they wouldn't be those ones that we would consider today to be as safety significant. But I just wanted to make the distinction.

COMMISSIONER REMICK: I understand. That's consistent with my view back when the Commission so

ruled too.

I join Commissioner Rogers in his comments. I think that this proposed rule is a definite improvement over the existing rule. My only comments that I have are, and they're intended to be constructive, are trying to understand what words mean. And your explanation of your philosophy, I have no problem with as you explained it this morning. Why you've done it, I did not understand coming into the meeting. So, it isn't the philosophy. So, my emphasis will be to try to point out where I think there might be inconsistencies in the words that still cause me some problems and I think others.

First, under the scope, 54.4, it points out that plant systems, structures and components within the scope of this part are: safety-related systems, structures and components which are those relied upon to remain functional during the follow design-basis events. So, systems, structures and components which are those relied upon to remain functional and that makes sense to me. But if I go back to earlier in the Federal Register notice on page 6, it talks about the intent of license renewal and I'm not sure you have to flip-flop back and forth, but it says that this change would ensure that important structures and systems -- structures and

systems, not components now -- will continue to perform their intended function in the period of extended operations.

So, in one place you're saying systems, structures and components to maintain their function and in another place we're saying structures and systems. The question comes up in my mind now why. The only case I know of, maybe Commissioner de Planque has found another, where you talk just about structures and systems.

COMMISSIONER de PLANQUE: That was in the non-redundant definition.

MR. REYNOLDS: Here we meant components also.

COMMISSIONER REMICK: You meant components? Okay.

Now, I have -- I don't want to get too much diverted from that, but that same definition, safety-related systems, structures and components raised the question in my mind, is this license renewal rule, will it be applicable to passive plants and if it is there are -- there we're talking about risk significant non-safety systems. Now, maybe the answer is it's too early to start worrying about passive plants in the license renewal rule.

MR. RUSSELL: I have worried about it and that's why the regulatory treatment of non-safety systems as it relates to the passive plant in the paper we have before the Commission is so important, because if it turns out that there are non-safety systems which are risk-significant, the policy statement and the proposed rule would result in those being covered by technical specifications and have other aspects of regulatory control.

The issue there is what degree of pedigree is required for the systems and what degree of regulatory oversight, not the functions they perform. So, by keeping it to intended functions, I believe that this would cover both. And as you're aware, we are intending to look at these in our reviews for a longer period in the initial review. So, we are not limiting these to an arbitrary 40 year review.

COMMISSIONER REMICK: I understand what you're saying, but the words are "safety related systems" and I think there presumably might be non-safety related systems that have safety significance, and, as I read those words, if the Commission decides there is such a thing, that would not be covered. Now maybe the answer to that is it's too early to cover it and, if the Commission so decides that way, it can be

added, and maybe that's it.

My only question is, has the staff thought about that?

MR. RUSSELL: I believe that's captured, though, in the scope under --

CHAIRMAN SELIN: Number 2.

MR. RUSSELL: -- item 2, where we say "all non-safety related systems, structures, components whose failure to prevent satisfactory completion of any of the functions identified in paragraph A(1)(iii) of this section." We'll look at this carefully, but our intent was to be able to capture this for those facilities.

MR. TAYLOR: I think we'll have to study the complete rule in that sense because I don't believe we had that in mind.

MR. REYNOLDS: At the forefront of our minds.

MR. TAYLOR: No, certainly not.

COMMISSIONER REMICK: Well, on page 93 then, I read this. It's under 54.33(b). It says, "Each renewed license will be issued in such a form and contain such conditions, limitations, including technical specifications as the Commission deems appropriate and necessary to help ensure that systems, structures and components subject to review in

accordance with 54.21(a)." If I read 54.21(a), it does not mention systems, it only talks about structures and components.

MR. REYNOLDS: That's correct.

COMMISSIONER REMICK: Okay. And these all added to my confusion over what's the philosophy. Okay.

And then the other on -- let me just give you the pages -- there are probably others -- 12, 13, 14, 20. After I tried to understand structures and components and systems, equipment appears. I assume that is being used for structures and components, but it's not clear, but I'm not sure it should be in there. If it's in there, I think it should be defined that's what you mean as an easy way of saying it. But whatever it means, it suddenly sticks out like a sore thumb and further confused me.

I think that's it. I did have a question on that 54.29(a), the same thing. I was running around in circles. But all in all, I really think that this is an improvement and the staff does deserve a lot of credit for listening to a lot of different input and so forth and coming up with, I think, something that appears to be much more workable.

COMMISSIONER de PLANQUE: Well, the SSC, the SS and the SC variations were a problem in the previous

one. I assume you're just going to go through and look in every place --

MR. REYNOLDS: Right.

COMMISSIONER de PLANQUE: -- to make sure you got what you intended.

MR. RUSSELL: In these days of work processing --

COMMISSIONER de PLANQUE: Yes, it's easy.

MR. RUSSELL: -- we will search for and find and make sure that they are appropriately used in each case.

COMMISSIONER de PLANQUE: I may have one specific question. On page 27 of the SOC you talk about excluding the active fire protection components and giving credit for the fire protection program. But it refers in here only to the active components. What about the passive ones? Do they fall within --

MR. REYNOLDS: They'll be within the IPA subject to review.

COMMISSIONER de PLANQUE: Okay. Okay.

MR. TRAVERS: This was just included in the discussion to point out that even though some fire protection equipment might not be within the scope of the maintenance rule, there were requirements that exist today that parallel those and would act, in the case of

active components, to reasonably assure their functionality continued in the extended period of operation.

COMMISSIONER de PLANQUE: That's all I have. I think you've done an excellent job.

CHAIRMAN SELIN: There's at least one licensee that would like to come in with fewer than 20 years experience. What's your view on that 20 years?

MR. TRAVERS: Well, what we've done in this package is to note that and point it out, ask a question, ask for any comments that others may have and evaluate it. Right now I can say that the 20 years as it's incorporated in Part 54 didn't have a strong basis. We did look on it as a reasonable time frame within which licensees could plan for their decisions on renewal, a time frame when generally enough experience might be viewed as having gone by such that you could carry out the kind of integrated plant assessment based on the experience achieved to date. But I think as there's nothing magic about 40, there's probably nothing magic about 20.

MR. RUSSELL: It may only make the review a little more difficult from the standpoint that you're going to be projecting that a longer remaining life on some components where you have aging effects going on.

You may not have as much of a database to extrapolate from if you come in earlier. So, other than the complication of making the review potentially harder, there's not a strong basis for picking a time.

CHAIRMAN SELIN: I think even Commissioner Curtiss would be pleased with the work that you've done on this. I really think this has really carried out the work that had been foreseen and intended very, very well.

So, thank you very much. It was an excellent presentation.

(Whereupon, at 11:30 a.m., the above-entitled matter was concluded.)

CERTIFICATE OF TRANSCRIBER

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

TITLE OF MEETING: BRIEFING ON PROPOSED RULE FOR LICENSE RENEWAL - PART 54

PLACE OF MEETING: ROCKVILLE, MARYLAND

DATE OF MEETING: JUNE 10, 1994

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

Carol Lynch

Reporter's name: Peter Lynch

United States
Nuclear Regulatory Commission

Commission Briefing

Proposed Amendment to the License Renewal Rule (10 CFR Part 54)

June 10, 1994

Table of Contents

Background

- Final Part 54 effective January 1992
- Industry and NRC experience implementing the rule
- Senior NRC management review of issues
- September 1993 public workshop
- December 1993 staff recommendation to revise rule
- February 1994 Commission SRM to revise rule
- March 1994 public meeting with Nuclear Energy Institute (NEI)

Approach to Rulemaking

- SRM used to develop proposed rulemaking package -- retain *Principles of License Renewal*

- Steering Group and Working Group established to give priority attention to this rulemaking.
  - Steering Group: NRR, RES, and OGC senior managers, and Deputy EDO
  - Line Management
  - Working Group: NRR, RES, and OGC senior staff

Objectives of License Renewal Rulemaking

Clarity	✓	Be clear on what is and what is not subject to review.
Simplicity	✓	Simplify rule by not using terms like ARDUTLR, ITLR, SSCs, and by minimizing the use of definitions.
Flexibility	✓	Allow applicant the flexibility to develop methodology for determining the review scope.
Stability / Predictability	✓	Be straight forward and clear such that an applicant can make a timely decision whether to pursue license renewal.

Retained in Proposed Revision

- Principles of License Renewal
  - Regulatory process is adequate to ensure the current licensing basis (CLB) will continue to provide an acceptable level of safety --- with the possible exception of aging effects in the period of extended operation.
  - The plant-specific CLB must be maintained during the period of extended operation.

Retained in Proposed Revision (cont'd)

- Integrated Plant Assessment (IPA)
  - Initial broad consideration of plant systems, structures, and components.
  - Quickly focuses review.
- Initial Scope of License Renewal.
- Review of Time-Limited Aging Analyses.

Principal Changes

- Focus on Aging Effects vs. Aging Mechanisms.
  - Performance and condition monitoring.
- Focus on Ensuring ***Functionality***.
  - Regulatory process ensures all other CLB aspects.
- Eliminates the Term ARDUTLR
  - Other definitions also deleted.
  - Concept of ARDUTLR retained.

Principal Changes (cont'd)

- Definitions Deleted from Current Rule.
  - ARDUTLR.
  - Age-related degradation.
  - Aging mechanisms.
  - Effective Program.
  - SSCs ITLR.

Principal Changes (cont'd)

- Narrowing the Focus of the Aging Management Review
  - Current rule results in unnecessarily broad review.
  - Proposed revision credits the effectiveness of the regulatory process and existing programs and activities as adequate for certain structures and components.
  - Resultant review focuses on
    1) Structures and components that are "passive," "long-lived," and "nonredundant" and
    2) Systems, structures and components that are subject to time-limited aging analysis.

Principal Changes (cont'd)

- Simplified Integrated Plant Assessment (IPA).
  - Deletes requirement to list *Systems, structures and components important to license renewal.*
  - Flexibility to develop methodology for identifying "passive," and "long-lived," and "nonredundant" structures and components.

- Reduced Information in Final Safety Analysis Report (FSAR) Supplement.
  - Proposed revision would require only a summary description.
  - Currently entire application submitted as FSAR supplement.

Principal Changes (cont'd)

- Reduced Reporting and Control Requirements.
  - Minimizes special requirements for license renewal.
  - Relies on existing regulatory process.
  - Approach for treating and controlling information is consistent with treatment of similar information during the current operating term.

§54.21(a) Integrated Plant Assessment

- "Identify and list those structures and components subject to an aging management review."
  - "Passive" and
  - "Long-lived" and
  - "Nonredundant"

"Passive"

- Term not used in proposed rule.
  - Extensive review of existing definitions and standards.
  - No <u>one</u> definition captured all the equipment judged to warrant review.

- Structures & components that "perform an intended function, without moving parts or without a change in configuration or properties."
  - "These structures & components include, but are not limited to, pressure retaining boundaries, component supports, reactor coolant pressure boundaries, the reactor vessel..."
  - "Excluding, but not limited to, pumps (except casing), valves (except body), motors, batteries, relays, breakers, and transistors"

"Long-lived"

- Term not used in proposed rule.

- Structures and components not subject to replacement by either:
  - Qualified service life, or
  - Specified time period.

"Nonredundant"

- Term not used in proposed rule.

- Structures and components "whose failure would result in loss of intended system or structure function as described in §54.4(b) during the period of extended operation."

§54.21(a) Integrated Plant Assessment (cont'd)

- "Describe and justify the methods used..."

- "Demonstrate that the effects of aging will be managed so that the intended function(s) will be maintained for the period of extended operation."

Time-limited Aging Analyses

- Definition in proposed rule.

- "[L]icensee calculations and analyses that form the basis for a licensee conclusion regarding the capability of systems, structures, and components within the scope of this part to perform their intended function(s) that --

  (1) Consider the effects of aging; and

  (2) Are based on explicit assumptions defined by the current operating term of the plant."

§54.21(c) Time-limited Aging Analyses

- Provide a list of time-limited aging analyses.

- Demonstrate that --
  - The analyses remain valid for the period of extended operation; or
  - The analyses have been projected to the end of the period of extended operation; or
  - The effects of aging on the intended function(s) will be adequately managed for the period of extended operation.

§54.29 Standards for Issuance of a Renewed License

- "Actions ... have been or will be taken with respect to ---"
  - Structures and components subject to an aging management review, and
  - Systems, structures, and components subject to time-limited aging analyses.

- Not current term issues.

Schedule for Completing the Rulemaking

- Proposed amendment published for public comment. 07/94
  (Environmental Assessment and Regulatory Analysis are also available for public comment)
- End of public comment period (90 days). 10/94
- Final rule to Commission for review and approval. 03/95

Will keep Steering Group / Working Group approach to meet the aggressive schedule for completing the final rule.