UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

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COMMISSION BRIEFING ON LICENSE RENEWAL PROGRAM,

POWER UPRATE ACTIVITIES, AND HIGH PRIORITY ACTIVITIES

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PUBLIC MEETING

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Nuclear Regulatory Commission

One White Flint North

Rockville, Maryland

Wednesday

October 15, 2003

The Commission met in open session, pursuant to notice, Chairman Nils J. Diaz, presiding.

COMMISSIONERS PRESENT:

NILS J. DIAZ, Chairman of the Commission

EDWARD McGAFFIGAN, JR., Member of the Commission

JEFFREY MERRIFIELD, Member of the Commission

(This transcript is produced from electronic caption media and audio video media provided by the Nuclear Regulatory Commission.)

STAFF AND PRESENTERS SEATED AT THE COMMISSION TABLE

Secretary

General Counsel

DR. WILLIAM TRAVERS, EDO

JIM DYER, Director, Office of Nuclear Reactor Regulation

DR. BRIAN SHERON, NRR

MR.JOHN CRAIG, NRR

MR. MICHAEL MAYFIELD, Office of Nuclear Regulatory Research

DR. P.T. KUO, Program Director, License Renewal and Environmental Impacts

BILL RULAND, Director, Project Directorate III

CATHY HANEY, Program Director, Policy and Rulemaking

BILL BATEMAN, Chief, Materials and Chemical Engineering Branch

JOHN HANNON, Chief, Plant Systems Branch

ED HACKETT, Director, Project Directorate II

JAMES LYONS, Program Director, New Research and Test Reactors

P R O C E E D I N G S

CHAIRMAN DIAZ: Good afternoon. It's a pleasure to be here with this panel, especially with a new face, Mr. Dyer.

Welcome to the fire -- I mean, to the opportunity of briefing the Commission. We congratulate you on your position again and we are pleased to have you with us. The Commission is very pleased and we look forward to a lot of good things from you. So you know our expectations are high and you have a lot of big shoes to fill.

We are looking at a very interesting meeting this afternoon. I think it's a series of subjects that cover items that are on the everyday agenda of the agency. All of these activities, in one way or another, are taken to ensure that the safe operation of our nuclear infrastructure continues. And, therefore, issues of are importance not only to the NRC but to the nation and to the public.

Today's agenda covers a series of things that we all have been worried about for sometime from license renewal to power uprates and a few variety of issues that also have come up on the screen. I would like to note that the staff workload remains very high. And, therefore, it is always important that we maintain a watchful eye on the efficiency of the operations and how good we discharge the job that is always presented on us.

It never ends. It goes from one to the next, to the next and is

always there. I believe that we are doing an excellent job. However, I always look to be reassured by you that that is the case.

I think there are a lot of things that have happened over the few years that have improved our processes. I think the staff under the leadership of Mr. Travers has continued to try to make our processes more effective.

One of the things we are trying to do in many of these issues is to be pro-active rather than reactive. Too many times we are caught reacting to issues rather than being on the front of the issues. Many times we are also not communicating well what issues are on our plate, what issues we have resolved, how do we really have control of these issues.

And I think this is something that the Commission probably -- I hope I speak for them -- is looking forward to improvements, not only in the processes but in the way we communicate it. There are times when issues like this come up or times where we should take a step back and ask yourself are we doing all of the right things. It's a challenge we have, so tomorrow we are facing it today.

Is the regulation of the civilian nuclear infrastructure that we are in charge with, are we doing it the way that we should be doing it? In essence, you look at the topics of today. They actually have what I call the balance of what the agency is. There are issues that are licensing issues

and how we deal with them, and there are issues that are essentially pure regulatory issues in the sense that we need to regulate those facilities that we have licensed.

I look forward to today's briefing. I think this is going to be, you know, an interesting meeting. And I want to know if my fellow Commissioners have opening statements?

COMMISSIONER MERRIFIELD: Mr. Chairman, you made some very particulate statements about where this important element of our agency is and where it needs to go.

I would say that I think this Commission has demonstrated its concern across the board in terms of the various areas of a regulatory responsibility. The one thing which does make this briefing somewhat different is I think from a public standpoint, the reactors that we regulate have the highest profile among the public about what we do and the public's concern about safety. So clearly we need to take some direction from that.

It's an important meeting. I look forward to understanding where the staff is, where they intend to go, and how we can continue to do the best we can do to meet our safety goals and our mission to ensure public health and safety. So I look forward to the meeting.

CHAIRMAN DIAZ: Thank you, Commissioner Merrifield.

Dr. Travers?

DR. TRAVERS: Thank you, Chairman and good afternoon to you and the Commission.

When Jim Dyer agreed to come up and become the Director of the Office of Nuclear Reactor Regulation, we promised him no shortage of technical issues to whet his appetite for important work. Certainly we have fulfilled that end of the bargain.

Nevertheless, for today's briefing we are focused on a select set of technical issues that we think are important ones to brief the Commission on.

With me at the table include the Associate Director for Project Licensing and Technical Analysis, Brian Sheron; Associate Director for Inspection and Programs, John Craig; and recognizing the importance of Research's contribution in the reactor arena, Michael Mayfield from the Office of Research.

And with that, I will let Jim begin the briefing.

MR. DYER: Thank you, Bill.

Good afternoon, Chairman, Commissioners, and thank you for the kind words. I'm starting week four on the job.

Today we are here to provide an informational briefing on selected NRR programs and technical issues. As a way of preparation for this meeting, it's really been a rapid learning experience for me in coming up to speed on this. Each of these seven topics covered today

are very much a dynamic effort within the Office of Nuclear Reactor Regulation and are receiving close management attention by the NRC management.

We have briefed the Commission before on several of these topics and provided information papers and other correspondence on the status and evolving issues as they are going. And hopefully this presentation will tie those previous efforts together along with some of the emerging activities to provide an up-to-date status to the Commission on these topics.

Slide two, please.

The two themes that come out in this presentation that I would like to make forward, first is we must continue to focus on safety. I think, Chairman, and, Commissioner Merrifield, in your opening remark, you acknowledged that. And I mean this in the sense of our strategic safety mandate to protect public health and safety, the environment and promote national security. Only when that's fulfilled can we look for the efficiencies and the effectiveness, improvements. But we have to keep our minds focused on what is the safety issue and what are we learning as we go and not get tied up in schedules and delivery dates and that. But nevertheless, as you said, those are important.

And we do need to focus on improving our efficiency and effectiveness through the process improvements.

Secondly, we clearly must improve our communications. As I was being briefed and coming up to speed on these topics, there's a number of communications issues both with internal and external stakeholders. NRR programs will not be successful without the proper coordination internally within the staffs between the Regions as well as with Research.

And for this meeting, I asked Michael Mayfield to be our Research representative here at the table because many of the topics that we are discussing today have very close links with the Office of Research and hand offs as we proceed towards resolution and that.

Similarly, if we don't communicate with our external stakeholders, both the licensees and the public, then we -- our credibility suffers and we do not have an efficient or effective regulatory scheme of things. So we need to clearly, I think, improve the way we communicate and continue to maintain our safety focus on our decision-making within the Office of Nuclear Reactor Regulation.

And I think, Chairman, in using your word -- and it's the same word I had -- we need to become pro-active and think ahead and try to get out ahead of some of the issues. And you will hear that in some of the presentations today. And there are clearly some areas that we need to be more pro-active in. And we are working on that.

Slide three, please.

The format for today's presentations is for the individual SES program managers to make the presentations from the podium. And we here at the table are available to answer any questions if you have them.

Additionally, we have members of the management staff in the audience. And if need be, we will ask them to come to the podium and help out in any of the questions.

We have seven presentations. I categorize them as four programs and three technical issues. Throughout the presentations, you will hear about the specific challenges that we are encountering and our plans for meeting them. So if there are no questions to me, we will begin our presentations.

COMMISSIONER McGAFFIGAN: Mr. Chairman, I was just wondering if the senior managers have told the SES managers about the trap door that you operate underneath the podium.

CHAIRMAN DIAZ: Commissioner McGaffigan, that's not classified, but close to being classified.

MR. DYER: The first presentation will be from Dr. P.T. Kuo. He will discuss the status of the reactor license renewal program.

DR. KUO: Thank you, Jim. And good afternoon, Chairman and Commissioners. My name is P.T. Kuo. I'm the program director for the license renewal and environmental impacts program.

License renewal continues to be a very highly successful program. The license renewal process was established to define a method to assure continued plant operation beyond the 40 years of plant operation.

The license renewal process proceeds along two tracks, one for review of safety issues and the other to review the environmental issues.

The application provides the -- the applicant provides the NRC with an evaluation that addresses the technical aspect of plant aging and describes the ways that those effects will be managed.

The applicant must also prepare an evaluation of potential impacts on the environment for another 20 years of plant operation. To date we have issued renewal licenses for 18 units at 9 sites. We currently have in the review 8 applications to renew, 15 units at 10 sites, including the Arkansas Unit One we just received about 30 minutes ago.

Approximately one third of operating plants in the U.S. have either received or submitted applications for a renewed license. Based on the discussion with the industry, the staff anticipates the number of licensees planning to submit a renewal application to increase -- or will continue to increase.

For example, licensees have expressed an interest in submitting -- slides please -- submitting 7 applications for 14 units in

2004.

Next slide, please.

The number of projected applications exceeds the planning assumption goal of 6 renewal applications per year or 12 applications and a review at any time.

While the staff will continue to interact with stakeholders to discuss and better understand application submittal schedules, a pilot initiative intended to improve the efficiencies and effectiveness of the renewal review process is being implemented.

If successful, the staff may be able to complete renewal reviews using fewer resources. This process will build upon the efficiencies inherent in the GALL report.

By using multiple disciplined project teams to perform on-site consistency with GALL audits.

Since an applicant references aging management programs evaluated in the GALL report are not required to submit the supporting documents as part of the renewal application, the on-site visits will allow reviewers to review the technical basis document, maintained on site that support the information content in the renewal application, and to facilitate the early identification and resolution of issues.

It is expected that time required for applicants to respond to staff questions would also be minimized. I will note that the information

that the staff relies upon in reaching a decision will continue to be on the plant docket and available to the stakeholders.

The staff is implementing the process on a pilot basis for the renewal of the Farley application submitted on September 15th and the Arkansas Unit One application just received today and the D.C. Cook application to be received early in November.

These pilot reviews will allow the staff to gain experience and to identify early on whether any adjustments are needed.

In parallel with these improved efforts the staff is also continuing to work on improving the guidance available for implementing the license renewal rule. An interim staff guidance process has been established to document lessons learned from previous reviews and other generic activities by use -- I'm sorry -- other generic activities for use by future applicants and other interested stakeholders.

And here the guidance can be incorporated into the guidance document, namely, the standard rule plan, the GALL report, or the Generic Aging Lessons Learned report, and the Regulatory Guides. The staff has begun the next update of these documents and is continuing -- is coordinating the revisions with stakeholders.

Working with industry, the staff also improved the standard format and content for renewal application developed by the industry. In the environmental area, the staff is currently in the early stage of updating

the generic environmental impact statement for license renewal.

This document which evaluates certain potential environmental impacts generically for all plants rather than separately in each license renewal application is codified in 10 CFR 51.95.

The rule commits the staff to review the material on a ten-year cycle and update it if necessary.

The staff has conducted public meetings around the country to solicit public comments. And is now reviewing the comments received. Public participation has always been an important part of the license renewal program and we plan to continue this policy. The staff notices and makes available to the public its meetings conducted by -- for both the safety and environmental reviews. Additionally, meetings open to the public are conducted in the vicinity of the plant as part of the environmental review and to discuss the result of regional inspections and the process audits.

All documents submitted by the applicant or generally by the staff and are made publicly available. And the key documents as well as information for the license renewal process are publicly available on the license renewal web site.

In conclusion, the staff plans to complete a review of the pilot approach and inform the Commission of the results, including a discussion of efficiencies and update project license renewal application

schedules in March 2004. We will ensure that our processes and the guidance are focused on safety in this successful agency's program.

This concludes my presentation.

CHAIRMAN DIAZ: Thank you. Go ahead.

MR. DYER: Thank you, P.T.

Next, Bill Ruland.

MR. RULAND: Good afternoon. I'm Bill Ruland, program director for the power uprate program.

By way of background, we have three types of power uprates. Measurement uncertainty recapture power uprates, which are less than two percent, are based on improvements in the accuracy of feed water flow measurement techniques.

Stretch power uprates up to about seven percent are typically within the design capacity of the plan.

Extended power uprates are uprates greater than stretch power uprates and typically require major plant modifications.

Next slide, please.

Consistent with our safety focus, we have established timeliness goals for completing the reviews of the three types of power uprates. We have established goals for six months for measurement uncertainty power uprates, nine months for stretch power uprates and twelve months for extended power uprates.

We sometimes get the applications for power uprates that licensees do not plan to implement until the time that is later than our established goals. In such cases, we can meet our goals by completing the reviews in time to support licensee applications.

Since January 2003, we have completed eight power uprate applications. Six of the eight applications were completed within our established time goals. That is, we either met a numerical goal, as shown on the slide, or we completed our review in time to support licensee implementation schedules.

With the five measurement uncertainty recapture power uprates that met our goal, three were completed within six months and two took longer than six months. The two that took longer than six months were completed in time to support the licensee's implementation schedule.

The two that did not meet our timeliness goals were the power uprates for Hatch Units 1 and 2. We delayed approval of these uprates until questions regarding safety implications of the steam dryer cracking at Quad Cities were addressed for Hatch. This delay was necessary to ensure safe operation of the Hatch Units at uprated conditions. This is also consistent with our commitment to maintain safety.

As shown on the table on the slide we met the goal of the

stretch power uprates by completing the review in time to support the licensee's implementation schedule.

Next slide, please.

With regard to process improvements in response to direction you gave us in Staff Requirements Memorandum dated December 20, 2001, we provided you an evaluation of the recommendations made by the Advisory Committee on Reactor Safeguards to develop a standard review plan for power uprates.

Our evaluation was provided to you in SECY-02-0106. In that evaluation we committed to develop a review standard for extended power uprates. We issued the review standard for interim use and public comment. We have revised the review standard based on those industry comments and have briefed the ACRS on the review standard.

The ACRS commended the staff on the review standard and recommended that we release it for use in future -- in reviewing future applications. We plan to issue this final review, this standard in final form by the end of the year.

By Staff Requirements Memorandum dated February 8, 2002, you directed the staff to provide you with a plan for improving the efficiency and effectiveness of power uprate reviews.

We provided this plan to you in SECY-02-0115 and have completed essentially all measures in the plan.

We are continuing to monitor overall program performance in relationship to that plan. We continue to maintain our public web site on power uprates. And we also continue to hold and support public meetings to ensure that our external stakeholders are informed of new developments in this area.

We are continuing dialogue with our international regulatory counterparts related to power uprates. We met with our counterparts in South Korea in March of this year and exchanged information related to power uprate safety reviews among other topics. We plan to continue exchanging information with South Korea and others in the international community. We plan to use information gained from our counterparts to ensure the reviews of power uprates reflect the latest experience in this area.

With regard to challenges, industry has experienced two incidents of steam dryer cracking at a plant with an extended power uprate.

The NRC's special inspection evaluated the rigor of the licensee's analysis for identification of the cause of the cracking and the repairs performed on the steam dryer.

Based on current information we have determined that these incidents do not pose an immediate safety concern. However, we are continuing to closely monitor industry's generic response to this issue

and will consider the need for additional regulatory action based on the outcome of industry's generic response.

We are currently following industry evaluations of a problem at plants using an ultrasonic flow meter of the type used for measurement uncertainty recapture power uprates. This problem has led to unexpected but small differences in parallel indications at some plants.

We have not seen this problem at plants that have been approved for measurement uncertainty recapture power uprates. However, we are closely following this issue to identify any information that may be relevant to the use of feed water measurement techniques for power uprates.

We continue to face challenges in relation to industry interpretations of certain NRC approved topical reports.

COMMISSIONER MERRIFIELD: Just a clarification. On the ultrasonic flow instrumentation, do you have an understanding of how many plants you have identified this is a concern?

MR. RULAND: There are some units, I think it's approximately four, that do have these instruments installed and have been approved for measurement uncertainty power uprates.

I might add that at this time we know of no problems associated with this. The industry has issued a technical bulletin on this and we are continuing to follow up on it.

COMMISSIONER MERRIFIELD: So this has manifested itself at a total of four units probably at two sites?

MR. RULAND: No. It has manifested itself at two different sites. Those sites do not have a measurement uncertainty uprate. Those units use theses to calibrate or correct the calibration of their venturi flow meters. So we discovered at those units -- and we are closely watching this problem to make sure that the units that do have uprates aren't adversely affected.

COMMISSIONER MERRIFIELD: But we have not identified that as a problem at this time?

MR. RULAND: That's correct.

COMMISSIONER MERRIFIELD: Thank you for the clarification.

MR. RULAND: We continue to face challenges in relation to industry interpretations of certain NRC approved tropical reports. I think I have already said that.

The issues we encountered deal with applicability of these reports to power uprates at plants that will be using core designs with a mixture of fuel types. These issues have come up during preapplication meetings with licensees. We have issued clarifications of our positions in a letter to the BWR owners group related to these topical reports.

We continue to hold preapplication meetings with licensees

planning power uprates to ensure that such issues are identified and corrected in a timely manner.

In summary, the power uprate program continues to be a success. The focus of our review, power uprate applications has and will continue to be on safety. It made significant process in improving the effectiveness and efficiency of the power uprate program and are continuing our efforts in this area. We have continued dialogue with our international regulatory counterparts related to power uprates.

And lastly, we continue to closely monitor industry operating experience to identify issues that may affect our review of power uprate applications.

This concludes my presentation of power uprates.

MR. DYER: Thank you, Mr. Ruland.

Cathy Haney is next.

MS. HANEY: Good afternoon. I'm Cathy Haney. I'm the program director for the rulemaking program in NRR.

The agency's rulemaking process is currently undergoing several significant improvements. I'm here today to tell you and provide you with information about how these improvements are being implemented in NRR. We believe these improvements will increase the discipline applied to the NRR rulemaking process.

Our most significant action is to separate the development

of a technical basis to resolve a regulatory issue from the development of the rule plan, proposed rule, or final rule. This separation will allow for early interaction with internal and external stakeholders.

It is our plan that the technical staff will engage stakeholders during the development of this technical basis that will be needed to resolve the issue.

Once a decision is made that rulemaking is needed, having the technical basis complete should result in reducing the time needed to complete the rulemaking, one of the most significant challenges raised by our stakeholders.

The improvements are based on recommendations from the NRC rulemaking/coordinating committee's task force. This multi-office task force reviewed NRC's rulemaking procedures to identify areas amenable to improvements.

While my presentation focuses on NRR improvements, we meet regularly with other program offices and they also are implementing the task force recommendations.

The task force's conclusions and recommendations and the rulemaking/coordinating committee's implementation plan for those recommendations were presented to the Commission in SECY-03-0131 on August 4, 2003. After a review of the agency's policies, practices, and performance, the task force concluded that the rulemaking process was

essentially sound and the NRC's rulemaking performance compared well with that of other agencies. However, the task force did identify 34 individual process improvements to increase efficiency and effectiveness.

NRR has grouped these improvements into three major categories and are implementing these improvements in fiscal year 2004. We plan to first manage the rulemaking process from one central group allowing experienced rulemaking project managers to handle all NRR rulemakings, increasing efficiency of the process.

Previous rulemakings were processed by technical staff or project managers whose primary focus was not that of rulemaking. Thus, each rulemaking involved a learning process for the administrative details.

Secondly, we plan to provide a clear line between the development of a technical basis and taking a regulatory action. Until a technical basis is complete, the staff will be working in the area referred to as technical base issue resolution rather than rulemaking.

A technical issue resolution will include stakeholder interactions and result in a documented technical basis. A resolution to a technical issue may result in identification of many different regulatory options, including the no action option.

Once a technical basis is available and a staff decision to

proceed towards rulemaking has been made, the action will be entered into a timely scheduled rulemaking process. Experience has indicated that lack of a published, well-vetted technical bases before beginning a regulatory action, including rulemaking, is a major contributor to a protracted regulatory process.

Third, we plan to develop an effective schedule in management strategy for rule plans, proposed rules, and final rules to achieve the goal of processing most rules in 24 months. This time period includes two months for Commission review at each stage, rulemaking plan, proposed rule, and final rule.

The time period does not include the time allotted to public comment period. In addition, rules that involve the Agreement States could take up to an additional six months total for coordination at each one of these stages.

In previous rulemaking efforts the technical basis development occurred concurrently with the development of the rule. This combined effort of technical basis development and rulemakings caused rule plans to grow to average more than 25 months to complete, proposed rules to average more than 15 months and final rules to average more than 14 months.

The staff is revising NRC office instructions to incorporate these recommendations. In addition to the administrative aspects of the

rulemaking process, this office instruction will reflect that a regulatory issue can be identified by the Commission, by NRC staff or by the public.

Once identified, technical staff, working with Research, as necessary, will develop a technical basis for resolution and propose a regulatory action. If the proposed regulatory action is rulemaking, the technical basis for the resolution and regulatory action will be reviewed by the NRR rulemaking approval board consisting of the rulemaking program director and program section chiefs. This review will determine if the rulemaking entry conditions have been satisfied.

With the technical basis completed, turning the resolution of the issue into a regulation should become a two-year process for most actions. This revised process covers all rulemakings that are started in fiscal year 2004. If any ongoing developing rulemakings change direction from the rulemaking plan or require additional study, the rulemaking will enter the new process when the new technical basis is established.

In conclusion, we believe the improvements described above will enhance the rulemaking process. By early involvement of stakeholders in the regulatory issue, technical basis development, confidence in the program will be improved. Stakeholders will be assured a timely rulemaking. In addition, the NRC staff will be able to manage rulemaking resources more effectively.

This concludes my presentation.

CHAIRMAN DIAZ: Just one comment. Mr. Dyer, I notice you have John Craig and Kathy Haney from my office in here. Any further raiding of my office will actually exercise Commissioner McGaffigan's trap.

MR. DYER: Next is Bill Bateman.

MR. BATEMAN: Good afternoon, Chairman, Commissioners. I'm Bill Bateman, chief of the materials and chemical engineering branch. I'll be discussing materials degradation.

Over the last several years, there have been a number of new findings related to materials degradation. Of particular note are through wall cracking of upper vessel head nozzles at Oconee and other plants, through wall cracking of two reactor vessel lower head nozzles at South Texas.

We have also observed degradation of the vessel head at Davis-Besse, hot leg well cracking at V.C. Summer and boiling water reactor steam dryer cracking at Quad Cities.

Steam generator tube degradation at a number of plants, particularly at plants with mill annealed steam generator tubes, is continuing. In addition to these specific examples, the staff also recognizes that the environment plays a role on fatigue life of structures and components, and the staff is addressing this issue as well.

All of this degradation has been identified and corrective

action taken prior to any catastrophic failures.

The staff is taking materials degradation into account as part of their review of license renewal applications and power uprates as applicable. For the most part, our experience is consistent with the experience observed in other countries. And we routinely exchange information with other countries to learn from each other.

Materials degradation is a challenge for both pressurized water and boiling water reactors. Issues can be plant specific or generic, affecting a subset of plants or all plants.

Many materials issues are time dependent phenomena. As plants age, more degradation is expected. However, materials issues can be managed through well thought out inspection and repair replacement strategies.

The continuing challenge for both the industry and the Nuclear Regulatory Commission is to address these issues pro-actively.

The next bullet on the slide -- which is not up there right now -- involves industry actions with respect to materials degradation.

The industry response on these issues has varied. Some industry groups, primarily the boiling water reactor vessels and internals program, have taken a more pro-active approach to materials degradation. Other industry groups have been more reactive. These reactive responses to new issues have resulted in delays and on-going

industry reviews.

In addition, historically, many of the industry's proposals to address these issues have not been sufficiently extensive and the industry has recognized this. As a result industry has taken steps to improve their management of materials issues.

They have established a materials executive oversight group, which is responsible for overall coordination and broad policy guidance for the management of materials, aging and degradation issues. One of the goals of this initiative is to pro-actively review industry information, to identify emerging materials issues, and to efficiently resolve them.

In addition, the Institute of Nuclear Power Operations has also taken a role of reviewing licensee programs in the materials area. For example, the Institute of Nuclear Power Operations performs reviews of steam generator tube integrity programs and reviews the vessel and internals program for boiling water reactors.

To address the challenges posed by materials degradation, the industry, working through the Electric Power Research Institute, has been improving existing nondestructive examination techniques and developing new nondestructive examination techniques as well.

The last bullet on this slide, regulatory response, the NRC has taken a number of steps to address materials issues. In the short

term, we have issued a number of generic communications, including information notices, bulletins, and orders. In some of these cases, we have had to make conservative assumptions given the limitations in the information that we had at the time we issued the communication.

Efforts continue to better understand the characteristics which may permit us in the future to fine-tune the assumptions where appropriate.

In the long-term, we continue to work with stakeholders on codes and standards committees to codify inspection requirements. We ensure all stakeholders, including the public, are aware of the issues. We have done this through a number of means, including public meetings and developing and maintaining web sites on materials issues.

We continue to work on the lessons learned from Davis-Besse and the areas of stress corrosion cracking and have made substantial progress in the areas of reactor pressure vessel head inspection requirements and boric acid corrosion control.

We seek out information from regulators in other countries to ascertain their experience and practices and factor them into our efforts.

We have conducted training of the NRC inspectors on in-service inspection procedures. We continue to follow the Office of Nuclear Reactor Research efforts for addressing known degradation

mechanisms.

We are currently in the process of developing a formal request to Research in an attempt to take a more pro-active look at materials degradation issues.

We attended and participated in the Office of Research sponsored conference of Alloy 600 at the end of September. We will continue to factor the results from the Research program into our reviews and the regulatory process as appropriate.

In summary, materials challenges will continue. The industry is positioning itself to provide more comprehensive approaches for addressing these issues in a timely manner. The NRC is continuing to verify the safety of our operating reactors. We continue to keep our stakeholders informed. And we are moving toward a more pro-active approach for addressing materials related issues through our Research program.

That concludes my presentation.

MR. DYER: John Hannon with the PWR sump performance.

MR. HANNON: Good afternoon, Mr. Chairman, Commissioners. I'm John Hannon, chief of the plant systems branch in the Office of Nuclear Reactor Regulation. I will discuss the sump performance issue at pressurized water reactors.

First, I'm going to give you a brief background, then explain actions we have taken to maintain safety. And last, describe our long-term plans for resolution.

Until long-term resolution is achieved, we have taken interim actions to reduce potential risks and assume public health and safety. I want to assure you and our stakeholders that the plants are safe.

An event in 1992 at a Swedish boiling water reactor caused us to focus on the resolution of strainer performance at boiling water reactors. The strainers in boiling water reactors are comparable to the sumps in pressurized water reactors.

The boiling water reactor licensees addressed this issue by installing suction strainers with much larger surface area. We recognize that additional research was needed before a final conclusion could be reached regarding the potential to clog sumps at pressurized water reactors.

Our Office of Research completed its technical assessment of this issue and transmitted it to us in September of 2001. The assessment used a combination of plant specific and generic information to model sump performance. A lack of plant specific data precluded its use on a plant specific basis.

The assessment concluded that sump clogging was a plausible generic concern for pressurized water reactors and that

regulatory action may be warranted. The results of the research pointed out the need for plant specific analyses to be conducted to determine if sump performance issues exist at individual facilities.

The research did not account for specific design features at some plants that improve sump performance, such as primary piping that is approved for leak before break, specific operator actions that can reduce the likelihood of sump failure and compensatory actions licensees are taking to further ensure sump performance.

Based on the evidence we have at this time, continued operation is justified until plant specific analyses can be completed.

What we are doing to maintain safety. We met with the industry representatives to present our technical concern. And both we and the industry are committed to pursuing the issue. The industry took the initiative to develop guidance for plant specific evaluations.

We reviewed the first guidance document for acceptability. Nuclear Energy Institute NEI 02-01, Condition Assessment Guidelines. NEI 02-01 is currently being used by licensees to collect information on their sumps and containment designs.

We also recently issued for public comment Regulatory Guide 1.82 Revision 3, Water Sources for Long-Term Re-circulation Cooling Following a Lose of Coolant Accident. This Regulatory Guide provides the industry with the most current guidance on sump availability

and long-term cooling.

Recognizing the limitations of the generic studies that form the technical basis for this issue, we commissioned a follow-on study to evaluate the potential risks and to determine how much recovery actions lessened the potential for sump clogging. This study demonstrated that effective recovery actions could significantly reduce the potential risk of sump clogging.

This new information prompted us to issue Bulletin 2003-01. In the bulletin we asked pressurized water reactor licensees to either confirm their compliance with existing regulatory requirements or to describe interim risk reduction measures they would put in place to reduce potential risks associated with sump performance.

If while taking appropriate risk reduction measures, a licensee discovers that they are not in compliance with our regulations, they are required to take prompt corrective action. This has occurred at three plants so far.

Until a long-term solution is achieved, such actions and risk reduction measures will greatly reduce potential risks and help to assure public health and safety. We are implementing a plan to communicate this information and we have constructed a web site to keep our stakeholders informed of our regulatory activities.

What we are planning to do. At this time we have receive

and are reviewing plant-specific responses to the bulletin. The compensatory measures that licensees are taking provide additional assurance of plant safety while we continue to formulate the final resolution.

We are also working with our regional offices to perform inspections to independently verify that these compensatory measures are implemented. Appropriate enforcement will be taken if compliant issues are found. This is why we are confident that the plants are safe. I want our stakeholders to know this as well.

By the end of the month, NEI committed to submitting a second guidance document. This document will describe methodologies for evaluating susceptibility to sump clogging based upon the information collect in accordance with NEI 02-01.

We will evaluate this guidance document as well to ensure its acceptability.

As part of our long-term resolution, we are preparing a generic letter that will request licensees to provide an evaluation of their sump performance and take appropriate corrective actions. We will monitor licensees' activities to ensure adequate sump performance. We will perform in-depth reviews on a sampling basis.

By this means we will independently verify that licensees have implemented appropriate corrective actions.

In addition to the activities I have just described, we charted a task force to help coordinate our efforts on this issue. This task force will access our approach and recommend appropriate adjustments in our course of action.

They are also looking for ways to strengthen our communication plan so we can get the correct message out to our stakeholders. Numbers quoted in the press recently have suggested that the chance of an accident over the next several years is high enough to warrant immediate regulatory action. These numbers were taken out of context and do not represent a risk to the public.

In summary, we are following a deliberate, well established regulatory process to resolve a complex safety issue. Until a long-term resolution is achieved, interim actions will greatly reduce the potential risk and help to assure public health and safety.

Our inspections will ensure that compensatory actions are implemented. Our in-depth reviews of corrective actions will ensure that sump performance is adequate. This is why I can say to you today with confidence that our plants are safe.

Thank you.

MR. DYER: Next, Ed Hackett.

DR. HACKETT: Good afternoon. I am Ed Hackett. I am project director for project directorate II, which has the lead for NRR in

coordinating and supporting restart activities at Browns Ferry Unit 1.

I would like to take the first slide. I will start by giving you a little bit of background with regard to Browns Ferry. Tennessee Valley Authority is the licensee for Browns Ferry, TVA. The site is near Decatur, Alabama. And it is consisting of three boiling water reactors.

The key point on this slide here and the second point are in 1985, all three units were shut down due to regulatory and management issues at Browns Ferry. Importantly, NRC concurrence was required for restart.

Third piece is that restart of Units 2 and 3 did occur in the 1990's after multi-year efforts that did involve NRC concurrence and also involved Commission briefings, which brings me to the purpose of today's briefing for Browns Ferry Unit 1.

We are looking at restart of Unit 1 in 2007 as the current plan for TVA's project. That's a five-year effort from now.

Some key things, in other words, why are we here in terms of briefing this before the Commission, what's different between Browns Ferry Units 2 and 3 restart and Unit 1.

Three key elements.

One is an 18-year lay-up occurring as 2003 for Unit 1. The other piece is the application for license renewal and power uprate for Unit 1, actually all three units this time around as opposed to Browns Ferry

Units 2 and 3.

I will go ahead and take the next slide.

Move on to current status and project status.

TVA is on schedule and within budget for their projected budget for their restart in 2007. They have dedicated a restart organization that's on site that includes an excess of 2,000 staff and contractors. They have made progress in several major areas, including modification, installation, welding of piping, installation of cable trays and re-tubing of their condenser.

In terms of regulatory activities, NRC in August of this year, issued Inspection Manual Chapter 2509, which is specific to the restart of Browns Ferry Unit 1. This is similar, for those of you who have been following the Davis-Besse activity, to the restart panel that's convened for the 03-50 process at Davis-Besse.

There's anticipation under that process that about 12 months before restart it would be a restart oversight panel convened that would again be similar to the 03-50 process.

The transition to the ROP is not anticipated until after restart. Although, there are elements that can be gradually addressed as we go through that. Traditional enforcement is what's going to be done prior to that.

In addition, referencing a regulatory framework letter here

that will address generic communications, special programs and other licensing activities that will occur as we go through the restart effort, that letter was issued in August of this year also.

I will move on to discuss briefly inspection and licensing activities.

Region 2 has been and is currently conducting inspections at Browns Ferry Unit 1. Some examples include welding and safe end welding in particular. Pipe supports and cable trays have been inspection. Inspections are continuing in that area.

There's an awful lot of work going on inside containment in terms of removal of old equipment and installation of new equipment, as you can imagine.

In terms of resources, the Region has now completed, as of 2003, dedication of a senior resident inspector, a project engineer and a resident inspector that are all in place in terms of dedicated resources for restart of Unit 1.

In terms of licensing activities, again, as you can imagine, there's a significant quantity and variety of licensing actions that TVA plans on submitting and has been submitting. The regulatory framework letter that I just talked about addresses generic communications in particular, and follow-up of those and other licensing actions.

Following the lead of Region II, NRR will dedicate a lead

project manager for Unit 1. That project manager will be dedicated as of probably the start of the calendar year '04 sometime in the spring.

In addition, as some of the other speakers have referenced we are working on developing a public outreach web site to keep stakeholders informed as this process goes forward.

So moving on to significant challenges for Browns Ferry Unit 1 restart. I addressed these at the beginning. Three key points.

One is the length of time and lay-up. It's obviously much more significant for Unit 1. It's at 18 years right now relative to the restart of the other two units.

The other pieces involve the simultaneous and parallel submission of power uprate and license renewal for all three units. For those reasons, the NRC will especially be paying careful attention and performing careful evaluation of restart test programs with a particular focus on the plans for power ascension.

I should mention also that there is a next in a series of public meetings on the Browns Ferry 1 restart at the site on November 12th of this year, which will be attended by senior NRR management.

In terms of the overall summary of the activity, the Browns Ferry Unit 1 restart project is progressing as planned by the licensee with NRC devoting significant resources from the NRC headquarters operation and Region II for licensing and inspection activities.

The restart effort benefits from processes established for and lessons learned from the restart of the other two Browns Ferry units.

Challenges unique to the restart of Unit 1 are focused, as I mentioned, on the parallel pursuit of the extended power uprate and the license renewal.

The NRR staff is focused on safety in preparing for these challenges and will continue to work closely with Region II and interface with the licensee as the restart effort progresses.

That concludes my presentation.

MR. DYER: Next, James Lyons.

MR. LYONS: Good afternoon. I'm Jim Lyons. I'm the program director for the new reactors program in NRR.

New reactor licensing activities have become more focused since I briefed you in May of last year. We are focusing our resources on those projects that industry has demonstrated a commitment to. The infrastructure needed to complete those projects in preparation for a combined license application in the 2006 time frame.

First slide shows the major categories of our activities. Under the Part 52 licensing process, an early site permit provides for early resolution of site safety and environmental issues.

Part 52 also provides a design certification process to resolve safety issues on new reactor plant designs. We have successfully

demonstrated this process with the certification of the ABWR, the System 80 plus, and the AP 600 designs.

An application for a combined license referencing these products does not need to address the issues previously resolved by the early site permit and the design certification reviews.

The NRC also conducts pre-application reviews for nuclear reactor designs in accordance with the Commission's advanced reactor policy statement. This informal review provides early feedback on issues that the proposed applicant raises that he wants to get resolved before submitting a design certification application.

Our regulatory infrastructure activities include changes to regulatory requirements affecting new reactor licensing, development of review guidance and the construction inspection program development.

We recently received the first two applications for an early site permit under 10 CFR Part 52 with another application expected next week. These applications come after meeting with external stakeholders for over a year on generic early site permit issues and holding meetings in the vicinity of each of the early site permit locations to inform the public about our early site permit process and their ability to be involved in that.

The dates for the second and third applications are a few months later than we had originally expected. To coordinate the review of the three applications with the expected receipt of license renewal

applications during the same time frame, we will stagger the technical reviews of the early site permit applications, initiating the reviews at approximately two-month intervals.

This staggering is necessary because the review teams that had been scheduled to review the delayed early site permit applications are now scheduled to review license renewal applications coming in early fiscal year 2004. Staggering reviews permits us to complete the license renewal reviews on schedule with minimal impact on the overall early site permits schedules if we redirect some of the resources that we plan to spend on design certification in fiscal year 2005.

One of our major accomplishments this year was issuing the draft safety evaluation of the AP 1000 design certification in June. The staff is working with Westinghouse to resolve the open items that were addressed -- that were identified in the draft safety evaluation.

We plan to issue the final safety evaluation in September of 2004 once the open items have been resolved and we have briefed the ACRS. This is consistent with the schedule that I provided Westinghouse back in July of last year.

Design certification rulemaking is scheduled to be completed by December of 2005.

Additional reactor designs are the subject of the pre-

application reviews. The bulk of NRR's efforts are directed to General Electric's ESBWR design and the Atomic Energy of Canada Limited ACR 700 design.

Currently, we expected design certification applications for the ACR 700 in the fall of 2004. And for the ESBWR, in early calendar year 2005.

A minimal level of effort is also being directed to other designs such as the SWR 1000, IRIS and the GTMHR designs. Certification applications for any of those reactors are not expected before 2006.

Our regulatory infrastructure development work includes revisions to 10 CFR 52, regulatory guidance development and construction inspection program development. Proposed changes to 10 CFR 52 were published this summer. And we plan on competing that rulemaking next year.

We have addressed the public comments we received on the draft early site permit review standard that we issued for public comment and interim use last December. And we are now using that guidance to guide the staff in its review of the applications.

As requested in the staff requirements memorandum on SECY-02-0199, we will provide you with the revised early site permit review standard by the end of this year.

We have also completed the inspection manual chapter and the inspection procedures that will be used during the early site permit reviews.

Recently we have conducted two public workshops. One on the draft construction program document that will provide how the contract inspection program will be put together and the other on the information needed on operational programs to eliminate the need for programmatic ITAC.

The staff has engaged external stakeholders on issues industry believes need to be addressed before combined license application can be made. However, the staff has had to suspend work on other new reactor licensing rulemakings such as the alternatives site reviews in the Part 50 Appendix I ALARA requirements until fiscal year 2006.

Next slide, please.

Let me speak briefly to the challenges that I see ahead. I have already mentioned steps we are taking to integrate the early site permit reviews with license renewal schedules.

The schedule delays that led us to stagger the early site permit reviews were largely the result of seismic issues identified as the applicants were preparing their packages. All three applications are referencing a new EPRI study regarding seismic modeling for the central

and eastern United States that was delayed to include some new information.

Issues have also risen with the results obtained using the recommended ground motion level in the NRC regulatory guidance.

The staff will be closely examining the applications to ensure appropriate safety standards will be met for the seismic safety design and for other safety and environmental issues within the scope of the early site permit reviews.

The ACR-700 differs significantly from light water reactors previously reviewed by the staff and will require some infrastructure improvements in order to be ready for the design certification review that we expect later in 2004.

Presently, only AECL maintains a facility capable of performing experiments and tests on the ACR-700 design. The joint NRR/Research advanced reactor steering committee has approved the staff's plan for assessing whether the AECL facility will provide sufficient data to support the ACR-700 safety review.

If the facility is found to be acceptable, we may ask AECL to perform some confirmatory tests for us for beyond design basis conditions. And they have offered the use of their facility to do that.

If information beyond the capabilities of the AECL facility is deemed necessary, we will explore alternative methods to provide the

staff with the capability to validate its computer codes and the flexibility in investigating plant conditions beyond those tested by AECL. The staff will notify the Commission if alternative solutions will be sought.

In the international arena, we are coordinating our review of the ACR-700 with the Canadian Nuclear Safety Commission. For example, we will join the Canadian Nuclear Safety Commission on an audit of AECL's quality assurance program.

We have also received information from the Korean Institute of Nuclear Safety on thermo hydraulic codes used for CANDU reactor analyses that will expedite our audit of the ACR-700 computer codes.

Finally, we are beginning to prepare for the review of a combined license application. This effort is important because understanding the combined license process and the issues arising in its first of a kind application are key factors being considered by power generation companies as they decide whether to build new nuclear power plants.

One of the issues is the treatment of operational programs which the staff owes you a paper on next year. The staff has begun discussions with external stakeholders on this and other combined license issues and will be working to identify and resolve issues over the months to come.

In summary, we are focusing our resources on those

projects that the industry has demonstrated a commitment to, the infrastructure needed to complete those projects, and preparations for a combined license application in the 2006 time frame.

Thank you. That ends my presentation.

MR. DYER: Chairman, Commissioners, that completes our presentation on the status of key programs and technical issues within the Office of Nuclear Reactor Regulation.

I think as I said in my opening remarks, my orientation and briefings coming up in getting ready for this Commission meeting showed that this is a very dynamic set of topics within the office as well as within the agency. And just summarizing that some of our challenges going forward, as I see them -- and one in license renewal, as you heard, the program has been successful and our licensees are accelerating their schedules for submittals beyond what we thought originally.

And some of these challenges are coming now as the applications for the site with dissimilar units. Probably the biggest one, of course, is including the Browns Ferry Unit 1 submittal with the other two units at the Browns Ferry facility where you also have an 18-month shut down, a license renewal and a power uprate coming in unison.

Additionally, in the rulemaking we have a new process in the answer to the mandate provided by the Commission in their task force. It sets up some clear expectations. Now we need to go forward

and execute that process and to make sure that we deliver a product on time.

And the materials world is probably -- the materials area is probably one of the most challenging areas. We need to work closely with the industry and work closely with our cohorts in Research to make sure that we start to get ahead of some of these issues and deal with them in a pro-active manner. The word tends to be overused but I think it's particularly applicable in this area because it's a significant challenge for us.

And GSI-191, I think we have done a responsible job of dealing with the issue. We have not done a good job of communicating. We set up -- as you heard, we set up a communications program about a month ago and are starting to put it together and that. But we need to provide a road map for all the information that is out there on this particular subject. It has a long history that even goes beyond the sump performance issues that Mr. Hannon spoke to.

New reactor licensing, you just heard the schedule has changed. The resource emphasis, our working relationships both with licensees, with owner's groups, with the vendors, with the international community is a continuously evolving activity that we need to integrate and adjust our priorities and schedules and keep the Commission informed as well as the Office of Research and licensees.

And lastly, I wouldn't forget the Brown's Ferry Unit 1 restart, which is a very monumental task on Unit 1, as I said, combining power uprate and license extension. At the same time you are dealing with the restart from 18 years of shut down and essentially no regulatory action, no upgrades and that major effort on the part of the staff in order to respond to that. Our close coordination with Region II and their inspection effort is going to be required.

In responding to these challenges, I think the staff has come up with a plan. And now it's incumbent upon us to execute. So with that, let me turn it over to Dr. Travers.

DR. TRAVERS: Just to say, Chairman, that completes staff's presentation this afternoon. Thank you.

CHAIRMAN DIAZ: Thank you Dr. Travers and Jim. I appreciate the staff presentation. This was quick and good. I thought you guys did a great job of going through the issues.

I also was pleased to get a fresh look at your managers and program directors who normally sit behind the scenes while you take the heat. I think you are telling us that now when the fun starts with Commissioner McGaffigan going first today, that they are on the line of fire too.

MR. DYER: We will start with the questions at the table. Then if we can't answer them, we will get to the staff quickly.

CHAIRMAN DIAZ: Thank you.

Commissioner McGaffigan?

COMMISSIONER McGAFFIGAN: Thank you, Mr. Chairman.

I do think that today's briefing indicates the tremendous -- just part of the tremendous breath of activities that's underway in this office. We could spend another whole briefing on the oversight process and other things that you are doing.

I'm going to call up -- just because we have them available to complete the record -- slide 18 of the staff presentation. They had two backup slides. And I'm just bringing it up. This is the electric generating capacity with license renewal and without.

This slide shows -- they don't seem to have it.

Well, I will tell you what the slide says then. The slide says that basically license renewal is buying this nation two to two and a half decades of additional capability, maintaining the nuclear option for this country for an extra two to two and a half decades compared to where it would have been.

And if they don't have that slide, they probably don't have the other backup, slide 19. It shows that the power uprate actions of the staff have enormously increased, exponentially increased. I don't think we are going to continue after 2005 with what this chart shows. But it shows that

we will add about 3.55 gigawatts of power between 2000 and 2005 as a result of these power uprates.

And again, I think that's an enormous change. I think that's an enormous achievement on the part of the staff. We are doing it safely. I think in the power uprate area that the interaction between the ACRS and the staff has been particularly constructive.

They first called for this review plan or review guide. They called in part for the -- they urged you guys to sort out whether you would require integrated testing. And the final review standard, as I understand it, from ACRS here last week and from the paperwork, the final review standard says that their integrated testing will be required unless the licensee gives you a good reason for why it shouldn't be.

And I think that was a good result. So I think we have had just enormously good results in those two areas. And the burden on the staff is to continue to achieve those results in the future.

DR. TRAVERS: Could I just make one quick comment?

I think one of the things, perhaps most important thing that put us in this position was the steps that the agency took in the '90's to get the program ready to set the conditions under which we could actually implement this program so successfully.

COMMISSIONER McGAFFIGAN: I agree. It takes a long time to lay the foundation, indeed. And license renewal -- I think in power

uprates some of us here can take some credit, particularly the Chairman, for getting some of the infrastructure in place to be able to take this leap forward.

COMMISSIONER MERRIFIELD: Slide number 18 is now available.

COMMISSIONER McGAFFIGAN: Yes. Slide number 18 is now up there.

In license renewal it really precedes us in many respects. The critical rulemakings were made done by about 1996 when Chairman Diaz and I arrived, just before we arrived. I think that was the environmental -- the GEIS rulemaking was done in early '96 and approved by the Commission.

DR. TRAVERS: Frankly, there was a lot of pessimism in the industry about our capacity to be able to put in place that sort of rule and then to actually to implement it in a way that could be viewed as effective and efficient.

COMMISSIONER McGAFFIGAN: What this Commission can take credit for is having laid the rulemaking foundation, I think we helped -- obviously the staff does all work but we helped lay the foundation --

CHAIRMAN DIAZ: Not all the work. Most of the work.

COMMISSIONER McGAFFIGAN: We helped lay the

foundation of expectations as to how this process would work.

And we put out, with the help of our counsel, a standard order at the start of each of the potential hearings as to how the hearings would be conducted. We established some -- we strongly encouraged the GALL approach. We encouraged standard review plan development. And it all came together very well.

Now, we didn't meet -- Corbin McNeil would have liked us to do license renewal in six months and said so at a regulatory information conference early in my tenure here at a luncheon. And I respectfully suggested to him that he talk to Carol Browner and others about amending the National Environmental Policy Act if he wanted to see such performance on any agency's part.

But I think we have, as you say, Dr. Travers, we have more than exceeded all but perhaps Mr. McNeil's expectations with regard to performance over the last half dozen years.

COMMISSIONER MERRIFIELD: For the sake of completeness, you may want to call up slide 19, I presume.

COMMISSIONER McGAFFIGAN: If 19 up there, we will call up slide 19, just to show everybody what I was talking from. But you will see that we go from -- we add about 3.55 gigawatts of capacity between 2000 and 2005. Sort of four small units or three large units. It's one Palo Verde being added as a result of power uprates over a five-year period.

And it's a very impressive change that the staff should take great credit for.

COMMISSIONER MERRIFIELD: One that has been done pretty consistent with meeting our safety goals and requirements.

COMMISSIONER McGAFFIGAN: That's why I talked about ACRS. I think the ACRS and the staff involvement has been wonderful in this area and I think it has been done in a way that is entirely consistent with our safety expectations. I think it proves the point that you can do both.

It's like our licensees, we tell them if they have a safety focus they will get good economics. And I think if we have a safety focus, we can also do things expeditiously as well.

Sometimes we have to stop and pause and say, oops, we have a problem here. We will have to forget about all of our time lines. But a lot of the time you can plow through this stuff.

Rulemaking. The comment I will make there is that I'm a little worried. You guys did send us this paper that's about an inch thick. And I'm a little worried about this developed technical basis before rulemaking rule because it could become an impediment to getting the rulemakings ever started.

Commissioner Merrifield and I come from the Congressional staff where we don't necessarily have the technical basis

perfect as we start legislating, but we plow through it, we understand what we are doing, and we end up with something that, you know, hopefully makes some sense at the end of that process.

It sounds like -- it could sound like that, you know, develop the technical basis for rulemaking that by the time you all have your technical basis all lined up, you are about as rigid as can be and all options except the preferred option are not going to be really listened to, and there's a freight train moving down the tracks. I don't know. I think you can, just as the Congress does, throw out a provision over a two-year period, take comment on it, and get it improved and get it out.

I just worry a little bit about that.

The other thing I will point out to you is even in a case where you had a very good technical basis, the infamous or famous 50.44 rulemaking recently completed on hydrogen igniters and that sort of thing, we had a really solid technical basis. I remember reading that document. And it still took us a hell of a long time to get that one out the door.

Now, 9-11 may have had something to do with that and diversion of resources or whatever. But just having a technical basis doesn't seem to guarantee speed. And not having a technical basis may not be an absolute argument against proceeding with rulemaking.

The issue I was going to spend most time on -- and I have used up more time than I intended -- sump performance. I appreciate

what Mr. Hannon said about the confidence of the plants are safe. But I'm just going to go through this with you briefly, whoever wants to answer.

You said we have a web page coming up. Do we have yet on the web page the February 2003 Los Alamos report? Is it on the web page today?

MR. JOHNSON: Michael Johnson. Yes, it is on the web page.

COMMISSIONER McGAFFIGAN: OK, it is on the web page. And this web page now has all of the key documents on it, up to and including this one and even the bulletin that follows from this one?

MR. JOHNSON: The web page has many of the key documents if not all. But let me just say we are going beyond the availability of those documents on the web page to make those more readily available but also to provide additional information that addresses the concerns.

COMMISSIONER McGAFFIGAN: So to help you walk through these documents? They are complex documents.

MR. JOHNSON: Exactly.

COMMISSIONER McGAFFIGAN: Is the Office of Research memo to NRR of September 2001 on the web page?

MR. JOHNSON: Yes. The technical assessment document?

COMMISSIONER McGAFFIGAN: Yes.

MR. JOHNSON: Yes, it is, sir.

COMMISSIONER McGAFFIGAN: Well, I think we are infinitely better off with those documents on the web page than we were a few weeks ago. I commend you for that.

I agree, having plowed through these documents and gotten a briefing, as my fellow Commissioners did separately from the staff, I agree with Mr. Hannon that we have a sound basis to be confident in the plants today. The numbers that some stakeholders have been putting out really are misusing an older document that Los Alamos did for us back in the 2001 time period that was finalized in 2002.

In the later document, the one that is on the web page today, Los Alamos report 027562, clearly states that the size of the problem is much smaller than the previous document might have led one to believe.

We are talking about -- and also the September 2001 document from Research to NRR -- we are talking about a factor of two in core damage frequency for the most part. And it's important. I mean, if we can get a factor of two reductions in core damage frequency, we are all going to go for it.

But I think for fair reading of these documents, the 2001 document from Research to NRR, the Los Alamos report of February of this year, is that -- in some plants we are talking about a factor of zero.

The plants are already in very, very good shape. But for some percentage, perhaps half of the PWRs, we have an issue, we have to deal with it. And we might, if we deal with it smartly, get a factor of two reduction in core damage frequency. Not a factor of 400 or 200 or whatever the numbers were that people have talked about.

And I think that is very important to get across.

I felt very disappointed when the "New York Times" talked about a 1 in 400 core damage frequency because it just isn't reality. And -- nor would a plant be operating.

This Commission nor the staff, if you all thought that somebody had a total core damage frequency of 1 in 400 per year -- we don't have a number for what is adequate protection. But 1 in 400 is not it.

And I think it's important that we get these documents out on the web page. We get them out on the web page in a way that people can understand them. I think that the two documents that we have got in the last couple of week, one from ACRS talking about how complex this issue is from their perspective and sort of endorsing this Reg Guide 1.82 Rev 3 but saying it's still not good enough. You have got that.

Then the other day you got from NEI a document from entirely the other direction suggesting a way that they believe would drive the numbers down even lower. That there really wouldn't be much debris

damage at all.

Let me ask just one technical question, if anyone has looked at the NEI document. Is the NEI approach consistent with the Baresbek data?

I mean, one of the points that ACRS made was that at Baresbek -- our models, that the amount of debris was larger than some of our models predicted.

NEI is basically coming along and saying the models, like the 2001 Los Alamos model, are egregiously conservative because they don't take into account leak before break. They have an instantaneous break in the pipe, et cetera. Does anyone have an initial thought?

Because it looked like you guys have had some talk with NEI prior to this going back a year ago. So as to -- whether their approach is consistent with the actual -- I know it's a BWR rather than a PWR. But at Baresbek ACRS says, heck, we have got more debris than what the '80's models would have predicted.

MR. SHERON: I was just talking to Mr. Hannon. We just got the reports. We started the review and I think it would be premature to speculate right now. We just don't know.

COMMISSIONER McGAFFIGAN: I didn't want to divert it. The essential message is the one that Mr. Hannon delivered earlier. These plants are safe. We have a very complex technical problem which

we are trying to go at rigorously. The problem was identified in the mid '90's.

It took five years of research to get to the point where we were sure that, yes, this is a generic issue that deserves attention. It took a another couple of years, including the 9-11 event, to get to the point where we are today, that we are pretty sure we have a good idea of where the bounds are where we have asked the licensees to take interim actions.

As I understand the response to the bulletin only Davis-Besse feels that they are entirely out of the woods at this point. Everyone else took the option of saying we are going to give you further analysis and take whatever interim actions are needed.

But it's a very well bounded problem. It's not a factor of 100. It's not a factor of 200. We are not dealing with plants with core damage frequency, anything like the "New York Times" editorial would have implied. Thank you.

CHAIRMAN DIAZ: Thank you, Commissioner McGaffigan.

Commissioner Merrifield.

COMMISSIONER MERRIFIELD: Thank you, Mr. Chairman. I would start off with a couple of comments. Following along with the comments that Commissioner McGaffigan has made, I think the Commission has, through the briefings it has received on the sump issue,

I think it does indicate the seriousness for which we treated the issues that were raised. I agree with Commissioner McGaffigan and I appreciate the briefing that John Hannon gave us which clearly laid out the view of the staff that the Commission shares, that these facilities are safe in the current state that they are but it's one that we are going to follow. Because it is serious. It's one that we need to keep on top of.

I appreciate that element of the briefing and agree with Commissioner McGaffigan on that regard.

On the issue of rulemaking -- and perhaps it is reflective of the shared place that Commissioner McGaffigan and I worked, I do have some concern about the notion that we would get all of our technical ducks in a row, so to speak, before we initiate the rulemaking process. I think that in that scenario, there's a tendency sometimes to lock oneself into a position when, frankly, you make it more difficult for the Commission to have an opportunity to weigh in on some of the areas that perhaps the staff hasn't thought of.

Now, I haven't sat around and thought of the number of times in the last five years where the Commission has decided to go in a different direction than perhaps the staff would originally have thought in a rulemaking area. But I know if we actually started to tick those off, there would be probably a fair number of them.

It does concern me that if we take all of those resources and

front-load them and then the Commission decides, you know, okay, staff, you have what you think is the right technical decision, but the right decision for public policy reasons might be something far different, it would be a significant waste of those resources in the intervening time period.

So I do share Commissioner McGaffigan's concern in that regard. I think that's something we need to keep on top of.

In terms of questions, I think the first one I have is, in some respects, preceded by a comment, relates to the presentation by Dr. Kuo related to the reactor license renewal.

I think back of when we were having a meeting on this very same topic not that many years ago and Sam Collins was before us at that point. We were talking about the potential problems associated with being too popular, of having a program that was getting more people applying faster than we had originally thought.

And we grappled at that point with the notion of how we were going to deal with that very same issue. At the time I remember postulating that perhaps NEI for its part, and industry for their part could somehow help us out in terms of nicely lining themselves up so that we would have a regularized program.

What resulted was a circumstance in which neither our staff, for obvious reasons, nor NEI, for obvious reasons, wanted to be in the

position of telling people you had to get in a specific line. So today we are where I would have predicted two or three years ago that we have a greater degree of popularity than we thought. So we are akin to the man who's trying to put ten pounds of sugar in a five-pound sack.

It strikes me that at some point, absent -- setting aside everything else we were doing, which is obviously from a safety standpoint not what we were going to do, we are going to have to do some form of -- whether it's rationing or use the term that you want, setting people in line in prioritization for license renewal. Because it strikes me that there may be others out there who may want to get in line and there may be good or bad reasons for letting them go a little ahead of others.

I don't know if you want to comment on that. But that's my observation, at least.

MR. DYER: Being new to the NRR position, it's also my observation as looking into -- you know, I came into the budget process when we were wrestling with where we should cap the number of reviews on-going at the same time. And it put the staff through quite a significant amount of turmoil as we re-prioritized some work to accommodate the six applications a year, twelve at a time reviews that we would be doing.

And then to walk into my first briefing and then find out that the numbers are closer to seven than they were to six, that's a challenge.

In talking with the staff, I think the key issue is that it's the

staff. And my predecessor Sam had come up with what I would consider an innovative way of dealing -- you know, stop doing the normal kind of reviews that we have to do.

There's a new approach for the subjects under GALL where you would essentially create this audit team to go out and deal with the issues really, I think, offers an opportunity for additional savings and streamlining the process significantly. We are kind of cautiously optimistic on the approach doing it.

And it has a certain amount of fondness to me, coming from an inspection background where that's what you do. But the real challenge is going to be to make sure we, as Dr. Kuo said, make sure we maintain the public access to information and the communications that need to go on with this licensing activity that normally you wouldn't see in a similar type inspection process, capitalizing this audit.

So I think that at some point we may have to say no. I don't know. It may be next March that we will be saying, coming back to the Commission and saying that we can't get that much out of it. But within the next six months or so we should see what streamlining we can successfully do.

COMMISSIONER McGAFFIGAN: I might just add that on behalf of the three of us on this side of the table, when we made the budget decision we made this summer to cap at twelve, we were trying to

be -- the main motivation for our decision was we wanted to honorably deal with everybody who was in the queue or arguably could be in the queue up through the time period that we knew about.

But I agree entirely with Commissioner Merrifield that unless you can pull off something where you become more efficient, the numbers are not endless. And I think that was the view of all of us, that at some point metering will occur, whether it occurs with us doing it or with the industry trying to sort it out. But we cannot continue to put infinite resources in this area.

If a team was already together, already preparing an application, expending significant dollars on it, then we need to be honorable vis-à-vis them. But a team that's forming today in order to force its way into the queues somewhere ahead of somebody else, I will have a lot less sympathy for that one when the time comes.

COMMISSIONER MERRIFIELD: That was the premise of the question. Because we did. I mean, the Commission to our credit, the staff came up with a proposal, you know, this is what we think we ought to do for license renewal. And then the Commission said, well, frankly, we think we want to do a little bit more because we have an expectation that we are going to get twelve and we want to meet that expectation.

But at some point you have got to say, we have done what we can do.

We challenged and I challenged -- and I can probably pick it out in the record some place -- NEI to try to come up with some methodology for lining themselves up in a regular order. It is very difficult for them to do that.

When you have a resource and everyone wants to go after the same resource with no one having ownership for it, you get in the situation that we are in right now. And it is an unpalatable situation. But I think it is important for us to send a signal out there that there may well be some point, if there's not some ability on the part of the industry to line itself up in a regular order, that we may have to impose an order.

And that may be notwithstanding the fact that folks have put together a team and all those things. That's just something we may have to be faced with. But it's something that we have been talking about for two or three years. And it hasn't solved itself.

That was really the predicate for the question.

COMMISSIONER McGAFFIGAN: Just to amplify again, it will not be who gets their thing to the back gate first. If someone tells us they are going to be here on such and such a date, they put a team together and somebody aces them out by 30 minutes or two days or whatever by putting a team together later after we set our budget, I will have a lot less sympathy for the person who aced out the person. That's speaking for one Commissioner.

COMMISSIONER MERRIFIELD: Circling around -- the Chairman is eager to jump into this, I suppose.

CHAIRMAN DIAZ: No, no. I'm enjoying it.

COMMISSIONER MERRIFIELD: But circling around, I very much appreciate the comments of Jim Dyer in that we have made a lot of progress with the GALL. And obviously, the Commission is very encouraging of the staff of making further efficiencies in the way we do business and utilizing our resources more effectively.

And I couldn't agree more with that. Maybe we can get more in that limited size sack. But I think there are obviously some concerns out there and I did want to reflect on that.

MR. DYER: Commissioner, I think we will have a good answer or at least a recommendation for the mid year next year.

COMMISSIONER MERRIFIELD: On the issue of -- we talked in the discussion regarding reactor power uprates. There was some discussion about the steam dryer cracking issue in Quad Cities. That's one we are following.

They had a problem. They came down for repairs. After a ten-month cycle they went back up. They had further problems identified. So there's an issue there. We are, as you have indicated and the staff has indicated, we are following through on that and we are going to keep on top of it.

The issue that didn't get discussed today, which is also evident in Quad Cities is an issue of fuel. In our efforts to have increased power uprates and increased run times and in efforts to further refine the ability to operate reactors, there has been an increase. I know you and I talked about this in the time that you had in Region III. There has been an increase in the challenges to the fuel.

We have some sites which have increased doses as a result of failed fuel. That wasn't an issue for discussion today. It may be an issue relevant for another day.

But I did want to lay that one on the table to see if you had any comments about that one. Because that was not in the context of this particular briefing.

MR. DYER: Yes, sir, Commissioner. I believe that some of the fuel issues we are seeing, particularly -- I'm most familiar with Quad Cities and LaSalle units. LaSalle hasn't had the power uprate as yet. That may be either a vendor or chemistry specific, not really related to power uprate. It may be a separate fuel's issue that maybe Brian or Mike or somebody would care to provide some information on that.

But it's not necessarily linked to the power uprate. I think power uprates may accelerate the challenge to that. But it seems to be a very vendor specific or unit specific or site specific challenge.

Brian, you want to add?

MR. SHERON: Yes. That's what I would have said. Is that what we have seen so far is that this is more vendor specific as an issue as opposed to a phenomenon associated with power uprate.

We are following it, looking at it and determining if we do need to take any regulatory action in this area in terms of, you know, fuel integrity. But right now it seems to be more vendor specific.

And I guess this is my own personal opinion, I think the industry tends to self-regulate itself, because if they -- you know, if vendors are buying fuel that fails, they usually find another vendor real quick.

COMMISSIONER MERRIFIELD: That's true. Although there are legacy issues associated with that fuel. And obviously, from a safety standpoint, at the end of the day, we are the ultimate regulator of what's going on at those plants.

Mr. Chairman, I may want to discuss this at some later date but it strikes me, having looked at this, that there was a significant improvement in fuel performance over the course of a number of years in improved performance with chemistry, a whole lot of things going in the right direction with fuel.

And it appears, at least in some of the information we have been getting from the staff more recently, that may have bottomed out. And we have seen an up tick -- or a down tick as one might put it -- in fuel performance. It may be worth the Commission taking a little bit more

detailed look at it at some point.

On the issue of ACR-700, Jim Lyons talked about an on-going discussion that we are having with our counterparts up in Canada and with AECL to try to get a better -- perhaps to utilize some of the test facilities that they have out there. You didn't -- you sort of left out there what if that doesn't all work out? And I'm interested in a follow-up on that.

If we cannot get satisfaction and agreement to utilize those AECL test facilities, what are our options?

MR. LYONS: Well, there are several options. Obviously, first of all, is that the ultimate proving that the plant is safe as they designed it is up to AECL. We would obviously work with them first to see if there was some other information they could provide us or whether they had another facility or other things.

You know, another way would be to look at, you know, would we want to have an independent facility of our own to exercise, you know -- if they are really going to be building these plants in the United States, do we want to have something that we can go to, similar to like the facilities that we have at Oregon State University or Purdue and some of the other places.

And I think, in my discussions with the Office of Research, and we talk about these sort of things all the time -- is we are kind of

setting out like what is it that we need. We have to see at what point, what was the information that we are lacking and what kind of a facility would provide that information before we could really make a determination.

COMMISSIONER MERRIFIELD: Do you have any sense of the timing of when staff would be able to make a determination?

MR. LYONS: It looks like -- in the discussions that we have had through the advance reactor steering committee, we have put together a program to look at the AECL facility, look at the scaling aspects and the data that they have collected. I think we are looking at about a year from now before we would have a good answer on that.

That's kind of where we are at. And obviously, if we see something in the interim that gives us an early indication that we need to take some action, we will be doing that. But, I mean, we sent a team of NRR and Research engineers up to the facilities that the AECL has. They were very impressed with the facilities, with the data that's being collected. And so now it's kind of just sit back and look at the details is where we are at.

COMMISSIONER MERRIFIELD: Well, I do want to, while you are there on the same topic, I did want to close by complimenting the staff. You know, the Commission has long stated it does want us to reach out to our international counterparts. And you mentioned Canada and Korea, where we were doing so, in order to get a better understanding of

the licensing basis that they use for the regulation of the CANDU reactors in those two countries, respectively.

And obviously, we have a lot of respect for both sets of those counterparts. And we would certainly want to look very strongly at how they do their programs to help model ours, if we go down that road.

That having been said, at the end of the day, we have our own regulatory bases that we have to be comfortable with and meet our own expectations. So there is that careful balance that we are going to have to achieve.

MR. LYONS: That's exactly right. And I'm glad you said that. Because that's one of the points I would like to make. Remember, we talked about that.

And we have discussed this with CNSC is that we both need to make our own regulatory decisions based on our own regulations. But that wherever we can help each other and at least understand each other's decisions, if they are not the same, so that when we go forward that we are not calling into question their regulations or the way they regulate.

COMMISSIONER MERRIFIELD: Well, I think the premise at the end of the day is that it is a level playing field. And the basis that we have for the current set of reactors and those that are currently in the pipeline, so to speak, should be all the same.

So up or down they are going to have to meet that too.

Thank you, Mr. Chairman.

CHAIRMAN DIAZ: Thank you Commissioner Merrifield. I will try to start from the beginning. I mostly agree with the things that my fellow Commissioners have said. However, I will have some particular small disagreement just to make the afternoon a little more entertaining.

Let me start with license renewal. Thinking back here that the efforts that we have put into license renewal, which I agree is really a success story for the country, not only for the agency or for the industry. As we look at the many issues that have been addressed by the applications that have already successfully been reviewed and approved, I'm sure that everybody's always looking at generic issues.

But have there been any one set of individual issues at any one of these plants that pertains to the issues of materials degradation that is particularly to the plant and presents a special data point? And of course, we are also concerned about that special data point that comes out of the blue. Haven't heard of any. Somebody help me with this. Any issue in any of the applications that have been reviewed that comes out?

MR. DYER: John Craig, I will pass to you.

MR. CRAIG: I think one of the interesting aspects in renewal thus far is that it relies on the current licensing basis. So as the issues get identified today, if they are particularly thorny like the ones that

we talked about, Bill Bateman talked about a few minutes ago, they have to get addressed within the context of the current licensing basis.

So, in that regard, then, current licensing basis and whatever is effective to manager that, those degradation mechanisms, have to carry forward into renewal.

So if the program is adequate to maintain safety today, to maintain margins, if you maintain that, it will maintain the margins in safety in renewal term.

Having said that, in the early days of renewal, erosion, corrosion, vessel embrittlement, fatigue and other issues were on the forefront of the consideration for renewal. Many of those have been addressed. Materials degradation comes up in new forms, as you have heard this afternoon.

But we have built on a very solid program, the nuclear plant aging research program, that the Office of Research initiated, I believe, in about the mid '80's and it carried through into the early 90's, looking specifically at those programs.

So the research results provided one part of the answer. Operating experience and real plant data provided the other part. And we continue to do that as we look at issues confronting operating plants today.

CHAIRMAN DIAZ: No individual issue that looks more

important than the others? From any one of these applications?

I think P.T. has something.

DR. KUO: Well, some of them are generic issues, as you know. But those issues apply to individual plants. It may be a problem.

For instance, John just mentioned a fatigue issue. The fatigue issue being previously designed according to a ASME code. However, starting from the late 90's, we start discovering that the ASME code curve, fatigue curve may not be adequate because of the water involvement, because the curve was created for the air involvement.

And, therefore, we asked all the applicants to evaluate their fatigue usage factor based on the water involvement. At some point cannot actually have a usage factor below one. And then they have to reanalyze it. They have to prove to us that, yes, their usage factor is indeed below one. Or they provide an aging management program for that.

And other examples like neutron embrittlement, upper shelf energy they are very close to the screening criteria. And they have to look real close at the data that we have and prove that they are actually, you know, within the screening criteria.

CHAIRMAN DIAZ: Okay. I just want to make sure that -- you know, because we are very good at looking at generic issues. And sometimes it is that particular issue that is out there that comes back to

bite us.

And I just want to make sure that if there was any one that was particularly more important than others, that we would know about that.

DR. KUO: Yes, sir. We are looking about that.

CHAIRMAN DIAZ: Anybody else?

MR. CRAIG: And each one that we look at, the subsequent renewal applicants look at also. So there's a ripple effect for each issue.

CHAIRMAN DIAZ: All right. Let me go to power uprate. I understood that the Hatch power uprate was a measurement uncertainty power uprate. That's correct?

And that you actually went and looked at the steam dryer issues in Hatch because we had a problem with the Quad Cities, which was an extended power uprate.

Now, is there a discrepancy there? One was a very significant power uprate and the other was a very small one. But you still felt it was really necessary to look at the small power uprate to make sure there were no safety issues.

MR. RULAND: It was one of completeness. We wanted to make sure that whatever we found in Quad Cities was, in fact, not going to affect the Hatch uprate.

We were fairly certain that was not going to be the case.

But we want to make sure that that was the case.

CHAIRMAN DIAZ: But there is a significant difference between --

MR. RULAND: Yes, sir. I'm just told that Hatch already had the other power uprates. And this was a small additional power uprate.

CHAIRMAN DIAZ: A small addition to the additional uprates.

MR. RULAND: We are just being careful.

CHAIRMAN DIAZ: I know you are being careful. I just want to understand. There's a significant difference between and I'm not sure that I understood the difference. Okay. Thank you.

Rulemaking. This is an issue. I, of course, slightly disagree with my fellow Commissioners on the issue of the technical program -- not completely. I think the point is clear.

We cannot do rulemaking without a sound technical basis. So the issue becomes a time dependent issue; when do you do what.

And I think what the staff is saying is that there are times in which they have found that lacking the technical basis, it actually delays, has delayed their rulemaking. I think the important issue is to be able to tell the difference.

There is no doubt that there are times when you need to proceed with these issues in parallel so you cannot stop the entire

processes of getting the amount of information back as you develop a technical issue.

I think this is an important issue. I think this is one of those things that requires that every time you actually assess the entire landscape, make decisions on what really comes, you know, first or goes ahead of the pack -- because these are issues that really require significant amounts of interaction and those outside, with, you know, stakeholders. And that needs to be clear.

There are times when the issue is particularly technically sensitive. And that issue is going to be, you know, determining the thing.

And I think what we are saying -- and I hope that my fellow Commissioners agree is that it's not straightforward just to say that this technical issue has to be completely resolved before we do that. But however it is how the composite rulemaking plan advances.

And we all have been looking for a speedier, better, more comprehensive and responsive to the needs of the time rulemaking plan.

COMMISSIONER MERRIFIELD: You know, I'm only speaking for me now, not for Commissioner McGaffigan. But I don't see a lot of differences in your approach. My concern is -- you are right.

There are some issues that are of such a technical nature that it makes sense to sort of get your ducks in a row, so to speak, and present that to the Commission. There are other issues that have a

higher degree of policy sensitivity the Commission might have.

And I think the staff would be at risk to sort of keep working on its own without keeping the Commission -- this is sort of an internal communications issue -- without keep the Commission informed of the direction it's going. Because if it follows a tendency to want to get everything in a nice pretty box with a bow on top and present it to the Commission, I think the staff puts itself at risk. Because the Commission may say that's a nice box but I don't want the present inside.

That's sort of where I was coming from.

COMMISSIONER McGAFFIGAN: I agree with that.

But I also come from the point of view that I'm not entirely sure how seriously all stakeholders will take the technical basis development which Cathy did say you were going to try to involve stakeholders in as opposed to when there's a proposed rule here and they are really going to put resources on it. And things change.

I mean, when people put resources on things and seriously comment on things, however good the technical basis may be, you can oftentimes say, gosh, we really didn't see that before. We have got to make a change here. It happens all time, I think, in rulemaking processes, in guidance development processes, whatever.

So it partly depends on how seriously people take you.

And if it doesn't have -- it goes back to the Commissioner

Merrifield's point.

If you don't have the Commission behind it, maybe they are not quite taking you all that seriously. Whereas they do take you seriously once you put a proposed rule out.

My only comment at the start -- and I think we are all agreeing on it -- is that there may not be a totally simple solution here. It's got to be tailored. .

CHAIRMAN DIAZ: That was my point. I haven't disagreed with anything that was said. On the contrary, I think that was -- my point is there was really a tremendous amount of alignment between the three of us on this issue.

COMMISSIONER McGAFFIGAN: That SECY will now capture in an SRM.

COMMISSIONER MERRIFIELD: Mr. Chairman, I would just like to comment on the harmonious nature of the Chairmanship that you have exhibited over the last six months, indicated by the ability to bring together agreement this afternoon.

CHAIRMAN DIAZ: I refuse to answer.

One point that was brought up, and this is a point that I think when I went to talk to the senior managers in Annapolis, I raised that point. And I think at the time I said that I think I speak for my fellow Commissioners when I said that there are times in which the Commission

really needs to see where the staff is on an issue before it's completely finished and wrapped up.

And I think this is a systematic issue -- not systematic. But it's a recurring issue. An issue that comes up once in a while. And I think it is important that we be aware of where, you know, the issue stands. At a certain point that it might be deemed critical by the staff because we should be able to accelerate the process.

Having said that, that requires that we have a discipline and actually respond to the issues in a pro-active manner. I'm not going to speak for my fellow Commissioners, but I do believe that we realize how important it is that when issues are on the table that requires prompt response, that we actually become as disciplined as we require you to be and respond.

And I have done it. I confess that there are times when I haven't been. But I'm learning. This is what Sam Collins says is a learning organization.

Let me go to the next issue real quick like. Maybe I can deal with two of them together. Materials degradation and the sump. These are issues that are bound to happen. These are not -- you know, somebody should say we are totally surprised by these things.

I haven't been totally surprised by practically anything in a long time except when my wife accepted to be married and then she

caught me by surprise and she said yes and I wasn't ready. I thought she was going to say no. That was the last time I was surprised.

It is really critical that we understand that one of the key functions of the technical evaluations on those issues, whatever the issues are, is that we need some time to take a step back and take a look at what do they mean, what does the materials degradation mean? In regulatory and safety space, what does the issue of the sump mean?

And I was thinking about it yesterday. And I said, gosh, it wasn't that long time ago that we were arguing about a 50.54f letter in the fall of 1986 where, you know, the design basis was being challenged. What was the issue that triggered that?

The issue that triggered that was the increasing pressure that would happen -- I think it was Maine Yankee when there was a LOCA and the containment pressure increase and there was a loss of net positive suction head. And that triggered one issue after another.

I remember working with Jim Taylor one late night and talking about auxiliary feed waters and talking about all of these things. It always comes back to the fundamental issue that what we always want is -- and I have said this in simpler ways, we are going to shut this down, we want to cool the core.

So my question is, when we look at these things and take a step back -- or have we taken a step back -- and we look at all the issues

that have come out in the last few years with material degradation, sump containments and so forth, are we really asking all of the right questions like, are we sure that everybody has taken a step back and looked at their long-term cooling? Is that an issue? Is that something that we're putting on the screen and saying this relates to the sump, this relates to materials degradation?

I think that's what being pro-active means. Being pro-active is not reacting to the fact that we have materials degradation or now the sump has finished. But occasionally, we need to take a step back and say what are the issues that eventually could actually come and become an issue. We want to address them before they become an issue.

The only issue of the sump or event significant materials degradation that could really cause a potential, you know, accident, is, are we going to be able to maintain the core cooling? It's the long-term cooling issue, which is really tied into all of the things that we go back, the last six years. I can remember little things with design basis and things that address this issue.

Now, when we make our plans to look at the technical issue, whether it's Research, whether it's NRR, are we taking a step back and taking a look at where these issues belong in importance and priority so that we can, in a deliberate matter -- somebody used the word deliberate. Let's see who it was, John Hannon said deliberate. In a deliberate

manner we can address these issues early in a pro-active manner so we can say, there is no problem, or there is a problem, when you put this valve and realign that and this happens. I will stop right there.

MR. MAYFIELD: Mr. Chairman, if I could use the materials degradation program, and in particular this pro-active activity we have initiated. It, I think, illustrates exactly what you are talking about.

We are taking an approach that has a crosswalk between potential degradation mechanisms, components -- and, in fact, there's a table that people are seeking to fill out that literally has the known potential degradation mechanisms across the top and the various pressure boundary components and other important components down the side. And starting to tick those off.

The notion is, as that table is completed, you ask the question, so what. And it gets to a ranking of what should we go look at first, what's most important. And at some point there may be a potential degradation mechanism on a component that is just not going to be something that is significant enough to chase too hard. It will come later in the program.

So there's a conscious activity on-going, even as we speak, to do exactly what you are -- what I think you are characterizing, to look at what's possible and then to say, let's make sure this is put in context. And interestingly, I will tell you that the industry is following through their pro-

active program, following a very similar approach. And in fact, we are looking at how to make those two activities complement one another.

CHAIRMAN DIAZ: We are talking sets and subsets. To me the main set eventually is long-term cooling. Everything else that we talk about is almost a subset of that.

So when you take a look at it, that's what you want to be starting from and going back, you know, resolving these issues. And that is something that eventually as programs get put together, I think that definitely the Commission should be informed or do a pro-active approach to ensuring that, from this point on, these issues are all put in the right, proper place in the matrix, whatever it is.

MR. TRAVERS: I would just comment that certainly we do incorporate the reactive component into the broader thinking that has to go into these issues. But you are right. Occasionally, it is worthwhile, certainly is worthwhile to take a step back, even in the midst of some reactive issue having been identified to see if we have captured the full scope of the issue, long-term cooling, materials degradation, what have you.

But it is the kind of thinking that we typically -- the sort of process we typically go through when we formulate generic communications, bulletins. We talk about techniques and development of certain techniques for inspection of materials and that sort of thing.

But it's always -- and it would be disingenuous of me to say that it isn't worthy of to continue on occasion step back from an issue and make sure that, in fact, we have encompassed a full range of possibilities.

CHAIRMAN DIAZ: And there's a tremendous effort by the industry and the NRC, after the 50.54f letter to, you know, gather the information to have people look -- not only that they have kept the design basis in a manner that was accessible as information, but they have checked the key things.

I almost can rattle down which ones were the plants that found an additional problem after the 50.54f letter. You were at Millstone at that time. And I remember they had a hard time finding three safety issues at one time or another. Eventually they came up with like five.

But it is something that we need to do. It is the type of things that we are doing the everyday work but it's worthwhile to take a stand, look back and say are we covering all these bases. And there's information available.

MR. DYER: Chairman, I guess from my perspective, I think we try to do that from a process standpoint. The question is whether we have all the information and do we put it in all the right bins, as you said? Do we capture what Research knows and what's over the horizon, what they are projecting? Do we understand the foreign experiences that we

can bring in?

Of course, part of the Davis-Besse lessons learned task force recommendations in that was to get that broader perspective. So I think we are headed in that direction.

You bring up the specific issue of the containment sump issues and sump performance. And I make a distinction between the generic safety issue part of that is, do we really understand the phenomenology, do we understand how we can assess and evaluate that in a design atmosphere as opposed to -- also as part of that, we are finding things. The plants are not built the way we thought they were being designed.

And the importance of verification, as John said, you know, for the containment sump, is part of this bulletin closeout we are going to go out and take a look at verify that, yes, our expectations that we communicated in the bulletin are, in fact, what we are finding. So sort of close the loop.

And I think that that's an area -- when I think of my experience with Davis-Besse and the issue of containment coatings and the high pressure injection pump vulnerabilities in that, those were compliance issues where we had -- that should have been discovered either during the 50.54f response or in response to earlier generic communications.

And the same thing can be said for some of the other plants that have reported finding when they were doing the walk downs during outages as a result of the bulletin and that. They were finding compliance issues and reporting them and that.

So I think there's -- we have to make a distinction too, to make sure that what we are evaluating from a generic issue is, in fact, the way it's being implemented at the plants.

CHAIRMAN DIAZ: Let me go to Browns Ferry. I think Browns Ferry, in many ways, presents an opportunity for the NRC to exercise some of our long lost skills of looking at somebody laying out new cables and a lot of things. From a personal issue, are we using this opportunity to channel our people through Browns Ferry?

I know it might cost us some money, but I think it is really an important thing to be able to get -- you know, especially people that have never had an opportunity to crawl through a tray before they put the cable in there, that's certainly an issue that is important.

Are we doing that? John?

MR. CRAIG: Well, I know that a number of people at this table that are new have been invited to come down next month because the next meeting at Browns Ferry is going to be down there.

CHAIRMAN DIAZ: When is it?

MR. CRAIG: The 12th of November will be the next

meeting. It will be on site.

I don't know whether or not we have been cycling through and taking advantage of the opportunity that exists. The unit has been undergoing refurbishment for a number of years.

A large number of inspectors have gone through. Not just the ones that are the residents there. I don't know how many people from headquarters have gone down to take a look at it. Sam might know.

MR. COLLINS: Sam Collins. Actually, I don't know. But the other two units were recovered. And we had the benefit of that process.

Perhaps to your point, Region II has been very generous in their outreach to the Belafonte plant. And we have had a number of interns, many of them in the room here I notice, that have had the opportunity to go and to be hosted by Region II along with the technical managers and walk through that plant for the purposes of having gained access to areas that would normally not be allowed and understanding the design criteria.

I think we probably have a take away from Browns Ferry. We have got to be careful with our travel budget, of course, that's under Commission guidance.

CHAIRMAN DIAZ: You want us to cut it again you said?

MR. COLLINS: I just want to remind you that there are limits. But we will certainly take advantage of the opportunity.

CHAIRMAN DIAZ: But I do think that there are activities that are particularly appropriate for almost practically new construction. Some of them are. So I just thought I would bring that up.

Let's see. Reactor -- new reactor licensing. I think it is obvious that we need to somehow leverage our relationships whenever we can. I have said this before, I think it was even in the last meeting with ACRS, it is important that, you know, we realize and communicate to the fact that we can share, you know, in information that is generated that we believe is being generated properly as long as we make our own conclusions and determinations.

In many of these new reactors activity, certainly there's an opportunity to work with our colleagues, both externally and with the industry, always preserving the fact that the decisions we have to make will have to be independent. But I personally do not see an issue of losing, you know, any of our independent judgment by participating in these activities.

I think we owe it to ourselves to do that because sometimes that information is very appropriate. So I think that we should proceed with that.

And let's see, Jim, I think you made a very good summary here. And I don't mind that you used the word "pro-active" everyday. You are entitled to it.

And with that, my fellow Commissioners, any other comments, questions? If not, I want to thank the staff for a really very interesting meeting.

Good afternoon, we are adjourned.

(Thereupon the meeting was adjourned at 3:45 p.m.)