1	UNITED STATES NUCLEAR REGULATORY COMMISSION
2	BRIEFING ON OFFICE OF NUCLEAR REACTOR REGULATION (NRR)
3	PROGRAMS, PERFORMANCE, AND PLANS
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5	THURSDAY
6	March 8, 2007
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8	The Commission convened at 1:00 p.m., Dale E. Klein, Chairman, presiding.
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10	NUCLEAR REGULATORY COMMISSION
11	DALE E. KLEIN, CHAIRMAN
12	EDWARD McGAFFIGAN, JR., COMMISSIONER
13	JEFFREY S. MERRIFIELD, COMMISSIONER
14	GREGORY B. JACZKO, COMMISSIONER
15	PETER B. LYONS, COMMISSIONER
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2	PRESENTERS:
3	LUIS REYES, EXECUTIVE DIRECTOR OF OPERATIONS
4	JIM DYER, DIRECTOR, OFFICE OF NUCLEAR REACTOR
5	REGULATION
6	BRUCE BOGER, ASSOCIATE DIRECTOR. FOR OPERATING
7	REACTOR OVERSIGHT AND LICENSING
8	JACK GROBE, ASSOCIATE DIRECTOR FOR ENGINEERING AND
9	SAFETY SYSTEMS
10	MIKE WEBER, DEPUTY DIRECTOR, NRR
11	WILLIAM KANE, DEPUTY EXECUTIVE DIRECTOR FOR
12	REACTOR AND PREPAREDNESS PROGRAMS
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CHAIRMAN KLEIN: Good afternoon. It seemed like I saw you earlier this morning.

MR. REYES: You may have. I think we've met before.

CHAIRMAN KLEIN: This afternoon, we have a good opportunity to hear about NRR and as I've indicated in a lot of my comments, it's easy to get caught up in the excitement of the new reactors but focusing on the existing fleet is extremely important.

That's our bread and butter so we'll get to hear about your activities of how you intend to continue doing that as well as I'm sure explain how you helped stand up the new reactor office. Any comments from my fellow Commissioners? Luis?

MR. REYES: Good afternoon, Chairman and Commissioners. We're here to brief the Commission on the accomplishments during the last year on the Office of Nuclear Reactor Regulation.

It was last March of 2006 when we briefed you last. With me at the table is Jim Dyer with some members of the executive team of NRR. Behind us we have another supporting cast and we have also the Office of New Reactors here to help us because we do share and coordinate with them on several issues. Jim?

MR. DYER: Thank you, Luis. Good morning, Chairman and Commissioners. As Luis said, with me at the table is the executive team of NRR and it's been a very busy year. The agenda - let me start off on slide two, please.

- These are the acronyms that I hope I don't use but just in case, they're there.
- 2 CHAIRMAN KLEIN: That's a good idea.

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- MR. DYER: Slide three, please. Slide three presents an agenda

 overview of the topics and areas we intend to cover today and who's going to be

 doing the covering of them. We arranged the presentation to assign a member of

 the executive team, the lead for their areas of responsibility.
- In that, Bruce Boger will be presenting the overall programs and oversight
 within his area of responsibility involving as the Associate Director of Operating
 Reactor Oversight And Licensing.
 - Jack Grobe will touch on some key technical issues in his role as the Associate Director for Engineering and Safety Systems.
 - And lastly, Mike Weber as the Deputy Office Director and chair of our Human Capital Committee within NRR will present the human capital and organizational issues within the office.
 - As Luis said we also have the cast of division directors and staff and representatives in case we need to ask for help.
 - Our last office briefing was March 16th of 2006. At that time, it was a combined technical and program issues and then also with the new reactor program. New reactor program dominated that discussion.
 - This year we spaced it out now so our programs and technical issues are going to be covered in a little more detail. When we went through and as we developed the program, we intentionally left off slides on the reactor oversight

process, recognizing that next month is the agency action review meeting and

then we'll have an agency action review meeting Commission meeting in early

3 May, I believe.

That will be dedicated to the reactor oversight process, the review of the annual self assessment, the performance indicators and plant performance. We deferred those discussions.

It's also the reason that we don't have a Regional Administrator. Normally we would invite a Regional Administrator to participate but at the time we set up the review, the Regional Administrators are vital cogs in NRR programs particularly as they implement the operator licensing and oversight programs within the four Regions.

And lastly, I'd be remiss if I didn't say that many of the topics, the technical topic programs that we will be discussing today will also be the subject of public discussion during our Regulatory Information Conference next week.

Just as a status report, we are now over 2,300 attendees pre-registered and last year, we went in slightly under 2,000, had 700 show up as additional walk ins. So it's look to be another record attendance at the regulatory information conference.

COMMISSIONER MERRIFIELD: Mr. Chairman, just for clarification.

How much of that is external to the NRC? We let a lot of our staff go and I have no problem with that, but just to get a flavor of NRC participation.

- 1 700; two-thirds external, one-third internal.
- 2 COMMISSIONER JACZKO: Is that within the fire allowance, what is
- 3 the maximum allowed?

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- MR. DYER: Actually, Commissioner, we have to have a Plan B for
 the plenary sessions and that is this year we were going to have video capabilities
 to the breakout rooms and so we'll be able to video to the breakout rooms as well
 as we're crossing our fingers and hoping we can video back here real-time. We're
- as we're crossing our fingers and hoping we can video back here real-time. We're
- still working out certainly to the breakout room.
 - If the staff can't get into the plenary sessions then they will be able to observe the plenary sessions from the breakout rooms.
- 11 CHAIRMAN KLEIN: They developed an emergency plan just for 12 that?
 - MR. WEBER: If I could add the preliminary sessions will be media streamed so people who don't have the opportunity to travel here to Rockville will be able to get on the Web and watch real time the sessions.
- MR. DYER: We're making progress. With that let me turn the presentation over to Bruce Boger to cover some of our programs status.
- MR. BOGER: Think you, Jim. Good afternoon, Chairman,
 Commissioners. Licensing is one of NRR's primary activities. Last year we
 completed 1659 licensing actions. This required considerable coordination
 between the NRR projects division and the technical divisions and also strong
 support from the Office of General Counsel.

In addition, licensing assistance and clerical help were necessary to help us bring that off. We met our one-year metric for completions, however we were

tardy on one amendment request which caused us to miss the two-year metric.

We subsequently completed that action in November. This particular amendment was related to alternate source term. As indicated on the slide, these reviews pose a challenge to the staff due to the complexity of the reviews.

We discussed our plans and schedule for mitigating measures closure yesterday at the closed Commission meeting on security matters. We felt even though we missed one metric, we felt we needed more challenging metrics this year and so we're assessing ourselves against the metrics on a monthly basis rather than taking a snapshot at the end of the year. Next slide, please.

License renewal program continues to be a very successful program. To date we've completed 48 reactors and nine were conducted last year.

We've evaluated the impact of the continuing resolution on license renewal schedules. Oyster Creek, Pilgrim, Vermont Yankee, and Fitzpatrick schedules were not affected and remain at 22 months without a hearing and 30 months if a hearing is required.

Wolf Creek and Harris reviews will be extended by four months and three months respectively. Although Indian Point, Vogtle and Beaver Valley applications have not been submitted, we anticipate that their review schedules will also be extended. This is primarily due to the cascading effect of the delaying work during the continuing resolution.

Other challenges for us include updating the generic Environmental Impact

2 Statement and making preparation for the inspections for the reactors as they

enter the renewed period. It's our understanding that renewal applications

associated with hearings must be addressed by the Commission. This could

occur as early as next year. Next slide, please.

We had a very busy year with TVA last year and we expect another busy year this year. We renewed the license in October 2006 for all three Browns Ferry units. It's on schedule.

As we stated to the Commission in January, we've coordinated closely with Region II on the Browns Ferry 1 restart review to make sure we integrated inspection and licensing activities. We issued the 105% power uprate approval on March 6.

We face a few challenges this year. We'll continue our review of the Browns Ferry uprates to 120%. In addition, last November TVA advised us of their intent to perform a feasibility study on completing Watts Bar 2.

We expect to spend some resources this year to prepare for licensing and inspection. If the TVA Board of Directors decides to move forward, we will have to make further resource and organizational changes starting later this year that were not envisioned in our budget submittal last year.

If construction activities recommence, we anticipate that there will be interacting with the Commission on potential licensing issues.

In addition, reprogramming of resources in FY2008 will be necessary if TVA

decides to proceed. Next slide, please. 1

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We've also been fairly active in the rulemakings area. We received 3 Commission approval to issue four final rules including those for criticality accident requirements, the AP1000 design certification, and design basis threat 4 requirements. 5

We also issued several proposed rules and provided the Commission with several other rules, including Part 52 licensing changes, physical security requirements and fitness for duty.

We also addressed several petitions for rulemakings dealing with emergency preparedness and license renewal. Besides continuing work on proposed rules, we have undertaken an effort to streamline the rulemaking process in accordance with Commission guidance.

We expect to continue our interactions with the Commission on the rulemaking process and also to provide you with results of our rulemaking improvements by May 31st of this year. Next slide, please.

This past year there were several notable instances where unplanned releases of radioactive liquids were detected. While they were unplanned they did not pose a threat to the public health and safety.

We take these instances seriously and issued an information notice and chartered a lessons learned task force to address the situation. The task force developed 26 recommendations that the staff is addressing.

These include developing additional staff guidance for addressing spills and

- leaks and also changing the significance determination process to better address
- the range of situations that can occur and to ensure that the basis for our findings
- 3 are clearly communicated.

- We are tracking timely completion of these actions. We've already made some changes to the baseline inspection program. In addition we continue to monitor industry initiatives in this area. We have no planned interaction with the Commission in this area at this point. Next slide, please.
- We're in the third year of the revised operating experience program. We're very proud of the progress and its continued evolution. The program has been viewed by some in the international community as a model community and we are continuing interaction with international counterparts.
- It will continue to influence our regulatory functions by informing inspectors and reviewers. For instance, we have developed smart samples to assist inspectors in their inspection activities.
- We face several challenges. To be effective we need to get the information to the right people in the right time frame. It is difficult to maintain continuity as individuals move to new positions and as they change roles within the organization.
- In addition, we will review more international events. We'll continue to share operating experience with the New Reactor Office to enhance reviews of new reactors and we'll establish additional technical review groups when identified needs exist.

While we have no planned interactions with the Commission in this area,

we appreciate Commission continuing support for the program. Next slide, please.

In addition to our responsibilities for power reactors, we're also responsible for important activities in the oversight of research and test reactors. We worked effectively with Department of Energy and two universities to accomplish the conversion to low enrichment fuel. We also renewed one license.

We also conducted safety and security inspections and performed operator licensing exams. In addition, we implemented several security enhancements.

Over the past several years, we've increased our focus on physical security of research and test reactors and this has caused us to fall behind in our license renewal activities.

We've established new review schedules. We are now working to enhance the effectiveness and efficiency of the renewal reviews and are recruiting additional personnel.

Conversion activities remain a high priority for the research and test reactor program. Near term conversions are on track. However the greater complexity of the effort for high-performance fuels may impact schedules in the long term.

While performing the research test reactor self assessment, we identified a need and implemented an improved initiative to streamline the renewal process.

We'll provide the Commission with the results of our efforts that require approval of significant policy and program change. That completes mine. Jack Grobe is next up.

MR. GROBE: Thank you very much, Bruce. Slide 11, please. The
staff has issued 112 power uprate amendments including five during the past fiscal
year. These uprates have added a total of 4,845 megawatts of safe nuclear

4 electrical generating capacity to the grid.

The five amendments issued in 2006 included four extended power uprates and one measurement uncertainty uprate. The staff met goals on the power uprate amendments last fiscal year with the exception of the Vermont Yankee review.

To ensure safe operation of Vermont Yankee at the uprated power level, additional staff effort was necessary to resolve concerns with potential flow induced vibration effects on the steam dryers. The staff is addressing this issue with the Boiling Water Reactors Owners Group and licensees to ensure implementation of lessons learned regarding a consistent technical approach on this issue in future uprate requests.

Currently, the staff has 10 power uprates under review, including six extended power uprates. An additional 25 applications are anticipated during the next five years. Resource adjustments have been made to assure safe and timely completion of this higher workload during fiscal years 2007 and 2008.

The staff is also performing effective acceptance reviews of applications.

Should the technical information in the application be incomplete, the application is not accepted for staff review.

The staff is assessing and resolving several challenging technical issues

- involved with these uprate requests including flow induced vibration concerns,
- 2 ultrasonic feedwater flow measurement techniques, boiling water reactor thermo
- hydraulic analysis methods, accident analysis issues, and extended power uprate
- 4 testing programs.

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- The staff will provide the next annual power uprate status report to the Commission in May 2007. Slide 12, please.
- Materials performance issues and operating reactors continue to be a safety focus of our staff. We have made progress on a number of issues to enhance the safety performance of nuclear power plants.
 - All pressurized water reactor licensees have submitted requests to enhance steam generator tube monitoring and testing requirements. Over 50% of those changes have been approved by the staff. We expect to complete the review of the remaining applications during fiscal year 2007.
 - Reactor head penetration leakage issues are also being addressed. The staff approved an ASME code case for upper reactor head penetration monitoring that licensees can use to replace the requirements imposed by Order in 2002 following the Davis-Besse head degradation.
 - One emerging issue concerns degradation of steam generator tube supports commonly referred to as bat wings. This issue was identified at one facility and does not appear to be a generic issue.
 - Region IV issued a Confirmatory Action Letter prior to start up from the last refueling outage documenting licensee actions in this regard. The staff is closely

monitoring the operation at that facility and is meeting with the licensee this month

to discuss steam generator inspection plans that will be conducted during a mid

3 cycle outage.

An additional emerging issue concerns flaws identified in dissimilar metal butt welds at pressurized water reactors. All affected pressurized water reactor facilities have made commitments to enhance plant leakage monitoring and timely inspection of the welds or mitigation of the degradation mechanism.

Those commitments will be confirmed this month in Confirmatory Action Letters. Slide 13, please.

The staff, with excellent support from our Office of Research, has made progress in addressing the safety concern with potential clogging of pressurized water reactors recirculating sump strainers.

The Commission was most recently briefed on this issue in October 2006. Installation of significantly enlarged strainers continues and by the end of 2007 virtually all pressurized water reactor plants will have completed the installation of their new strainers.

Additional modifications such as removal of fibrous materials and modifications to pumps and valves are also being made at many facilities. The staff has acknowledged reasonable delays for final completion dates into early 2008 for certain modifications at 11 facilities.

The staff is also conducting audits of licensed facilities and vendor testing to assure early identification of issues, consistent application of expectations, and

timely communication of audit results to affected licensees.

Two facilities have volunteered to pilot the use of different post accident water management strategies that could reduce the likelihood of strainer clogging.

Those pilots are just beginning and will continue into fiscal year 2008.

Although progress has been made, the impact of chemical effects in post-accident environment continues to be a challenge. Plant specific chemical effects testing will not be completed until later this year and this could provide an additional challenge to facilities being able to identify and complete all necessary modifications by the end of 2007.

Finally, in dealing with this issue at pressurized water reactors, substantial additional knowledge has been generated regarding the behavior of various materials and chemicals in a post accident environment.

Some of this new information may be applicable to design and operation of pump suction strainers in boiling water reactors. The staff will complete evaluation of these issues to determine whether additional actions are necessary at boiling water reactors. Slide 14, please.

Following the briefing of the Commission in November 2006, the staff established a digital instrumentation and control steering committee to guide and oversee the staff progress and coordinate with the industry in resolving regulatory issues in this area.

I chair that steering committee which includes senior executives from the other four affected program offices. These executives and their staff are providing

exceptional support toward resolution of the digital issues.

The committee has had several internal meetings with the staff and two public meetings to gain insight and input from the industry. Staff task working groups have been formed to address the major areas of concern which include diversity and defense in depth, communications and human factors concerning the design of highly integrated control rooms, cyber security, risk considerations and licensing processes.

These working groups are conducting public meetings with industry counterparts to gain further industry insights and are drafting project plans to bring these issues to closure. Resolution of the digital instrumentation and control issues will be phased to support regulatory and industry needs for operating and new reactors and fuel cycle facilities to ensure timely staff reviews of license applications and design certifications.

The next internal steering committee and public meeting with industry representatives are scheduled later this month. The staff is planning to update the Commission this summer, I guess June, on progress in this area.

The Commission requested that we include industry and vendor representatives and we're coordinating with SECY on identifying those individuals. There may be policy questions regarding resolution of some of the digital instrumentation and control issues.

The project plans will ensure timely identification of any policy issues and recommendations for resolution will be provided to the Commission. Slide 15,

please.

The staff and industry have made progress in achieving the challenging goals in the Commission's phased approach to enhancing probabilistic risk assessment quality.

It has taken longer than anticipated to develop certain industry consensus risk assessment standards for staff review. Staff review of the industry standards for internal events and early release was completed in January 2007.

Development of consensus standards for external events, fire and low power shutdown, has been more challenging. Submission of those consensus standards is expected during 2007 and completion of staff review is expected in late 2008.

Many licensees have adopted various risk informed improvements to their technical specifications. The staff is currently reviewing methodologies for risk informing equipment allowed outage times and surveillance test frequency. Those reviews are expected to be completed during 2007.

One risk informed rulemaking concerning emergency core cooling system analysis methodology was recently presented to the Advisory Committee for Reactor Safeguards. The committee had several comments regarding the proposed final rule. Resolution of those comments could delay publishing the final rule.

The staff is currently preparing a Commission paper with recommendations regarding resolution of these issues. Slide 16, please.

The staff has enhanced operating reactor safety and consistency of compliance through resolution of fire barrier concerns and clarification of expectations on operator manual actions.

In addition, the staff is monitoring pilot application of the risk informed approach to operating reactor fire safety through the application of the new NFPA 805 standard.

Two facilities are piloting application of NFPA 805 and anticipate submitting amendment requests in mid-2008. Staff review of those applications is expected to be completed in mid-2009.

Licensees for 42 operating units intend on utilizing NFPA 805. Those licensees are expected to submit their applications to utilize the new fire standards after the pilots are completed.

The staff is also implementing the Commission direction for resolution of the spurious equipment actuation concern due to cable failures.

A public meeting was held in February to solicit stakeholder input on this issue and the staff is developing recommendations that would be provided for Commission consideration later this year.

The time necessary to resolve the spurious equipment actuation concern and to implement NFPA 805 will result in the staff seeking Commission approval for revised enforcement discretion authority.

That completes my presentation. I would now like to turn the presentation over to Mike Weber who will discuss human capital issues.

[MR.	WEBER:	Thanks.	Jack.	Good	afternoon.	Chairman.

- 2 Commissioners. Some of what I'm about to discuss will seem reminiscent of the
- presentations this morning since you'll find that both we in NRR and the Office of
- 4 Nuclear Material Safety and Safeguards experience similar challenges in the
- 5 human capital area. If I could have the next slide, please.

- Making certain that we have the right people with the right skills in the right part of our organization at the right time is the principal objective of our human capital program.
 - One of the recent successes we've had has been the reorganization of NRR and the establishment of the Office of New Reactors. It's been a principal focus of our human capital program for the last year.
 - As you heard in last week's briefing on new reactors we've successfully established the Office of New Reactors working with Bill and Gary and their leadership team through a close and cooperative partnership.
 - We've transferred more than 240 technical, administrative, and managerial staff into the new office and we plan to transfer an additional 50 staff over the next year.
 - Meanwhile, we've been working together cooperatively to ensure both offices have the staff they need to complete their mission assignments. The success of our hiring to backfill these vacancies created by the transfers has exceeded expectations and it's kept pace with the projected growth in the new reactor workload as well as continuing to maintain the staff skills and the

managers required to oversee the operating reactors.

We are now resuming since the resolution or the continuing resolution, we are resuming our earlier aggressive pace of hiring and recruiting to prepare the office for current and future work.

We are also working quite diligently in ensuring technical consistency in the regulatory reviews between the two offices. We're doing that through a range of approaches including steering committees, enhanced roles and responsibilities for senior staff members, office procedures, common standard review plans and other guidance documents, peer to peer collaboration and other approaches.

We project Commission involvement over the next year in reviewing the one-year effectiveness assessment about this time next year as well as considering additional organizational adjustments that may be required to support emergent work. Such as might be presented by what Bruce Boger presented on the oversight and licensing of Watts Bar 2 if that comes to pass and other issues that were unknown to us at the time we proposed our last reorganization. Next slide, please.

Now maximizing the talent of our staff is essential to the success of our program. We briefed you on some of these activities at the Human Capital Briefing on February 1st.

NRR has brought on board 300 people since October 2005. We've been able to bring in the right mix of skills to complement the staff that are already in house. Some of the new staff are extremely well qualified with tens of years of

nuclear experience in operations, engineering, risk assessment and other
 disciplines.

And our more junior new hires come to the agency with the latest insights in nuclear research and information technology skills. We find we need both to reach the right complement.

We succeeded in developing and implementing our new qualifications program for technical staff and we're well on our way to developing a comparable program for our administrative staff. The growth and transition has, however, caused a large turnover in the organization, both within the staff levels and within the management team and that impacts the efficiency of office operations.

We're using some of the new reactor resources to backfill or partially cover the cost of the training and the qualification of the staff to replace the regulatory skills of the people who have been transferred to the Office of New Reactors.

All of this requires a substantially greater investment in training, in qualifications, independent study activities, mentoring and coaching to develop not only the basic regulatory skills but also the critical work force skills and to transfer knowledge.

The continued support by the Commission and its strategic leadership is essential to maintaining NRC as one of the best places to work and guiding us through this transition process. Next slide, please.

In order to succeed, we must continue to improve. You heard Jack

Strosnider this morning talk about continuous improvement and that is a policy

that's well embedded within the Office of Nuclear Reactor Regulation.

In spite of the challenges that we face in today's environment, standing still is falling behind. One of the improvements that we've achieved are the two major reorganizations that have occurred in the last two years in the office. These have helped prepare the agency and the office for the growth in workload.

We've also invested in a variety of initiatives to make NRR a better place to work by clarifying roles and responsibilities of managers and staff, by enhancing the acquisition and transfer of critical knowledge, to developing and maintaining bench strength among our technical and our project staff and administrative staff, and to equip the staff with regulatory skills needed to accomplish our mission.

As you heard this morning also, Jack mentioned two critical questions that Bill Kane often asks of us. Why are we doing this? And why are we doing it this way? The answers to these questions are key in guiding our decision-making and fostering innovative ways to improve the organization.

Our challenge to continue to improve is a large one, recognizing the large turnover that we've experienced and it's exacerbated by the space constraints that we operate under both now and projected into the future.

Consequently, your leadership in working with the administration and the Congress will continue to remain essential in acquiring the necessary space and restoring the quality physical environment that promotes office efficiency and effectiveness. Jim.

presentation, I want to reiterate something the Chairman opened up with safety of operating fleet is our highest priority.

Now that NRR is back in the operating rector business only, it is my sole focus. For us it's more than just a slogan or something that we talk about. We have a strategy for achieving it. I think Mike and Jack and Bruce all discussed some of the programs.

The efforts we're going into and looking at as we do it and that's the underlying issue, whether it's through our qualification program, whether it's the execution of our licensing, rulemaking, oversight or incident response responsibilities. This is the fiber of it.

Also we need to recognize that the reactor safety regulation is a team effort.

As you heard throughout the presentations, certainly our work with research, the

Office of Nuclear Security and Incident Response, the Regions, Office of General

Counsel and a lot of the other support offices, we would not be successful without that kind of team effort.

I thank them for all the accomplishments. They deserve great credit for a lot of it in that. Internally within the team work, one of the initiatives Mike talked about is the NRR concept of operations where we put some discipline into primary and backup responsibility within our management team in order that we're focusing on keeping the same team working and becoming a more efficient and effective organization as we go through with expectations for leadership.

That was the basis for the presentations and the break out within the

- executive team today that we made. And lastly, I'd like to reiterate that based on the efforts that we put together in preparing for the transition of the new reactor
- office, NRR is ready to meet its challenges. We're poised.
- We have the staff and management currently in place and we're positioned
- for continued success. However, with the turnover we've had and emerging
- 6 issues that continue with the operating reactor fleet this is an area that's going to
- 7 require our continuous management attention and I want to show you that we
- 8 know that. Let me turn it back to Luis.

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- 9 MR. REYES: Chairman and Commissioners, that completes our 10 prepared remarks. We're now open for questions.
 - CHAIRMAN KLEIN: Thank you for that good overview and presentation. Obviously as we learned this morning, it's been a dynamic year for you as well as for NMSS. I want to ensure you, Mike that we have been working on the space issue.
 - Sometimes I wonder if it's not scalar motion instead of vector motion but there's been a lot of motion. We obviously got sidetracked for the CR because that was obviously a very near term issue. We have not lost focus of the space issue. We haven't solved it, but we're attacking it again. Commissioner Merrifield?
 - COMMISSIONER MERRIFIELD: Mr. Chairman, I think today has been reflective of recent meetings. Most of my comments will focus on my thoughts and not necessarily a lot of questions.

We didn't say anything about this morning but I think it is worth noting, although it is not currently within your purview, Jim. The action of this morning in which the Commission signed off on the early site permit for the Clinton site is a

Last year, we permitted the first new build facility, the LES enrichment facility, we had done in many, many years and through the action of the Commission today we have now issued the first permit for a site to build new reactors.

noteworthy achievement for our agency.

I think that is a noteworthy achievement, one that the vast majority that was under the stewardship that you had in leading the staff and making that happen.

While I didn't make any comments on it this morning, I certainly would want to tip my hat to your current and former staff involved in making an effective review of the safety and environmental issues associated with that facility. I think it is an achievement for our agency, and a demonstration that we have moved forward in a predictable way.

Hopefully, we'll do those a little bit more timely down the road but that not withstanding we did it thoroughly and that obviously is the more important of the two issues from our perspective.

Focusing today, I was reflecting a little bit on when I first got here in 1998 and it was quite a different time. In that day and age if we had a meeting like this, it would have almost been entirely subsumed not by planning for the future but talking about past performance.

We're going to have a separate meeting on the agency action review
meeting and we'll be talking about our disappointment about the trends at Palo
Verde, but when I reflect back and when I got here and Ed had been here for
about a year-and-a-half much of our time was consumed with Millstone.

And having been the former Regional Administrator for Region III, you had plenty on your hands, five units with significant issues going on. It is certainly in that regard a much different presentation we're hearing from NRR today than we did in 1998.

I think that is indicative not only of a lot of hard work on the part of our staff, but I think it really does encompass the fact that this fleet is operating more safely and in fact despite the issues at Palo Verde is operating safely today as it ever has. I think that's an achievement for all of us. I don't know if you want to make a comment on that.

MR. DYER: You're exactly right Commissioner and the only comment I would make is the reactor oversight process as you said we're going to talk about later, its working.

COMMISSIONER MERRIFIELD: It's working. It's demonstrating we know how to oversee these facilities which is what the American people expect. I'll focus on a couple issues in the presentation.

You talked a little bit about the issues and challenges you have right now with research and test reactors. We are going to be losing not too far down the road some experienced personnel in that area.

This is a small but important community for us to keep a close eye to and certainly would encourage anything you can do to make sure that we appropriately staff up and so the colleges and universities that have these facilities, most notably we will have the staff in order to deal with it in a timely way.

On the issue of human capital, I was noting that the comments, Mike, you made, two major reorganizations in the last two years, 300 new hires, 88% of managers and 50% of NRC staff in their position for less than 2 years. That is obviously, extraordinary change on the part of the group.

We have had high expectations and high achievement out of NRR. You all are going, it seems to me, to be hard pressed to keep that up. Certainly, I think you need to completely and clearly articulate to the Commission anything that we can do to assist in that regard.

The evaluation of this agency - I made a number of comments this morning about the importance of NMSS issues and I won't take a back seat on that. I think many times we only focus on the reactors, but the fact of matter is that in our external audience, they do focus on the reactors.

When you go to Capitol Hill that's what they want to talk about. So making sure that the success we've had that we just spoke about continues. And reactors continue to improve and not degrade and certainly we want to make sure we got the resources and people and efforts necessary to make that continue.

So if there are issues the Commission needs to be aware of that we're not fulfilling what you need, I think it is very important that you keep us well aware of

1 that.

Jack, in terms of Slide 11, you talked about some of the issues, acceptance reviews of applications, to make sure that sufficient technical information is contained in the application. Should the application be incomplete, we're not going to accept those. I think that is the right attitude to take.

I mentioned that this morning in our NMSS meeting. The balance on that however is what we talked about this morning. The balance is we need to make sure that we are disciplined in our approach and not ratcheting up our expectations for our licensees.

Our expectations should be clear, you give us a quality - these are the Chairman's words - you give us a quality application and we will be timely, we need to make sure that we are disciplined in that approach and we are fair and clear to our licensees.

Digital I&C, I think there were some comments made about that. I know Commissioner Lyons will probably get into that issue and it's one that we all think is vitally important. The Commission benefited recently from some information by one of our members of the Federal family.

I think there is obviously a lot of complication that is goes into digital instrumentation and control and presents some new challenges and opportunities for us, but I think one of the opportunities that has become more clear to me in the information the Commission received was there are real safety benefits that can be derived from having a greater understanding of the parameters of the reactors

that are being operated; a greater fidelity of the actual operations of the reactor to what is being seen by the operators and I think we need to make sure that that is

in our mind sets as well as we are reviewing these applications.

So I look forward to seeing more about the progress that you all are making in concert with our stakeholders and hope that we really can get that issue to bed.

Final comment is relative to NFPA 805. I was happy to hear the progress we've been making with our licensees and getting buy-in on that process. As folks know, that has been a major one for me over the years, and encouraging. I think it's a real success story for risk informed regulation. And certainly hope we can partner with all of our stakeholders to make that a real success. Those are my comments. Certainly, if you want to respond to any of that, I want to give you the opportunity.

MR. DYER: Commissioner, I think the one question you asked about all the reorganization and the turmoil transition that we are in right now and it was a subject that came up this morning when you were dealing with Jack Strosnider as far as the budget support.

Right now, we don't have a problem with resources because I control the purse strings with Borchardt and everything, but we have not transferred that yet.

But as we go in the future -

MR. REYES: But I'm watching.

21 COMMISSIONER MERRIFIELD: So are we.

MR. DYER: As we go in the future, the effectiveness of the

productivity of the individual staff has declined and we are monitoring it closely.

The NRR for instance, the NRR budget model, with a mature organization prior to the hiring increase was a little over 1,400 hours of direct work for every FTE. What we are seeing now is somewhere below 1,200 hours out of every direct FTE spent.

We've been able to accomplish our core work because in the last two years, the Commission has been successful in getting supplemental funding to support the growth and enhancement.

The one concern I have going forward is as we split off and we get back into the more separate and in a production mode with the new reactors, I think we just need to recognize that there's going to be a period of time and we think it will be about two years tops for transitioning back to when we are in a more mature, stable organization.

But as we continue to grow, our productivity because of the increased hiring that we've had is going to suffer.

COMMISSIONER MERRIFIELD: Yeah, yeah. I will say one of the things that's not in the public domain, but a backup slide you gave us, is the age of the NRR employees. You need some time to get them up to speed.

Seventy percent of your employees are still over the age of 50, so we are not talking about a majority of folks who are fresh out of college.

We've got a lot of experienced people here and while they may be new to the organization, I don't think that the Commission should nonetheless not expect

that they're going to contribute pretty quickly.

You've hired an awful lot of people, either within the agency or outside of the agency who have significant industry experience. Those people should be able to contribute, maybe not from day one, but from day 10.

MR. DYER: Our target is about six months to get real work, as opposed to an entry level from the NSPDP program which is about two years.

COMMISSIONER MERRIFIELD: Thank you, Mr. Chairman.

CHAIRMAN KLEIN: Thank you. Commissioner Jaczko?

COMMISSIONER JACZKO: I just want to follow-up with an issue that Commissioner Merrifield raised earlier with the NFPA 805 and the risk informed fire protection regulation which right now is a voluntary regulation and I think as the slide indicated there are 40-some units and not sites are looking to move forward, so that leaves about 60% of the fleet that is not moving forward with NFPA 805.

While I agree with Commissioner Merrifield, I think that's a good program and one of the things we have to figure out is how we get more people into that to commit so we get closer to 100% of the fleet.

I guess my question in that is how does your staff see dealing with the remaining 60% of the fleet right now that is not planning to go to NFPA 805 and dealing with a lot of the issues for instance the withdrawal of the manual action rule and those kinds of things which will continue to present regulatory challenges for that segment of the fleet?

MR. DYER: I'll start it off. I think in a nutshell, the discussions that

- l've had with industry executives and that is that they are really looking to the
- pilots. If the pilot program is a success, then I think they are going to line up. I'll
- 4 let Jack provide you more details.
- 5 MR. GROBE: The only additional comment I would make, Jim, is that
- the licensees that decide not to transition to NFPA 805 are the ones that don't
- have any challenges with compliance with the current regulations. There's no cost
- 8 benefit to them to put in the resources to transition.
- 9 COMMISSIONER JACKZO: Of the 60 remaining units, how does
- that break down generally? Are all 60 really plants that don't have issues?
- MR. GROBE: I don't really have good data for you on that. We could
- get that for you.
- 13 COMMISSIONER JACKZO: If you could I'd appreciate that. That
- would be helpful. Certainly, I think that's good to know that we're really getting the
- plants that have greater problems right now complying with our existing
- regulations.
- I still of course have some concerns as we wait to see how the pilots go, I
- think you indicated the pilots may not be complete until FY09, fiscal year 2009, so
- we're still a couple years away from really putting these issues fully behind us. I do
- 20 hope we can continue to move forward on these.
- I have a question I wanted to ask on the Watts Bar issue. Now that this is
- becoming more and more of a possibility that we may be considering resumption

- of construction activity at Watts Bar I went back and looked at the record for Watts
- 2 Bar. They were issued a construction permit. An operating license hearing was
- 3 initiated back in 1976.

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- My question, I guess on this is does the staff currently plan to re-notice an
- opportunity for hearing on the operating license for Watts Bar?
- MS. CYR: We're looking at that issue because it is very old and trying to look if there is any Commission precedent that applies to that. I don't think we've reached a final decision on that but clearly is an issue we have to address and probably come to the Commission with.
 - COMMISSIONER JACKZO: I will take this opportunity to throw my thoughts on the table. In 1976 they need to put this in perspective and I think it's clear for the record that there was an opportunity for a hearing. There were no admitted contentions.
 - So as of now there would be no hearing and under the old Part 50 there is no mandatory hearings, so there would be no hearing if we stuck with that.
 - In 1976, I was in the first or second grade and I actually haven't gone back and figured what it was. I'm a product of public school education. And while I think the public education system is pretty good, I don't think we were providing curriculum's in the first and second grade for people to file and to be meaningful participants in NRC licensing proceedings at that time.
 - I think this is really an issue that is going to be an important issue and I certainly would lean very heavily towards us re-noticing an opportunity for a

1 hearing here.

I think given the nearly more than 30 years since the time that that hearing was initially noticed, I think would favor very heavily in my mind towards us reopening and reissuing that hearing because as I said I don't think we can have an expectation that people who would be involved in that hearing process now are people who would have had an ability necessarily to be involved early on.

I think the public should have a fair opportunity to be involved. I have some other questions, but I will save those if we have a second round.

MR. DYER: Commissioner, if I may make a comment on Watts Bar.

With respect to that, this morning I signed a request for a minimal amount of resources to be reprogrammed to start what I will call the pre-application or just the contingency.

Should they decide - their November letter asked for involvement and we are starting to take a look at asking those kinds of questions, working with OGC trying to figure out – we have to recapture the documentation from back there and it was all pre-ADAMS, it was on the NUDOCS system.

There's a lot to just support the look and the feasibility study that TVA is undertaking. We're going to start doing a little bit of work in that area and if we have policy issues that we recognize that TVA is relying upon to do their feasibility study, we will bring those to the Commission.

COMMISSIONER JACZKO: Good. Thank you.

CHAIRMAN KLEIN: Commissioner Lyons?

1	COMMISSIONER LYONS: Jim, whether it's in a meeting today or in
2	our periodic meetings, I very, very much appreciate the very apparent dedication
3	to safety of the operating fleet that you demonstrate.

In those meetings you demonstrate today and that your staff demonstrates,

I think it is just an absolutely vital contribution to the Nation.

To comment briefly on the point that Commissioner Jaczko was just making, I would support that there needs to be, I don't know exactly what it is, and I appreciate that OGC needs to evaluate it, but I can well imagine that there needs to be careful consideration given to some appropriate form of hearing as we go back to an action that took place so long ago.

I was not in first grade in 1976, but I still think that it's quite appropriate that there be some opportunity provided.

By way of just a few questions, I've been very, very interested in the operating experience in general and I'm very impressed with the quality of our program. In some of the background material that you gave, and I'm not quite sure to whom I should address this, there was a discussion of the so-called smart sample in which as I understand it our operating experience program is providing information in a form and format that is directly applicable to the inspector's use.

I was just curious how that is being received by the inspectors; if we can point to any particular examples of how it has performed in a beneficial way. It sounds very positive to me.

MR: BOGER: I wish we could give you a lot of positive feedback.

It's a fairly new program. We have three of the smart samples out there. The informal feedback that I get through e-mails is very helpful.

What it does is it helps shape an inspector's inspection by providing the samples, the multiple samples, that are designated in an inspection procedure. It saves them a little work and it also helps us focus our attention. It's too early to tell.

COMMISSIONER LYONS: It certainly sounded very positive. I don't know if any one else wanted to comment on it.

MR. DYER: I think I was watching the NMSS session this morning when the Fort Calhoun issue on the cranes and the heavy load lift issue came up. So, we were just saying what if we get that question.

COMMISSIONER JACZKO: It's on its way.

MR. DYER: One of the things we decided to do because of the Fort Calhoun issue as well as a number of other heavy load lift issues we identified when we were doing the inspection for new reactor vessel heads and some recent crane maintenance issues is first of all, we revised the inspection procedure for fueling outages to make crane and heavy load lift part of the review, the inspector's review, when they go into an outage.

Secondly, we called all the licensees that were going into outages this spring and gave them a heads up that we were going to be doing this.

Thirdly, we convened a knowledge management/knowledge transfer effort earlier this week where we had all four regions, either by video conference or in

person, and to review the recent findings of that.

And then lastly, we did send out what we call a smart sample on issues to look for when you are doing your reviews of the refueling outage operations and conduct of heavy load lifts so we can educate our inspectors and make our inspection efforts more effective.

COMMISSIONER LYONS: All that sounds very positive. Another question on grid stability. The Commission has been involved with FERC. There was a recent generic letter and the response is there, too.

I'm just curious if you're at a point where you can say whether you anticipate additional actions that will be needed on grid stability as we go into the summer season or is it too early to ask?

MR. GROBE: It's not too early to ask. We do not anticipate any additional actions on the part of the utilities. We expect some additional actions on the part of our staff.

We revised two of our inspection procedures to give us additional information and assurance of proper handling and preparation for the hot weather season.

COMMISSIONER LYONS: Okay. Very good.

MR. DYER: Commissioner, what we did is we transitioned – the previous three years, we had done a special TI or temporary instruction for the inspectors to go out and reactively look at preparations of the grid for the summer season. What we've now done is put that into the routine inspection baseline

inspection program as part of hot weather preps.

MR. REYES: We have included every day when we call the control room, we now get feedback on the status of the grid and the switch yard. Every morning, the first thing I do I check Nationwide and we know exactly at which plant there may be a line issue, a maintenance line, transformer issue, when they are planning or expecting large demand, etc. etc. We're in a different place now.

We're in a different place.

COMMISSIONER LYONS: Very good.

CHAIRMAN KLEIN: Thank you. Speaking of feedback, it seems like we're getting some kind of feedback in here as well. A question I guess for Jack.

When you had commented on the dissimilar metal butt weld, I probably know just enough to be dangerous, but I don't get a warm fuzzy feeling that EPRI or NEI really has a handle and is being as proactive as I would prefer on looking at that weld. Could you give me some more comfort?

MR. GROBE: Sure. In the fall of 2006 outages, the materials reliability project which is part of the overall umbrella of materials focus for the utilities, did not respond as quickly as they would have liked to have responded to the Wolf Creek issue.

They conducted a lessons learned activity several day seminar for all of the utilities as well as the staff. We participated in about a half day of that to provide a regulatory perspective.

They're anticipating a much more focused response activity to any findings

that come up in the materials arena, not just dissimilar metal butt welds but more

2 broadly in the materials arena.

NEI and EPRI are aggressively pursuing this, as the matter of fact we had

our first interface meeting with them yesterday on a fairly complex

three-dimensional finite element analysis of the Wolf Creek findings.

The industry believes that there is margin available. It's just that the calculational techniques that we used so far did not bare that out. This is a first of a kind analysis.

The software that they're modifying will not have been benchmarked so we're going to be doing some fairly extensive independent analysis with a different software package and we expect over the next several months that that activity will be ongoing.

We're going to have regular meetings with EPRI and NEI on that activity.

We briefed the ACRS yesterday on this issue; actually, I'm sorry, it was Tuesday.

The ACRS is very interested in this new calculational technique. They're engaged.

They're moving forward on addressing the dissimilar metal butt weld questions.

MR. KANE: If I could add to that. NEI is interested in actually going in and getting the Wolf Creek, cutting out the welds and examining them.

They intent to engage over the next month or so the Wolf Creek licensee as well as the rest of the industry on an approach to do that because there is - the outcome is not certain at this point but there is an interest on their part in doing it because it will add to our knowledge base in exactly what happened there,

- whether it's a different phenomenon or whether it's something we can learn from
- the inspection techniques that was used to characterize the weld. There is
- 3 activity there.
- 4 COMMISSIONER LYONS: I'm surprised by your comment, Bill,
- because I thought Wolf Creek had already repaired the welds and there was
- 6 nothing left to check.
- 7 MR. KANE: I didn't add the rest of it. If such an activity did occur, it
- would happen in '08 at their -.they did overlay it, yes.
- 9 MR. REYES: Let me answer your questions. You will have to
- remove the section. You would have to remove it because once you do the
- overlay it's difficult to take the boat out.
- MR. GROBE: There's different views on the impact of the overlay.
- The overlay will put the crack in the compression. There's different views from
- different metallurgist as to whether or not that will make it more difficult to interpret
- micrographics examination of the cracked surfaces.
- All of this issue is ongoing, but the crack will have been putting
- compression because of the installation of the overlay. The overlay makes it more
- difficult to collect the sample so there's a number of technical issues that are still
- being resolved.
- 20 CHAIRMAN KLEIN: It was my understanding similar to that that they
- 21 did do the overlay, so the problem with Wolf Creek in terms of it's not an issue for
- safety. I think everyone agrees with that one. My concern is that there appeared

- to be still additional information one could obtain if you take that section out and
- 2 examine it in detail.

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- MR. KANE: Exactly. That's the scope of there interest. There's never a problem once they overlaid the weld.
- CHAIRMAN KLEIN: My question is there seems to be still some
 discussion ongoing as to whether they're going to remove that part. That's what's
 troubling to me.
 - It seems to me if there's agreement that you would obtain additional information by removing that section, doing a detailed examination; my question is why aren't they doing it?
 - MR. REYES: It's a matter of cost and impact and they haven't made that decision.
 - CHAIRMAN KLEIN: At their normal scheduled shutdown, I understand why they wouldn't want to do it when it's operating. But at its next scheduled shut down, it seems to me that it would not be a question of removing it, that they would have made that decision. That's my perception of not forward enough leaning. Am I missing something?
 - MR. REYES: It's still a scheduled issued for the normal outage and whether you can take a boat sample or do you have to cut the whole nozzle. It's a different impact. I think Jack addressed that. If you're going to do it, you might as well do it right to get the knowledge out of it.
 - The biggest impact you actually cut the nozzle right above the pressurizer

- and underneath the safety relief valve and whenever you're cutting in the reactor
- 2 coolant system you don't want grinding to go inside its an impact.
- MR. GROBE: Dealing with the dissimilar metal butt weld findings at
- Wolf Creek was particularly challenging due to the absence of data. It would have
- 5 been very helpful to have that boat sample.

did the weld overlay repairs.

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- MR. DYER: Chairman, I think on a more programmatic level I think
 the industry has learned a lot of valuable lessons from Wolf Creek and the
 subsequent interactions with NRC because at Duane Arnold on a jet pump riser
 dissimilar metal butt weld there was a very aggressive approach taken by the
 industry that rapidly got the NRC on board to gather the information before they
 - In fact, we were able to disposition the issue. It wasn't a new phenomenon.

 In fact, it was a performance problem with where they'd missed a crack earlier in a previous inspection.
 - We were able, once we understood what the problem was, we knew how to go out and address that with other licensees and have them review their weld data. The problem at Wolf Creek, as Jack said, they didn't even keep good data.
 - CHAIRMAN KLEIN: It's nice to see lessons implemented instead of just lessons learned. Thanks. Commissioner McGaffigan?
- 20 COMMISSIONER McGAFFIGAN: Thank you, Mr. Chairman. One
 21 issue that came up this morning, I talked to folks afterwards about and I hope
 22 you're prepared for Luis, is prioritization of people getting clearances.

My suspicion is that NMSS and NSIR probably need to have people with
non-blue badges pretty rapidly - I mean non-red badges pretty rapidly whereas
NRR and NRO and large chunks of it can properly deal with red badges because

they're not dealing with security issues. That's probably true for FSME.

that is a torturous path.

all of whom need clearances, do we say these folks from NMSS are our priority folks and you can take a little longer with the folks who work for Bruce Boger?

MR. REYES: We have the capability but "expedite" has a different definition to you then it has to them. What happens in certain of our particular positions, and NMSS is a supreme example, if you have to get a "Q" clearance,

Do we communicate to OPM. If we're hiring 400 people a year, presumably

It's not the fingerprint review, it's the background check; you have to go and interview the neighbors -- we're bringing everybody on board with a waiver and a red badge.

COMMISSIONER McGAFFIGAN: I understand. That's 145B.

MR. REYES: We give them all the employee training and get them moving and it takes a long, long time to get clearance, especially if it's a "Q". We do have the capability. It's on the top of the list. Let me tell you what happens in a practical sense.

COMMISSIONER McGAFFIGAN: I don't want to have too many folks, but I don't think even within NMSS it's largely Pierson's division that needs this prioritization. I would urge you, if we're just popping things over to OPM and

saying here's our 400 people, let us know when you get to them. We could be

2 miss-prioritizing ourselves.

3 MR. REYES: let me tell you what happened. It's all about execution.

It goes to a local office. If you happen to live in Alabama and that's where they're

5 doing the interviews for your neighbors and all that stuff, depending on how the

6 field office is in man load and work has a lot of impact on the speed if you used to

live in Massachusetts.

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We can call for expedited and we can give it a priority, but it comes down to execution with the field offices and how much work they have and it varies from place to place.

COMMISSIONER McGAFFIGAN: I just urge you to try.

MR. REYES: It's a good point.

COMMISSIONER McGAFFIGAN: Some folks need it faster than others. Bruce, you mentioned the GEIS on license renewal and I just would tell you that it's likely to be a very big deal where you'll have to work very closely with Karen's operation because we already have a Petition for Rulemaking from the Massachusetts Attorney General that's relevant to that.

The security issue is likely to come up whether we should have security as part of an EIS because it's a ninth Circuit decision. You're likely to get a lot of comments that aren't just on the yes, we agree with the latest technique for determining blah-blah.

Which is I think what our staff who traditionally worked in that area and our

- contractor at Argonne probably are used to. That's a big deal. You have it correctly on your list of challenges.
- 3 MR. BOGER: We accept the challenge.

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- COMMISSIONER McGAFFIGAN: The timing I guess was Bruce 4 also, the timing of how your metrics for licensing actions. I was happy to hear that 5 you're now doing it monthly as opposed to yearly. As I understand the old system 6 7 and we talked about this last year, I think Jim was getting to the bottom of it about this time last year, if you are unlucky enough to apply on October 1st then your two 8 years didn't expire really until two years 364 days later and I hope - and Jim was 9 exploring the possibility of having running tabs on this stuff – it sounds like that's 10 11 where you are today.
 - MR. BOGER: Your understanding is correct and we are trying to bridge that gap so we do it on a monthly basis.
 - COMMISSIONER McGAFFIGAN: I hope we can go to monthly and you guys can check we're 90-odd% done in the last year, we're 100% done in the last two years from the day they started as opposed to if I'm a smart licensee I make sure I get my application in on September 30 and then I really have a two year we should never have been there and I'm glad we're not.
 - I'll just ask one more when people look at the improvements in PRAs, improvements quantitatively in terms of core damage frequency calculations, we know we're going to get a boost as a result of our security improvements and people have been commenting on that at conferences.

Things like the improvements we make in sump strainers and other things.

You're sort of in a continuous improvement organization, subject to the backfit rule.

Do licensees ever tell us the results of we think our PRA, our core damage frequency, has gone from two times 10 to the minus five to one times minus five as the result of blank, blank, blank, and blank.

MR. REYES: I can't say in every case but there are some very significant cases for whatever reason they haven't been published. Several PWRs, pressurized water reactors, have added make up capability with the distinct purpose of giving them a lot more flexibility but it has significant increase in the PRA to the point that we have plants now that if you do the calculation for the PRA for our Management Directive 8.3 and they had a steam generator tube rupture, in some cases it will tell you yes, you have to do an Augmented Inspection Team.

In other words, you don't have to do it because they have so much make up capability. This is a huge number increase that has happened. Does everybody tell us? I don't think so. But we are aware.

COMMISSIONER McGAFFIGAN: I know there's always delinquents and NEI represents 104 plants including some who are probably not as invested in PRA as we would like, but you would think that it would be in the interests of the industry to at least give average numbers or something as to if there are improvements happening. I suspect there are.

1	I strongly suspect that once all the B.5b stuff is in place they're going to
2	have numbers in many cases that knocks your socks off.
3	CHAIRMAN KLEIN: Commissioner Merrifield?
4	COMMISSIONER MERRIFIELD: Mr. Chairman, I thought it was
5	interesting. I was listening to Commissioner Jaczko and I think in 1976 I was in
6	sixth grade. Luis, the joke was funny the first time.
7	At that point, we were in New Hampshire. I remember that year, we had
8	actually gotten a traveling road show from the folks at Seabrook Station Nuclear
9	Power Plant talking about all the benefits that Seabrook would have for the State
10	of New Hampshire at my middle school.
11	The issues of nuclear actually were pretty much on our minds, but I was
12	sixth grade. I hadn't thought about Watts Bar in that regard, but as I was listening
13	to your comments, I think a couple things sprung to mind.

Obviously, the Commission's going to have to review what the staff comes up with and I don't know when that papers coming forward, but it struck me that there some things about this that are slightly different.

One of them is the reactor is more than halfway complete. Civil construction is complete. They did in fact receive their construction authorization and there has been an operating reactor at Watts Bar 1.

It's been operating since 1996, so it's not as if - at least the way I would look at it - it's not as if we have a green field site which has had no reactor operations in the intervening time period.

In this case, I think the people know about the reactor because it's there. I think those things would certainly influence me. The other thing I think I would say on that score is clearly by action that Congress took in having us go toward a one step licensing procedure, it was Congress's intent to inject a degree of discipline in this agency in predictability.

Once you had a one step license, combined operating license, you would have the ability to put that on the shelf and use it for many years to come. I think consistent with that approach would seem to me one could make an argument in an instance where you have a licensee that had a construction operation license, where they have a currently existing reactor, where the local populace is well aware of those operations the notion that you go ahead and reopen that earlier proceeding, I'll wait to see with the staff has to say, but I think for me personally, that would be a very, very high threshold.

I would also say, we've bounced around - and I think the Commission has before it now - on the notion that there may be an opportunity for the Commission to do a proceeding, mandatory proceeding, during a combined operating license process.

It would seem to me, and again depending upon the recommendation taken by the Commission and the task force that I'm working on right now is looking at some of those issues, but if you had a fairly straightforward disciplined opportunity for the Commission along the lines of what we did with Brown's Ferry Unit 1 to hear from the licensee, to hear from our staff, that might be an opportunity to have

some issues aired, but for me personally I appreciate hearing your comments on that.

I think for me personally I would probably look at it a little bit different. As I said I think the threshold for that with our staff would be for me pretty high.

The other one I'd comment on is NFPA 805. I can appreciate

Commissioner Jaczko's comments. It's funny, looking at it. I remember back

when we first adopted NFPA 805 and we were very, very happy that we finally got

Duke to signed up to be the first one to test out the procedures. I think for a long

time there we thought no one was going to and that was a real disappointment.

I like the way you're thinking in terms of hoping more sign up, but looking at it from the glass being half full, the 40-whatever we have right now is a whole lot better than the one that we had when it first came out. Thank you, Mr. Chairman.

CHAIRMAN KLEIN: Commissioner Jaczko?

COMMISSIONER JACKZO: I appreciate Commissioner Merrifield's comments and I think and again going back to the Watts Bar issue, it is important to keep in mind what happened and what transpired at Watts Bar.

For Watts Bar Unit 1, they were in a similar situation to Watts Bar Unit 2.

They had an operating license which there were no contentions. They were, I

believe, weeks away from having an operating license issued in 1985 and then a

whole series of allegations were raised, allegations which turned out to be

accurate which caused that proceeding to be delayed and caused us to completely

rework the issues at Unit 1, to take another 11 years to finally actually issue that

operating license.

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I think for us to go back and rely on a proceeding in 1976 where with Watts

Bar Unit 1, although we did not reissue an opportunity for a hearing, clearly there

were significant issues that had not been identified and had not been caught in our

process until a large number of whistleblowers came forward and raised significant

allegations.

I do think that the record of that particular decision is not necessarily probably one of the strongest in this agency's history.

COMMISSIONER MERRIFIELD: I'm sorry, I'm confused. My understanding is you had asked that we go back and look at the construction license.

COMMISSIONER JACKZO: No, the operating license. A notice of opportunity for the operating license was issued in 1976 -

COMMISSIONER MERRIFIELD: For Unit 2?

COMMISSIONER JACZKO: For Unit 2 there were no contentions admitted by the Appeal Board. So as of right now, there is a docket open for the operating license as well.

Contentions would have to follow - that would be subject to Commission's determination but I think picking up the process, they would be subject to late file contention requirements since they would be considered; any contention would be late file contentions.

I don't think that's inappropriate threshold given the status. The

- construction permit I think is certainly another issue but I'll try and pick off the
- 2 low-hanging fruit which is the operating license.
- 3 CHAIRMAN KLEIN: The good news since GC got complimented
- 4 twice today, we should point out, which is a rarity, I'm sure that they will come up
- 5 with a very thorough recommendation.
- 6 MR. REYES: It may be time to close down the Commission meeting.
- We don't want to do it three times.
- 8 COMMISSIONER JACKZO: If I could touch on a different issue at
- 9 this point. Jack, you touched on this a little, on the GSI 191 and sumps.
- The Commission had a lot of briefings on this and I think we've had a lot of
- opportunities to discuss this, but I think we're getting closer now. We are in 2007,
- so the December 2007 date for the responses to the generic letter on that issue -
- that deadline is coming closer to being a reality.
- I guess the question I would ask is where do we stand with the issue of the
- chemical effects? I think you mentioned that there is some testing that will be
- going on this summer.
- The industry is intending to do, I think along the line of the Chairman's
- questions on another issue, I don't necessarily have a good sense that the industry
- has totally grasped the chemical effects testing and is really working hard to get
- that resolved.
- I guess the question I'm really looking to see is, one, the testing is
- happening as I understand it this summer or late fall. Are they going to have

enough time to take that information and incorporate it into the generic letter responses or are we expecting a request for an extension of the responses to the

generic letters.

I understand that although we are granting extensions for completion of the physical activity, we're still anticipating all the generic letter responses coming in December 07.

MR. GROBE: That's correct. We're expecting all the responses by
the end of the year. There's several topical reports that addressed the issue of
sump effects.

One is a Westinghouse topical that essentially defines a methodology for generating surrogate materials for doing the testing and that's out there.

There's other topical reports on downstream effects and other aspects of the sump strainer concern. Some of those are going to be submitted next month.

There's a number of testing. Each licensee has to do vendor testing.

Testing at their vendor shop. It includes a variety of tests, including chemical effects testing and they are utilizing these topical reports in doing this testing.

A number of utilities are having difficulty with the loss of net positive suction head due to pressure drop across the strainer, due to chemical effects. They're looking at a variety of solutions; replacing buffers, changing materials, a whole variety of solutions and it's somewhat of an iterative process and that's why it's taking longer.

The testing won't be completed - some utilities are in good shape. Others,

the testing won't be completed until later this year. We are expecting the responses to be complete.

There may be examples and I can't quantify this at all, but there may

examples where licensees just decide they have to make modifications to the

facility and they just can't plan it and execute it in time to have it done by the end

of the year. We'll have to wait and watch.

MR. REYES: If you go down where the rubber meets the road. If
you go to the spring outages that are going right now, a lot of licensees are not
waiting.

They know that some of the insulation they have will be problematic and they're just removing it or replacing it. Parallel with the testing, I think John gave a good summary of the testing, but parallel with the testing in the real world there are some real actions being taken on just anticipating that we know there's some particular installations that are more troublesome than others and that replacement is ongoing in parallel.

MR. GROBE: If I could add one more thing, Luis. The vast majority of the licensees will have their complete strainer installed by the end of the year.

There's a small handful of licensees that will have certain sections of the strainer that haven't been installed yet but the majority of the strainer will also be installed. By the end of this year there's going to be substantial additional capacity at every plant, so substantial additional safety margin.

- wrong, part of the margin of the strainer is to account for possible chemical affects
- of clogging of the strainers themselves?
- MR. GROBE: That's right. One of the ways to deal with that is to
- 4 increase surface area.
- 5 MR. REYES: Surface area. The answer is surface area.
- 6 COMMISSIONER JACKZO: Thank you.
- 7 CHAIRMAN KLEIN: Commissioner Lyons?
- 8 COMMISSIONER LYONS: Could I start with a question to Jack
- based on your response to the Chairman about Wolf Creek.
- If I understood it correctly, it set off a bit of an alarm with me. I think you
- said that EPRI is doing a 3D calculation of crack propagation in the butt welds.
- 12 Then I think you said and because there is limited experimental data, we are
- benchmarking that against another software package.
- Just in general, the idea of benchmarking a code against another code
- makes me very, very nervous.
- MR. GROBE: I understand that. Certainly this type of an analysis
- could not be used to support a regulatory decision, like a licensing action or an
- exemption or something of that nature.
- We had to take a position, a regulatory position, regarding the rapidity with
- which the licensee was going to go in and take a look at these welds and we
- concluded that December 31st of 2007 was an appropriate date to get all that work
- completed.

That was based on a series of 24 different analyses that we did with

2 different assumptions using the codes that we had available to us at that time.

There are substantial potential conservatism's in those analyses.

There are potential non-conservatisms in those analyses. That's the best information we have. The Wolf Creek cracks were different than what was expected and absent metallurgical samples where you could actually understand what was going on at that cracked surface, it's difficult to further refine the calculations. EPRI is undertaking this effort supported by the industry to do a more sophisticated calculation that requires changes to the code and how the cracks propagate and how the residual stresses manifest themselves.

There isn't sufficient data to benchmark that code to certify that that code is accurate. We're going to have to make a reasonable effort at trying to interpret that data that the codes going to generate, not data but analysis results.

And to further inform our ability to interpret we're going to use a separate code, make similar modifications to analyze the issues correctly using our contractors, and that will simply give us additional insight as to how to interpret the results EPRI is coming up with; not for regulatory decisions, but to inform us as to whether or not we could have reasonable assurance that 2008 dates are supportable in lieu of 2007.

COMMISSIONER LYONS: I do appreciate the caution with which you're approaching this and you clearly resonated immediately with my concern, but the whole idea of benchmarking a code against another code really, really

scares me. None of these codes is been adequately verified.

- MR. GROBE: Neither of the codes will have been verified for this
 new approach. Benchmarking was the wrong word. I apologize for that.
- COMMISSIONER LYONS: I guess this increases my level of

 concern with the line of questioning that the Chairman was following and certainly

 include me as one also who has real concerns in this area.

I think to the extent we need to err on any side it better be on the very conservative side. We all know that the right approach would have been to take those samples up front and we wouldn't be having this discussion but given where we are, I think we need to be very conservative. I'll stop with that.

MR. GROBE: We appreciate the interest the advisory committee has taken in this because they have a wealth of experience and knowledge that can further inform our consideration of the issues.

CHAIRMAN KLEIN: Thanks, Pete. I think my concern again, is the fact that if there is valuable data that we can learn by removing that section and again that's where the metallurgists need to come in and verify that. But if we can, my question will come back, why not? I understand cost, schedule and all that.

MR. REYES: It can be done. There's no question about it. The question is the cost associated with it.

CHAIRMAN KLEIN: Shifting gears and I think Bruce was the one that might have talked about the backlog of license renewals for TRTRs. I'm sure it won't surprise you having been part of that community for a long time, I'm always

- concerned about the stepchild in terms of attention because we give a lot of 1 attention to the power reactor but there is that other element that plays a very vital 2
- 3 role.
- Again, I don't think there's any safety issues, I guess I'll just ask a question. 4
- Are we putting the right resources to remove the backlog? Again, I don't think it's 5
- a safety issue, but are we putting enough resources in the TRTR part of the 6
- program? 7

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- 8 MR. BOGER: We've taken the resources and we've reestablished 9 schedules and we're going to go after those schedules. We're looking for 10 additional resources to help us improve the efficiency and effectiveness of the 11 process. We think that if we get a better way of doing the license renewal so that it doesn't take as long or we do it differently, I think we might be able to achieve 12 some quicker reviews. 13
 - CHAIRMAN KLEIN: I think that program is like everyone else. It's like Jim had indicated earlier; are we asking the right questions and are we doing it and is there a better way to do it, applies to that area as well.
- MR. BOGER: Your support and your interaction with the branch was very important. 18
 - CHAIRMAN KLEIN: Thanks. We spent a lot of time on training, so another training question. If Watts Bar 2 comes up, how confident are you of our inspectors, training and getting our inspectors?
- MR. REYES: The basics of the inspection they're going to do is not 22

too much different than we've been doing for a long, long time. What I think is
going to be key and it's a lesson we'll learn through the years.

I was involved in the licensing of Unit 1 so I can speak from firsthand
knowledge. The third time they tried is we're going to deploy resources and you
talked about resources.

We're going to deploy resources early on so we're there when all the activities are going on. Traditionally that has proven to be the smart thing to do.

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Now, Commissioner Merrifield mentioned several structures are there, the large components are there. It's going to be a lot of electrical work that they have to do. And then of course it will be a lot of testing of the systems.

We have a lot of knowledge on that. We have a good set of resources that know how to do that.

13 CHAIRMAN KLEIN: Thank you. Commissioner McGaffigan?

14 COMMISSIONER McGAFFIGAN: On the issue of licensing actions,

15 Bruce, you over exceeded your goal last year. That's a measured one. How did

16 we do on topical reports in terms of processing them in a timely way?

MR. BOGER: I'll have to get back to you on that. We weren't where we wanted to be.

19 COMMISSIONER McGAFFIGAN: Is that because we don't measure 20 it as well?

MR. DYER: No, sir. We have a goal of 50 topical reports and I think we have 36 issued, so we did not meet our metric on topical reports.

COMMISSIONER McGAFFIGAN: So v	you need to look at the

- balance between the metrics and maybe it was more important to get the extra
- 3 licensing actions done, but that's just something I'd urge you to make sure that
- 4 there is the appropriate balance.

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- MR. WEBER: Commissioner, if I could add. We also had some vacancies that we were trying to fill during the year that took away from -
- COMMISSIONER McGAFFIGAN: I understand. That's this issue of productivity that you all have been raising. I think appropriately we can expect the NRC in the next few years.
 - At one point in the presentation I think somebody mentioned 40% of the NRR staff have been with NRR less than two years. Seventy percent are over 55, so apparently you're bringing people in who are over 50. Seventy percent are over 50 but just because you guys have problems. When there's that much churning in an organization, I don't expect the same degree of productivity. But I just know that everybody has been complimenting you today.
 - I do think that one place where we could improve is communication with the public about certain actions. The other day we dumped all our annual assessments out there.
 - I don't know whether <u>Inside NRC</u> publishes this next Monday or the following Monday, they'll to the press release that we should have done, which is of the 104 units, X are in column one, Y are in column two and somebody in column C. I don't believe we ever do that. We just dump them out unless Mike

has. 1

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- MR. WEBER: I thought we did a press release. 2
- 3 MR. REYES: Commissioner is bringing a different point. I
- understand your point. 4
- COMMISSIONER McGAFFIGAN: The press release was we issued 5 the assessment letters. Find them. Good luck. 6
- MR. REYES: It is on the web page by category, by table. Your point 7 8 is very well taken. We did not convey that.
 - COMMISSIONER McGAFFIGAN: I think you could do well to have a summary press release and where the whites and yellows are.
- 11 MR. REYES: It's a good story -
- COMMISSIONER McGAFFIGAN: Another place where I didn't like the communication from NRR in the last year was when the Swedish event 13 occurred, the other European nations like the French seemed to be able to jump 14 up and down and say it doesn't apply to our units very rapidly. I thought we were 15 a lot slower to communicate. I know they have more uniform units, there's always 16 that excuse. 17
 - MR. REYES: We wanted to make sure before we jump when we say it doesn't apply to us, what you're going to find out is we want to really understand it and ask a lot of questions.
- COMMISSIONER McGAFFIGAN: If you knew in the first few days 21 that it doesn't apply to the 64 sites or 104 units, to X numbers of sites and we're 22

checking the last few, that would have been good information, but we were sort of silent. 2 3 MR. REYES: We could have done it faster, but one of the things we want to make sure -- when you have an event like that, you need to make sure you 4 understand all the ramifications. 5 We knew that our arrangement with the inverters and that batteries in the 6 7 U.S. is a completely different approach. We do not have the island separation 8 approach. We knew that the first day. What we didn't know was what else was hidden in that event that we need 9 to take a look at. We take a pause, maybe come across as negative, and adjust it 10 11 to the point where we are satisfied. Now, your point I think is a good one. As soon as we get to that point, we 12 need to go forward and say we have done a thorough review --13 COMMISSIONER McGAFFIGAN: They put an information notice out 14 months later and I think it would have been good to have intermediate 15 16 communication. COMMISSIONER LYONS: If I could just interject. Didn't at least one 17 of those European regulators have to retract that early statement? 18 COMMISSIONER McGAFFIGAN: I think there might have been. 19 COMMISSIONER LYONS: At least one, I think. 20

MR. REYES: We have had our events in this country in the early

days and one thing we learned a long time ago is you need to really, really dissect

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- that. That's why we have the program with augmented Inspection teams etc, etc.
- 2 as well documented.
- We train our people in root cause and varied analysis because we take

 each one of those -- he graduated from the course, he knows we want to make

 sure there's nothing missing when we are finished.
- 6 CHAIRMAN KLEIN: I think the comment Commissioner McGaffigan
 7 is making is a good one. I do not believe we're as proactive in letting the public
 8 know what we do. That's just across the board. I don't think we need to come
 9 across as supporting the industry because we are the regulator, but I do believe
 10 his comment about it.
 - COMMISSIONER McGAFFIGAN: Just actual information. Does it apply? Doesn't it apply? We're pretty sure it doesn't apply to 90, but we're looking at the last few.
 - COMMISSIONER MERRIFIELD: I would chip in with a comment having listened to this. We are very conservative and there is nothing wrong with being conservative, but I think one of the ways you can get around it is how one frames the press release. I think you can certainly say based on preliminary review this is what we found, this may be subject to change later on.
- MR. REYES: Our review continues.
- 20 COMMISSIONER MERRIFIELD: Review continues. But based on 21 the preliminary information -
 - COMMISSIONER McGAFFIGAN: The last item I just mentioned in

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1	passing. I know from public meetings that we're considering Davis-Besse. We are
2	removing the requirements for one of the four annual reports that they have to
3	submit from an outside group bearing on operations, not on safety culture.
4	Mark me as one who, based on the information I have seen, including being
5	at the plant last spring, that is not a place where we need a supplemental outside
6	inspection in my mind. So, I don't really get a vote. The Regional Administrator
7	decides this, but I thought I would say that.
8	MR. REYES: The indicator for the operations of the unit are very
9	positive. We do take a hard look at that.
10	CHAIRMAN KLEIN: Any other comments? On behalf of my fellow
11	Commissioners, I'd like to thank you for your presentation. Obviously a lot of
12	interest, a lot of dialogue and a good success story and probably the most
13	important comment is keep up the good work.
14	As I always tell the CEO of nuclear plants, don't become complacent. I
15	don't think you will, but just a comment.
16	MR. REYES: Thank you.

CHAIRMAN KLEIN: Meeting is adjourned.

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