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UNITED STATES NUCLEAR REGULATORY COMMISSION

PERIODIC BRIEFING ON NEW REACTOR ISSUES

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WEDNESDAY

APRIL 30, 2008

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The Commission convened at 1:00 p.m., the Honorable Dale E. Klein,
Chairman presiding.

NUCLEAR REGULATORY COMMISSION

DALE E. KLEIN, CHAIRMAN

GREGORY B. JACZKO, COMMISSIONER

PETER B. LYONS, COMMISSIONER

KRISTINE L. SVINICKI, COMMISSIONER

1 PANEL 1: INDUSTRY REPRESENTATIVES

2 CHRISTOPHER CRANE, Chief Operating Officer, Exelon
3 Generation, Chairman, NEI New Plant Oversight Committee (NPOC)

4 STEPHEN BYRNE, Chief Nuclear Officer, South Carolina
5 Electric & Gas, Chairman, NEI New Plant Working Group

6 ANTHONY PIETRANGELO, Vice President, Regulatory
7 Affairs, Nuclear Energy Institute (NEI)

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9 NRC STAFF:

10 LUIS REYES, Executive Director for Operations

11 GARY HOLAHAN, Deputy Director, Office of New Reactors

12 THOMAS BERGMAN, Deputy Director for Licensing

13 Operations, Division of New Reactor Licensing, NRO

14 CHRISTOPHER JACKSON, Chief Containment and

15 Ventilation Systems Branch 1, NRO

16 BRENT CLAYTON, Chief Environmental Technical Support

17 Branch, NRO

18 MICHAEL JUNGE, Chief, Operator Licensing and Human

19 Performance Branch, NRO

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CHAIRMAN KLEIN: We look forward to the discussion on new reactors today. This is one of several that we've had periodically. I think this is probably the discussion we have the most public hearings on, but it's obviously one that's very important.

I'm always impressed with the amount of work that has gone on, both by the industry and by our staff in making progress as we move forward.

What we'll hear today, first from the Industry Representatives and then we'll hear from our staff. I should point out that even though he's not sitting at the table yet, but this is a semi historic event that this will be Luis' last opportunity to sit at the table as EDO.

It may not be his last opportunity to sit at the table, but I'd just like to comment that before we start that while the new reactors is certainly something on our minds today, I think Luis' contribution as EDO has been very remarkable.

You're leaving the position better than when you came, which I think should be a goal of any administrator. So, you're commended for what you've done and we know how to reach you. You're not retiring, you're just moving.

So, any comments before we start.

COMMISSIONER JACZKO: I would echo the Chairman's

1 comments about Luis. We look forward to seeing him, again, in a different
2 capacity. I certainly appreciate all your services as the EDO and as the
3 Chairman indicated there are certainly a lot of visible changes you made to
4 this agency since you've been here.

5 I think one of the ones that stands out most in my mind is all the work
6 that you've done to improve diversity at the agency, in particular the
7 Comprehensive Diversity Management Plan.

8 I think it's really an example and I remember you remarking to me
9 once that we have more different organizations to address diversity at this
10 agency than a lot of other agencies. I think that really is something that you
11 should be proud of and has left a real important a legacy for this agency.

12 We have a lot to continue to work on -- to continue to improve upon
13 what has already been done in that area. Thank you.

14 CHAIRMAN KLEIN: Commissioner Lyons?

15 COMMISSIONER LYONS: Well, I would also add that I think
16 few people appreciate the set of challenges that the EDO faces on a daily
17 minute by minute basis. I've been tremendously impressed, Luis, with the
18 way you've handled those challenges.

19 I know that nuclear safety has improved in the Nation because of
20 your contributions and I certainly thank you very much. I, too, look forward
21 to seeing you, whether it's at the table or in Region II for many years in the

1 future.

2 COMMISSIONER SVINICKI: I don't have too much of a
3 personal attestation to add, but I am aware of your tremendous resume of
4 public service and I credit you for that. Thank you.

5 CHAIRMAN KLEIN: As everyone knows, we have a great
6 succession plan and so Bill Borchardt will assume the post. In our senior
7 staff meetings every morning he's moving closer and closer to his assigned
8 seat. He started sitting in the corner and moves closer. So, by the time we
9 convene our next one he'll be sitting in the proper spot.

10 So, we look forward to great things from the torch getting passed.

11 Well, with that, Tony would you like to start.

12 MR. PIETRANGELO: Well, first on behalf of the industry, I'd
13 like to thank Luis for his outstanding public service and I know the folks in
14 Region II look forward to working with him as do we at NEI and we welcome
15 Bill in his new position and we look forward to working with Bill as well.

16 It's been about six months since our last Commission briefing on new
17 plants. There's been a lot of activity here. We really appreciate the
18 opportunity to provide an industry perspective on the status of the activities.

19 Joining me to my immediate left is Chris Crane, who's the Chief
20 Operating Officer of Exelon. He's also the Chairman of our New Plant
21 Oversight Committee and Steve Byrne, the Chief Nuclear Officer from South

1 Carolina Electric and Gas. Steve chairs our NEI New Plant Working Group.

2 A little about the New Plant Oversight Committee. Its members
3 comprise executives from all the companies who either are developing or
4 have submitted COLs, design certifications and early site permits. It's really
5 our equivalent to the Nuclear Strategic Issues Advisory Committee that we
6 have on the current plant side.

7 And Steve's New Plant Working Group really is the regulatory and
8 licensing focus also very high-level representation. Steve also serves on
9 our New Plant Oversight Committee.

10 The topics we're going to cover today, a little on the current process
11 overview where things stand. Some technical and policy issues, what our
12 priorities are going forward and our conclusion.

13 Steve will do the current process overview, I'll handle the technical
14 policy issues and Chris will bat cleanup on the industry priorities and
15 conclusions.

16 With that, let me turn it over to Steve.

17 MR. BYRNE: Thanks, Tony. Mr. Chairman and
18 Commissioners, we appreciate the opportunity to be before you today to
19 present the topics at hand. We've gotten a lot of questions about how many
20 applicants would intend to move forward with COLs. I think it's a relatively
21 simple answer from our perspective.

1 We expect that the companies that have expressed their intent to file
2 will indeed file. As you are doubtless aware that we've had nine COL
3 applications to date and many of those companies have ordered long lead
4 materials.

5 This is up to \$100 million commitment in year one once you order
6 those long lead materials. So, certainly on behalf of my company and Chris'
7 company we've ordered those long lead materials.

8 We also anticipate that the companies that submit for the COLs will
9 stick it through to the licensing process and will then make a decision to
10 construct.

11 Now, some of those utilities may construct immediately. Some of
12 them may make a decision to delay construction. There are a lot of factors
13 that go in when you're talking about a process that lasts 10-plus years.

14 In our case, we started down this road in 2005. We don't anticipate
15 that the new reactor will come online until 2016 at the earliest. It's a long
16 process.

17 Very capital intensive as you're also doubtless aware. Some of the
18 things that will go into decision making as to whether or not you build or
19 build right away are going to be the permitting process, not just the COL
20 permitting process.

21 We've got a lot of state and local regulatory agencies that we need to

1 get approvals from and some other Federal agencies, like the Corps of
2 Engineers or the Federal Energy Regulatory Commission that we also need
3 to get approvals from.

4 The projected need for power is going to play a big part in our plans.
5 As we see it today, the need for power is there. Provided that need for
6 power continues to be there, we will continue with our plans to build new
7 plants.

8 Cost of fuel alternatives. In the southeast where my utility is
9 specifically we're comparing the cost of nuclear with the cost of coal and
10 natural gas. Those fuels are relatively expensive. We don't see the cost
11 coming down in the short term and gas provides a lot of price volatility that
12 we would just as soon avoid.

13 Financing will be, obviously, a big issue for us as well as the health of
14 the U.S. economy and the world economy, particularly with respect to things
15 like the recession or commodities and the availability of long lead materials.

16 If we continue to progress down the Part 52 licensing process, we
17 expect that you'll see more orders for new plants and the Commission will
18 see new license applications coming forward beyond this first wave of
19 plants.

20 We anticipate you'll see more in the 2010 to 2014 time frame. We do
21 not expect any surprises to what you have been told already for fiscal year

1 2010.

2 As you are aware, we've had a lot of interaction between the
3 Commission, the public and the industry. We had a lot of public meetings,
4 both at our sites and here in Washington, D.C. as we move forward with
5 implementing and learning this new Part 52 process. And it has been a
6 learning experience, I think, for both sides.

7 There's a pretty heavy workload not only on the Commission, but on
8 the part of industry, but I think it's been made a lot more manageable by the
9 NRC initiated design centered review approach. That's complemented on
10 the industry side by our design centered working groups where utilities have
11 chosen the same technology work together.

12 What we see out of this is a high degree of standardization and the
13 industry is committed to a high degree of standardization.

14 You can see that in our COL applications you've received a number
15 of reference COL applications and part of the AP1000 and the ESBWR.
16 You've already seen the subsequent or so-called SCOLAs come in.

17 We anticipate that as other vendors see their second and/or third
18 plant submitted you'll see other SCOLAs from those vendors also.

19 I'd like to talk a minute about a couple of potential process issues.
20 We're going through a period where we're changing or amending regulation
21 or adding new regulation during a multi-year review process for these

1 license applications. So, we shouldn't be surprised that there's going to be
2 some rubs along the way.

3 I'd like to talk about a couple of specific examples. One of them is
4 the recent changes to the LWA rule. And the other one is the upcoming
5 issuance of secured regulations under Section 73 Parts 55 and 56.

6 It is clear to us that we need to issue guidance in parallel with new
7 and revised regulations. That will be a common theme throughout our
8 presentation.

9 Public interactions are important and we think that we need to
10 continue those during the rulemaking process. It's going to ensure that
11 guidance and rules are issued at the same time. Where that has not been
12 the case, we think we've had some problems.

13 We go specifically to the Part 73 rulemaking. A lot of the new
14 requirements are coming out in response to the September 11th attacks.
15 As you're aware, our existing fleet has a set of requirements that changed
16 after September 11th.

17 The new security orders are going to largely mirror codifying those
18 requirements. So, we've got a set of security plans that have been
19 developed for people who have already submitted or shortly to submit
20 license applications that mirrored the security requirements at our existing
21 facilities and some NRC approved templates for security going forward.

1 Now, the scope of the new rulemaking will be a little bit broader, but
2 we don't believe that the new plant security plans are going to be
3 significantly different from the existing security plans.

4 Now, the NRC has recently suspended review of the security plans
5 until after the new Part 73 rule is issued. We think this decision should be
6 reconsidered.

7 It's obviously going to be very difficult for plants with SER dates early
8 next year to be effective when the security rule may not come out until early
9 next year.

10 We do appreciate that you don't have a final rule yet with which to
11 evaluate our security plans, but you do have a template. We think that the
12 review can go against the approved template and then when the changes
13 come out, presumably early next year, that we can fill in the gaps, if you will,
14 and submit what the changes are to those regulations. That should make
15 the review process easier and allow us to continue our schedules.

16 For the Limited Work Authorization guidance or LWA rules, this is
17 another example where we need the guidance to come out at the same time
18 as the rule did.

19 Now, as you're aware we commended the Commission for their
20 changes to the LWA rule in 2007, yet the guidance for that rule was issued
21 just earlier this month. So, we've had a rule in place for a short period of

1 time, but the guidance has just come out.

2 That draft guidance recommends segregation of construction and pre
3 construction activities consistent with this new rule. We've had a number of
4 our applicants that have been working for an extended period of time with
5 contractors expending a lot of money on the development of these
6 environmental submissions that go along with the rule and if we have to rely
7 on LWA, we could be in a position where to go back and re-segregate would
8 cost a significant amount of money.

9 In the case of an individual application we're looking at somewhere in
10 the half a million dollar range just to revise that for a situation that should be
11 bounded by the final construction environmental reviews.

12 We don't think that it was the NRC staff's intent to require a complete
13 rewrite or resubmittal for near-term applicants. We're prepared to work with
14 the NRC staff to resolve these issues in a manner that doesn't present an
15 undue burden to the near term applicants.

16 We propose that we work with the staff to come up with some
17 guidance by the end of June on how to handle the existing or near term
18 applicants under the RAI process and that the new guidance be applicable
19 to applicants that file after calendar year 2009.

20 Lessons learned from what we would call these process issues is
21 important to implement guidance in parallel with the rulemaking process.

1 Where we deviate from that is where we get ourselves at cross swords
2 occasionally.

3 Last item I'd like to talk about is enhancing the environmental review
4 process. We understand that the staff is preparing a report and an action
5 plan to enhance the environmental review process.

6 This incorporates insights gained from public interactions. We fully
7 support this activity. We provided our thoughts on improving the process in
8 a letter that was dated January 25th.

9 The main recommendations in that letter were to develop common
10 standards for the development of the environmental reports and the
11 environmental impact statements, improving the hearing process to add
12 efficiency and then following the examples of license renewal process
13 where you address specific issues in a generic manner.

14 Those are things like alternative energy sources, intake structures,
15 physical impacts, and avian bird mortality. The enhancements are
16 important because the strong industry commitment to standardization
17 coupled with design centered review approach provide the high potential
18 that the environmental review will become critical path for those applicants
19 that submit after 2011.

20 We look forward to working with the staff to implement this action
21 plan. With that, I'd like to turn it over to Tony Pietrangelo.

1 MR. PIETRANGELO: Thank you, Steve. At the top of our list
2 on technical policy issues is maintaining standardization and high quality
3 applications. You will always see this at the top of our list.

4 We know we have to do our part as an industry to give you a
5 high-quality product to facilitate the staff's review.

6 Last year, we started pretty high up on the learning curve. The final
7 rule came out; all the guidance came out while a lot of the COL applicants
8 were developing their application.

9 We started out high on the learning curve, but I'm pleased to report
10 we think we've moved substantially down that learning curve and we will
11 continue to adjust as we get feedback from the staff on the quality of the
12 submittals.

13 Beyond standardization and the licensing process, however, there's a
14 lot of interaction at the industry level between the design centered working
15 groups and others on standardization beyond licensing; down to the
16 component level detail, down to the operational programs.

17 For this program for standardization to work it's got to start from the
18 top. I know, and Chris will speak to this later, that at NPOC that has been a
19 key issue and there has been a consensus agreement that we will
20 standardize going forward. That's the only way this is going to work.

21 Let me turn to the level of safety. This is not so much an issue, but a

1 topic of concern. Back in the late '80s and early '90s when Chris and I were
2 still in high school the Commission issued a policy statement on advanced
3 reactors.

4 The expectations that were laid out in that policy statement were the
5 new designs would have substantially enhanced safety margins. And we
6 think through the design certification process and the designs that have
7 been submitted to the agency for review, the industry has met this
8 commitment either through the addition of trains, safety trains to certain
9 designs or through the utilization of passive design features.

10 It's clear that these new designs are substantially enhanced safety
11 margins. But in the same policy statement, the Commission also said that
12 we shouldn't use the industry meeting these design objectives as a basis for
13 new regulatory requirements.

14 We have to have the same regulatory requirements whether they're
15 the current set of plants or the new set of plants, for the most part and Part
16 52 references Part 50 as the technical requirements.

17 There's been some discussion early on about perhaps changing
18 some of the documents associated with risk informed activities, Reg Guide
19 1174; perhaps looking at -- even in that policy statement there was a
20 decision not to change the quantitative health objectives to ten to the minus
21 five core damage frequency versus 10 to the minus four. The Commission

1 said no and we agree with that decision.

2 There's obviously going to have to be some adjustments made going
3 forward for new plants. For example, the Mitigating Systems Performance
4 Index and the Reactor Oversight Process. Clearly, that's not going to work
5 very well in the passive designs like the AP1000 and the ESBWR. So, we
6 will have to make adjustments.

7 But with respect to the risk informed activities, the significance
8 determination process, Reg Guide 1174, we think that those guidance
9 documents are fine and should work very well going forward.

10 Next, let me turn to implementing the PRA requirements for new
11 plants. That is a different requirement for the next generation of plants. In
12 the final Part 52 issued last year there is a requirement for the license
13 holder to have a PRA that meets the standards endorsed by the agency one
14 year prior to core load.

15 One lesson we've learned throughout risk informing the regulations is
16 that when a new standard comes out, there is a need to pilot that standard
17 in an application before the NRC issues its final endorsement of the
18 standard.

19 We've got that experience through the first PRA standard that was
20 issued, the ASME level one internal events at power. That was, I think,
21 issued by ASME in 2001.

1 There was a draft Reg Guide that endorsed that standard, but with
2 the provision that we were going to pilot this through several applications
3 which the industry did, got the lessons learned from that pilot program, got
4 them back into the standard and back into the final Reg Guide that
5 endorsed the standard.

6 That process took about five years. And that was with an area of
7 PRA that we know the most about, where our state of knowledge is the
8 best. We're learning the hard way right now with fire PRA. That standard
9 has come out, but we move forward mainly to address the transition of
10 NFPA 805 to develop fire PRAs and really the two pilots are piloting that
11 standard and we're seeing some issues.

12 We think we're going to have to restructure that effort in order to get
13 the lessons learned back into the standard and the methodology document,
14 NUREG 6850.

15 Before the NRC endorses that standard final such that when a
16 licensee does a fire PRA, they do it once and they do it right the first time.
17 Given that, we think before, again, the Commission endorses a standard
18 that will be a requirement for new plants that those standards need to be
19 piloted first.

20 The other aspect of this and because we've been able to incorporate
21 the lessons learned in operating experience from the first 30 or 40 years of

1 plant experience, there may be some elements of the PRA that won't be
2 particularly relevant going forward in the new designs. I'll use fire as the
3 example again.

4 The separation is so good with the new designs that we've pretty
5 much designed out fire risk for the new plants. So, the value of modeling
6 and doing the fire PRA for a new plant may not be there.

7 So, it's something we have to look at in implementation going forward
8 less we devote resources to things that are really so low in the risk spectrum
9 that it's not risk informed regulation, its more risk deformed regulation. It's
10 spending time and resources on things that don't matter.

11 Finally, I wanted to mention supply chain qualifications. Worldwide
12 there may be as many as 90 nuclear projects going forward. Chairman, we
13 know you bring this up in most of your speeches.

14 We've been working with NUPIC, the Nuclear Utility Procurement
15 Issues Committee, to improve the guidance and training associated with
16 quality assurance audits of vendors and suppliers.

17 There's going to be a real focus on fraudulent parts and substandard
18 materials. We can't afford going forward to have those turn up at our plants,
19 let alone at some of the other plants that are going to be built overseas.

20 NEI has a huge effort ongoing on infrastructure, both the supply
21 chain and work force. Most recently we sponsored manufacturing outreach

1 forums; one in South Carolina that Steve attended, the latest one in Ohio
2 and we have another one coming up June 3rd in Houston, Texas where
3 Chris is going to speak.

4 I'll offer a standing invitation to the Commission to attend one of
5 these manufacturing outreach forums. We've had over 300 vendor
6 representatives at each of the first two, overflow crowds.

7 One of the things we're thinking about because nuclear quality
8 assurance is different really than everybody else's, we need to export what
9 we do at our plants to the vendor so that they know coming in what the
10 expectations are going to be and so that nobody's surprised and we're
11 finding either fraudulent or substandard parts.

12 With that, let me turn it over to Chris.

13 MR. CRANE: Thanks, Tony. As Tony said at the beginning,
14 I'll give a little bit of a wrap up, restate the industry priorities going forward
15 and talk a little bit about some of the accomplishments. We think there are
16 many positive that have occurred since we've last talked and give a little bit
17 on conclusion.

18 Looking forward to the next decade, our top priority from the industry
19 is to run what we have safely and reliably. We know there's not a new plant
20 in the future if we can't maintain our current fleet.

21 We're going to be focusing -- putting our prime focus on the projects

1 that will be completed in the next 10 years. As far as the NPOC, the
2 industry oversight group, we're committed to ensuring that we have high
3 quality submittals being presented to the staff and in cases where they're
4 not, we intend to continue to police ourselves.

5 So, the communications between us and the staff on the quality and
6 timeliness is imperative. We have established a process with the staff on
7 responding to RAIs. We're in the testing phase of it right now.

8 What we're looking at is trying to be back with the quality response
9 within 30 to 45 days and then having the process in place that if it's
10 applicable to others that they will be automatically incorporated into the
11 other filings so multiple RAIs would not have to be submitted to the staff to
12 the different licensees.

13 While we support the DOE funding for the development of the gas
14 cooled next generation reactors, our primary focus is going to be on the
15 near term and the projects, as I said, in the next 10 years.

16 Covering a little bit on the going forward, we are transitioning our
17 focus or evolving our focus now to finalizing the understandings of the COL
18 implementation processes, construction inspection, ITAAC close out,
19 process for authorizing fuel load, plant operations.

20 We think that the public interactions, the public meetings we've had
21 with the staff have been very constructive and the draft guidance that has

1 been coming together is well informed and continues to be constructed.

2 One area where we continue to have dialogue on is under the
3 methodologies and the guidance we can put in place for monitoring the
4 safety conscious work environment in the performance identification --
5 problem identification resolution process. I'll cover a little bit about that in
6 the future.

7 We believe that we've made good progress in the current operating
8 plants with the safety conscious work environment understanding safety
9 culture. What we're recommending is that we would stay to the more
10 traditional indicators for the new plant construction until we can evolve the
11 tools and the metrics to be more applicable.

12 When we say "traditional", we would like to stay within monitoring
13 quality rejections, monitoring inspections, monitoring problem identification
14 and also doing trending on the NRC's inspections as well as the utility
15 inspection.

16 So, we're working on the guidance for that, the implementation
17 guidance and we'll continue to stay in communication.

18 The ITAAC closeout, I think we're in mid term in understanding the
19 process. It is going to be a very complicated process. We want to make
20 sure it has predictability and balance, but we understand the footprint that
21 has to be under way. I think the dialogue from what we hear on our side is

1 constructive, but it's in process.

2 One area that we're starting to delve into more now is understanding
3 the fuel load authorization process. We appreciate that the Commission
4 has expressed a preference to use formal procedures versus an informal
5 process.

6 We just want to make sure that it's something that we can
7 understand and predict as we come up to the completion of the work
8 activities signaling our readiness for fuel load and having it be able to be
9 scheduled and predictable.

10 Moving to completing rulemaking. We talked a little bit about Part 73
11 and we understand the complexity with the rulemaking. We would
12 appreciate, as Steve said, consideration for review in parallel with the
13 templates.

14 One place where we believe that's working well is on the aircraft
15 impact analysis where we have the designers doing their work in advance of
16 the rulemaking coming out.

17 We appreciate some of the complexity on the staff and on the
18 designers that are doing it at risk, but we think in these first couple of issues
19 that we're working through it is a more efficient methodology that could be
20 expanded.

21 On waste confidence, the current wording may be adequate, but we

1 do believe that a stronger regulatory basis could be presented with the
2 waste confidence rule and we know that's under consideration, but we
3 strongly endorse that. We think it would simplify some of the complications
4 that the utilities are up against right now is within their board rooms.

5 So moving to conclusions, as I said, we do recognize some of the
6 challenges going forward with the parallel reviews. We do appreciate that
7 and whatever we can do to maintain flexibility or help with that we'd be more
8 than willing.

9 One area that we have seen since our last conversation -- it was a
10 point in our last conversation was how do we integrate our schedules in
11 their massive databases that have many man hours and activities in them?

12 We want to continue to maintain predictability for the staff resources
13 and for the licensee and the EPC. We're seeing some good work in
14 communications with the TVA Bellafonte project that's sharing the
15 scheduled milestones in some of the upcoming events.

16 We think we can grow on that on both sides and continue that
17 dialogue, we find it as productive.

18 The last point. We do believe and we compliment the staff. There
19 has been excellent communications in the area of public communications in
20 the public meetings. We think it's hitting the right balance.

21 We share our appreciation for the willingness to work through the

1 process in that manner. We know sometimes it may be harder to resolve
2 issues that way, but having the input up front and having the public
3 meetings is beneficial. Thank you.

4 MR. PIETRANGELO: That concludes our presentation.

5 CHAIRMAN KLEIN: Thank you very much. I think there has
6 been a lot of work that has been undertaken both by industry and our staff
7 and so progress is occurring and obviously the position for which Bill is
8 about to leave, starting up the Office of New Reactors has been very
9 dynamic and I think we have a team that's in place that's doing what I have
10 told our congressional oversight. We're hiring. We're training. We're ready.
11 And so I think progress is occurring.

12 We'll begin our questions with Commissioner Lyons.

13 COMMISSIONER LYONS: Well, first, thanks to all of you for a
14 good briefing. Before I get into a couple of specific questions, Chris, you
15 mentioned the waste confidence. I would just comment that as least as far
16 as I'm concerned we have clear guidance to staff that we do wish to move
17 ahead with high priority on a review of waste confidence rulemaking. So, I
18 certainly have very high hopes that that will continue on track.

19 A couple questions that I'm not sure to whom I should address them,
20 but just curious on the extent to which you folks see good alignment
21 between your view of key issues and staff's view of key issues.

1 You've referenced a number of ongoing meetings and interchanges
2 with staff. I hope that's leading to good alignment on these issues, but any
3 comments you'd like to make on that.

4 MR. PIETRANGELO: That's been our experience thus far. I
5 think all of us have noted the good communication both ways on issues. I
6 think everyone has rolled up their sleeves. Again, we've been on this
7 learning curve where the guidance was relatively new and we're trying to
8 work through the different interpretations and such.

9 The feedback we're getting from the COL applicants and others is
10 that the process is working and it's getting better.

11 MR. CRANE: I would agree.

12 MR. BYRNE: I would echo those sentiments and I think the
13 process we have set up now where the NRC is prepared to address issues
14 with us at the new plant NPOC meetings and at the new plant working
15 group meetings has been very fruitful.

16 COMMISSIONER LYONS: I was curious of the various issues
17 that you've outlined. Are there ones in particular that you see as being ripe,
18 perhaps is the right word, for Commission level action? Or at least as you
19 were talking, I got the impression that the issues you outline, perhaps all of
20 them, are still being actively discussed and explored at the staff level and
21 they're not necessarily at the level where you're asking the Commission to

1 try to move forward directly.

2 MR. CRANE: I don't feel that we have anything that we're
3 dead-ended on that needs to be elevated. I think the conversations are
4 constructive. The staff might have, when they present, a different opinion,
5 but I think --

6 COMMISSIONER LYONS: I was going to ask the staff, too.

7 MR. CRANE: I think everything is in process and in
8 communications. We made our points about potentially looking at the Part
9 73 reviews and some of the other things for consideration, but we're also
10 having those with the staff.

11 MR. PIETRANGELO: That's the one I would cite, the Part 73.
12 That one caught us a little bit off guard. There was a lot of interaction in
13 developing an approved template for the submittal that was targeted at
14 hitting the mark when the final rule came out, at least with respect to the
15 incorporation of the orders post 9/11 in Part 73.

16 So, when that was suspended that took us a little bit by surprise. As
17 we recommended before, we think there will be a lot smaller delta to close if
18 the reviews were done in parallel against the template and then the
19 applicants would supplement their applications with whatever information
20 was necessary to close the delta at the end.

21 COMMISSIONER LYONS: Maybe the staff can address that

1 one.

2 MR. PIETRANGELO: There has been excellent interaction in
3 commenting on the Regulatory Guides and we appreciate the final draft
4 language being put out at the same time that the draft Regulatory Guides.
5 That helps the review process along.

6 So, we've got a lot of resources devoted to working with the NSIR
7 folks through our comments on Reg Guides and trying to meet the timelines.
8 I think its 30 days in most cases for commenting on the Reg Guides and
9 that's pretty tough for us.

10 We've got great support from the companies to try and get our
11 comments together.

12 COMMISSIONER LYONS: I do appreciate the picture that
13 you've painted of strong cooperation, admittedly each in their own
14 appropriate regimes, but strong cooperation with staff. And a good working
15 relationship which is certainly positive.

16 I guess because of that, I'd like to maybe depart from your prepared
17 comments or maybe read a bit into one of the comments that you made,
18 Steve. And go to a subject of pet interest of mine.

19 You talked about construction decisions would be based on a
20 number of different considerations and you listed several, but you didn't list
21 work force.

1 I'm one of several members on this side of the table who have
2 expressed a lot of concern on the work force, not only as it affects our ability
3 to hire appropriate people from a regulatory perspective, but speculating
4 that the whole nuclear industry is facing a tremendous challenge on work
5 force.

6 I know there's a number of initiatives ongoing within industry, but I
7 was just curious if any of you would want to speak to either those initiatives
8 or your view of the challenge that we're going to be facing on work force
9 from the perspective, I would say, first to the operating plants and second of
10 new construction and new plants. I truly see this as a gigantic issue facing
11 the Nation.

12 MR. BYRNE: There's no question that work force, whether
13 you're talking about the nuclear industry or any industry is going to be a
14 bigger deal to us going forward. I think the initiatives you've discussed
15 probably just touched the surface of what we're doing at our individual utility
16 levels. We're developing work forces now.

17 We are literally hiring training instructors and operators now for plants
18 that are not going to come on line until 2016 or '17 or a later time frame.
19 So, we see the challenge today. It's not really a challenge that's that far out
20 in front of us.

21 Probably being in the Southeast, I may have a better advantage with

1 weather that the people like to come to the southeast as opposed to some
2 other areas of the country, but we do today on construction projects on non-
3 nuclear side when the weather turns better up North, we see people that
4 want to leave.

5 Obviously, our challenge is going to be to train the work force, to
6 attract the work force to nuclear projects and then to retain them once we
7 start the work.

8 The modular construction is going to make things, we think, a lot
9 easier where you're building modules at a single place and shipping them to
10 different locations. And again, the vendors and the constructors are going
11 to play a large hand in that.

12 So, much of the workforce issues we're going to have to work
13 hand-in-hand with folks like Bechtel and Shaw to construct the plants. It's a
14 concern. I think it's a concern that we can manage.

15 Obviously, in addition to just getting the work force, it's what you'll
16 have to pay that work force is another big issue. That's a cost driver. We
17 think the work force is going to be there. Most states have got a technical
18 school program. They're ready, willing and able to support us. We're
19 spinning those up now.

20 MR. CRANE: I would just second Steve's comment. It is a
21 huge task in front of us, but I think we understand the staffing requirements.

1 We understand our staff up curves. All utilities have relationships that
2 they're developing in the local areas for the schools as Steve said.

3 Just for our current plants, we're hiring approximately 600 new
4 employees a year. We have a fairly robust recruiting methodology and
5 network now. We're slowing our aging. We used to age about 5/8 of a year
6 per year. That's actually slowing now.

7 As we look at the individual plants, we understand we'll need our
8 simulators when operator training will have to take place in the 2012 time
9 frame. So, I'm not dismissing the comment, but I think it's something that
10 we're out in front of and we have not had a problem in hiring adequate
11 recruits to this point.

12 MR. BYRNE: Another thing that we're doing on a utility by
13 utility basis is looking at our total construction over that time frame and
14 we're scaling back on other construction processes, so those resources
15 would be more available to us at nuclear.

16 And today we take advantage of people that are internal to the
17 company, but not nuclear that we rely on to come and work nuclear
18 outages. So, we'll tap into that resource, also.

19 COMMISSIONER LYONS: Do you have anything to add,
20 Tony?

21 MR. PIETRANGELO: We could do a whole briefing on what

1 we've got going on.

2 COMMISSIONER LYONS: I know you've got a lot of
3 initiatives. Just as a comment, I'll be speaking tomorrow to the first
4 graduating class at Cape Fear Community College in Nuclear Technology.
5 That's just an example of the kind of partnerships that the industry has been
6 working to pull together, which I think is very, very positive. I just hope it's
7 sufficient.

8 We'll see if your optimism is justified.

9 MR. CRANE: It's cautious optimism.

10 COMMISSIONER LYONS: You did have my interest up,
11 Chris, when you said you had a process for slowing the aging, but then you
12 went on to qualify it and I was disappointed.

13 MR. CRANE: No vacations. Just keep working.

14 COMMISSIONER LYONS: Thank you very much.

15 CHAIRMAN KLEIN: Commissioner Svinicki?

16 COMMISSIONER SVINICKI: Thank you, Mr. Chairman. I'd
17 like to start out by saying, Mr. Crane, that I appreciate you began your
18 discussion on your industry priority slide was something that wasn't actually
19 on the slide. You said the highest priority is that we run what we have
20 safely and reliably.

21 I think that can't be said enough. So, I appreciate you starting with

1 that. I would recommend it be on your slide because I think it's that
2 important.

3 Your second priority, you said, is high quality submittals. Again,
4 that's something that I can't hear often enough because I think that you
5 recognize that that's your obligation and in order to make possible what the
6 agency staff is committed to undertake on the schedules they've committed
7 to undertake it, that's absolutely essential. So, I appreciate those two
8 comments.

9 I know these briefings are periodic and so I'm stepping in to the
10 middle of a dialogue here that's been going on between the industry and the
11 Commissioners. Mr. Byrne, you commented, you said that this is a process
12 in your instance that will start in 2005 and if successful would conclude in
13 2016. That's a very long period of time.

14 I'm wondering if you or any of the other panelists would want to
15 comment on whatever stage in this process that you're in, what do you
16 appreciate afresh or a few years into the process, what are you struck by
17 and what are you emphasizing to yourself in terms of now being involved in
18 a process as opposed to maybe your expectations when you began?

19 MR. BYRNE: I think when I began I had a hope that we could
20 supply much of the commodities, parts, materials from domestic sources
21 and that's just not true. The global economy is a reality for us perhaps even

1 more so than some other industries in this country.

2 So, a good portion of the particular long lead materials are going to
3 come from overseas. So, we're really dependent upon economies in other
4 places as opposed to the U.S. economy for this.

5 I think as we've moved on this process, we have convinced ourselves
6 more and more that nuclear is the right choice as opposed to some other
7 options that we've been facing. And I've been heartened by the support not
8 only at the Federal level, but certainly the state level for nuclear and rather
9 than everybody I talk to telling us we shouldn't do it, a good portion of the
10 people I talk to ask us why we've taken this long.

11 MR. CRANE: I think just focusing to expand. We believed at
12 the beginning that the only way for us to do this wave of plants efficiently
13 was to stay standardized within our classes.

14 There was a great deal of conversation in the last couple of years to
15 do it and it actually is working to our surprise. I was involved in the '80s
16 when we're building the plants and no two plants were the same and you
17 couldn't get engineers --

18 COMMISSIONER SVINICKI: That was when you were in high
19 school?

20 MR. CRANE: That was when I was in high school, yeah. You
21 couldn't get engineers internal to companies that were building like units to

1 agree to make them alike.

2 I think it's rewarding to see that we're staying together. I think we just
3 need to continue to police ourselves to ensure that we don't deviate from
4 that.

5 COMMISSIONER SVINICKI: That's helpful and that's a good
6 lead in, Mr. Pietrangelo. You had talked about vendor QA and vendor
7 qualification. To follow on the comments we just heard, what is your
8 general sense of how -- is that another steep learning curve that you talked
9 about before?

10 What's your general sense of what you're finding -- you're getting a
11 lot of interest at your workshops. But in terms of bringing people up to the
12 levels they're going to need to be, where does that stand?

13 MR. PIETRANGELO: First, we're starting with an experience
14 base that we didn't have before with the current plants. We went through a
15 fraudulent parts issue in the late '80s. We went through industry initiatives
16 to improve the validation and verification. It wasn't just kick the tires.

17 I mean, there's extensive industry guidance and documentation now
18 available on qualifying materials that come into the power plant. So, we
19 have that at the sites, but we've lost a lot of the vendors who used to form
20 the supply chain, so we've got to kind of reinvigorate that process.

21 Nuclear QA is different than everybody else. We've got to get that

1 culture and that mind set out to some of these vendors who are coming to
2 our manufacturing outreach forums and take the extra step to educate them
3 on what it takes to be a quality nuclear supply vendor.

4 So, we've got their attention now through these forums, but I think the
5 next step now is to export what we know we need to them such that they're
6 not trying to hit a target that they don't know where it is.

7 COMMISSIONER SVINICKI: Thank you. Thank you,
8 Mr. Chairman.

9 CHAIRMAN KLEIN: Chris, I always have to start off harassing
10 you just to keep you on your toes. You talked about the COLs and how
11 you're sort of peer reviewing those. Could you talk a little bit about how you
12 do that among various utilities?

13 MR. CRANE: We have the different forums, NewStart being
14 the largest where the ESBWR and the AP1000 are being prepared in
15 groups, design centered groups and licensing groups. The templates were
16 created and then the independent reviews are performed prior to submitting.

17 I've heard from -- those are the ones we're most associated with --
18 we've heard from NewStart -- excuse me, UniStar that they will be
19 performing those the same way on an independent review and the same for
20 Mitsubishi. We believe all the primary players are covered with that. The
21 largest mass being in NewStart, but the others are following the same

1 methodology in the submittals.

2 CHAIRMAN KLEIN: Are you finding any challenges in terms
3 of the ESBWR because what we expected -- the way the system was
4 supposed to work was we would have a design cert finished then the COL
5 would come.

6 So, obviously, you're having to do the COL on the ESBWR before the
7 design cert is completed. Has that given you more challenges than you had
8 expected?

9 MR. CRANE: Surely, it is more challenging. The ultimate way
10 is to have the design cert complete and then be able to go into COL
11 development. I think we have enough steps in the process now that we're
12 staying current as the design review goes through.

13 We've worked with GE closely on their next revision for the design
14 cert and ensuring that we're incorporating all of those aspects that are
15 relevant into the COL.

16 We're following the Dominion COL as the template for all the
17 remaining ESBWRs. Not optimal, but we're working through it and
18 understand that it will be nice once the certs are done and the COLs will
19 come in based off of that.

20 CHAIRMAN KLEIN: On a different subject on waste
21 confidence. The industry has expressed interest in that and we're going

1 through that process. What is your concern on waste confidence? Is it for
2 the existing plants or for the new plants?

3 MR. CRANE: As I said, I think the wording may be judged to
4 be adequate for the new plants. I think there's many companies and
5 regulatory bodies in the state that want to make sure that it is affirmed that if
6 we go forward on new plants there is a more robust worded rulemaking that
7 clearly ensures or that we can ensure the public as the regulators can
8 ensure the public they're not going to be stuck with the used fuel for the
9 long-term; that the Federal government will make its requirement.

10 So, it's more of a stronger affirmation for us and we're not trying to
11 indict the current wording for the current plants, but we think it's reasonable
12 and it should be adequate to help us.

13 CHAIRMAN KLEIN: I guess this is probably a question for
14 Tony. It seems to me that the biggest issue that I have on waste confidence
15 is your standard contracts for these new plants. Do you have those in
16 hand?

17 MR. PIETRANGELO: We've been eminent for about three
18 months, Mr. Chairman, on the standard contract. Our expectation is that we
19 will have those standard contracts very shortly.

20 CHAIRMAN KLEIN: I think that's going to be an issue that's
21 going to impact -- at least for me personally, it's hard to have confidence in

1 that responsibility of the Federal Government if you don't have those
2 standard contracts. That's out of our purview.

3 MR. PIETRANGELO: We agree.

4 MR. CRANE: I think we have our first sit down as an industry
5 with the DOE next week; that we'll be meeting and reviewing their first cut
6 on them.

7 CHAIRMAN KLEIN: I think for the existing plants, the dry cask
8 storage, we keep hearing we will get an application soon then we will start a
9 technical review. So, I think for the current fleet its okay, but I think if you
10 look at that future fleet that's an area that needs to be addressed.

11 MR. PIETRANGELO: We agree.

12 CHAIRMAN KLEIN: I've got a question for you, Steve. You
13 talked about modular construction, which I think is obviously very important.
14 I am familiar and probably Chris is getting familiar with the Texas companies
15 that do offshore platforms and do modular construction.

16 When you talk to those people they say that they need to have those
17 detailed designs already to start the modular construction on the time frame
18 that you need them. So, my question is are you already behind on modular
19 construction to really capitalize on it?

20 MR. BYRNE: No, I don't believe so. My bigger concern with
21 the modular construction is that we cite the modular construction locations;

1 that they be on deepwater ports with rail and/or truck or both access to the
2 plants that they're going to serve. So, we're working very hard along those
3 lines.

4 In the case of the AP1000, I don't want to speak for the other
5 vendors, but our constructor, Shaw, has been involved with the detailed
6 design with Westinghouse, particularly for the secondary side of the plant
7 and all the ancillary components for probably three years.

8 So, they're part and parcel with the design and the design issues, so
9 they've been working on this for a while. They're also gaining some
10 experience from other projects; for example, the one over in China.

11 I don't think we're behind the eight ball, but I'd feel a lot better once
12 the facility was sited and I knew where it was going to be.

13 MR. CRANE: There's been significant dialogue; speaking for
14 UniStar. They're in negotiations and conversations with some of the ship
15 manufacturers on the east coast. They're continuing to work through
16 schedules and costs and methodologies.

17 The GE Hitachi organization has got the backing of the Hitachi
18 fabrication facilities in Japan. Multiple companies including ours went over
19 to look at the feasibility of the shipments. Most likely, there will be
20 expansion to the states of some of these fabrication facilities, also to
21 support the ESBWR, but its bringing experienced companies over and

1 partnering with others to be able to do it.

2 That's our conversations in Louisiana and some in Texas with other
3 companies on partnering more than having them come up the learning
4 curve on their own.

5 CHAIRMAN KLEIN: Are the detailed drawings far enough
6 along on the ESBWR to start planning for the modular construction?

7 MR. CRANE: No, it's in the schedule for the 2011 time frame
8 for optimization of modularization. There's already a clear understanding of
9 some of the large modules because they're equivalent to the ABWR
10 modules, but after the design is complete there's a methodology that Hitachi
11 has that they do their optimization of the module design at that point.

12 There's a lot of things to be weighed; local wage rates, shipping
13 requirements. There will be different module quantities in size for the
14 Dominion facility versus the Victoria facility. The Victoria facility has a
15 shipping channel -- a road is being designed right now right from the ship
16 channel up to the site.

17 There will be the opportunity for more larger modules in that plant.
18 The dominion facility won't be able to have that, so more stick building or
19 on-site modular building would take place. There's an optimization based
20 off of the need of the site and the design.

21 CHAIRMAN KLEIN: Thanks. Commissioner Jaczko?

1 COMMISSIONER JACZKO: I just had a couple comments to
2 start; certainly on waste confidence and I don't know that this is a new
3 discussion. I think we've had this discussion in probably the last meeting
4 we had, I think, in October.

5 I think I recall at that time I suggested you all might want to do a
6 petition for rulemaking. Maybe that would get in the process faster. You
7 sent us a letter which was de facto a petition for rulemaking and we still
8 haven't gotten your rule. So, I think at this point that's something we need
9 to take a look at.

10 I don't know why at this point we haven't gotten farther along on a
11 rule because I think it is an issue we need to address and we need to
12 address in a rulemaking.

13 The Part 73 issue, in particular the issue of the security plan
14 revision -- or the review of the security plans. My sense on that is -- my
15 guess would be this is an attempt to balance resources.

16 The Commission has been very, I think, interested in having the staff
17 accelerate the completion of that rulemaking and as a result that may be
18 one of the decisions that was made was to focus resources in completing
19 the rule rather than taking those resources off to doing reviews.

20 That's certainly an approach I would support. I think the schedule
21 right now is for the staff to have something to the Commission by June or to

1 the EDO around June. We should be able to get a rule out sometime in the
2 fall.

3 Now, you may hear dates of final publication of March of '09 or late
4 '09. A lot of that tends to be the OMB review process; all of those things.

5 As far as having finalized text, I think we'll be able to have that by the
6 end of the fall, which I think at that point we should be able to go back and
7 begin doing a look at their views. I don't know that it makes sense to do
8 that, certainly in the interim when we haven't finalized the rule.

9 I think from an efficiency stand point we're better off to wait. I don't
10 think the delay is that long. It is something we need to get a move on and
11 get resolved as we do with the waste confidence.

12 I'll have to say on the LWA I'm not quite as sympathetic, I think, to the
13 concerns on LWA. The Commission's intention with LWA was to redefine
14 construction to eliminate the need for Limited Work Authorizations. I think
15 that was very much what the Commission was intending.

16 At the time, I certainly expressed some concern that we were getting
17 ourselves into a position where we were going to be opening up a whole
18 new avenue for hearing requests for complicated issues dealing with how
19 we resolve environmental issues with the Limited Work Authorization as well
20 as what's going on with the EIS that we will do for the overall COL
21 application.

1 I think these are the kinds of things that we're seeing right now. As I
2 said, I'm not quite as sympathetic as that and I don't think it's an area where
3 our resources are best spent right now in trying to work through some of
4 those issues.

5 LWA is an option for you. It's not a requirement unlike COL and
6 unlike the Part 73 issues. Those are requirements you need to have in
7 order to get a license. LWA is an option for you to try and accelerate some
8 of the work.

9 As I said, I had interesting discussions with Commissioners Merrifield
10 and McGaffigan at the time. When I suggested that we're opening up a
11 whole new opportunity here for hearings and a whole new can of worms, so
12 to speak, on LWA, they suggested the whole point was to redefine
13 construction so that people wouldn't need LWAs.

14 Well, obviously, that's not turning out to be the case. I think that's a
15 bit unfortunate. I haven't asked any questions yet. I think I will try to get to
16 some questions with a little bit of time left.

17 Chris, you mentioned a 30 to 45 day -- sorry; I do have another
18 question. Containment sumps. I know we're going to hear from the staff
19 later on this and I know at all these meetings I like to try and focus on the
20 areas where I think there's need for continued improvement in the quality of
21 the submittals. I'm glad to hear that that's a focus.

1 I think we've seen that, that you are putting a focus on that. I am a
2 little bit, I guess, concerned by some of the things that I read in preparation
3 for this meeting about the difficulties that we appear to have in resolving the
4 containment sump issue.

5 I was aware of challenges, I think, with the AP1000, but as I read
6 some of the background material from the staff also for EPR. What they
7 said was the application submitted in December did not provide information
8 adequate to bring the sump issue to closure.

9 APWR also had a similar -- did not include information sufficient to
10 bring a long-term cooling issue to closure. Maybe you could comment on
11 what are the challenges.

12 This, in my mind, should be in the category of fire protection at this
13 point. We are expending a lot of resources right now with the existing fleet
14 to get a handle on these issues.

15 Maybe you can comment on why this is continuing to be a technical
16 challenge apparently for the new reactor fleet as well?

17 MR. PIETRANGELO: It shouldn't be as much of a challenge
18 for the new reactor fleet because there won't be any fibrous insulation used
19 in those containments. That will greatly simplify --

20 COMMISSIONER JACZKO: Why is the information not in the
21 applications then? What's missing?

1 MR. PIETRANGELO: There's still a lot ongoing on the current
2 plants, unfortunately, that we're trying to bring to closure on the testing and
3 the supplemental responses that are due this year in order for the staff to
4 perform its final review to close the issue out.

5 So, I think a lot of the vendors -- there's still a lot of activity in play for
6 the current plants and we're learning as we go with this. I think when we
7 checked in on this issue prior to the briefing everybody knows what they
8 owe the Commission.

9 They're working to a schedule. There's been good dialogue between
10 the vendors and the staff on that. Hopefully we'll be able to bring to closure
11 soon after we do for current plants.

12 MR. CRANE: We'll find out the specifics and get back to you
13 to let you know. We knew there was an issue, but we haven't heard the
14 other side from the vendors yet what was uncertainty in that and why they
15 didn't put it in. We'll make sure we give you a response.

16 COMMISSIONER JACZKO: As I said, I do think that's
17 important and my view on the existing reactor side is that this is an issue
18 that we're way behind on. It is one where we had a meeting on Monday to
19 talk about materials issues. It's one of the areas where I continue to see a
20 lack of interest, it appears, in resolving some of these complex technical
21 issues on the part of the industry.

1 With the sumps, I'm not quite so sure that your best defense was to
2 point to problems with the existing fleet because I have some concern that
3 we haven't gotten that wrapped up either. That's spilling over now into the
4 new reactors.

5 That does cause me some concern because as I said we're starting
6 from scratch here and I would think that a lot of these issues should have
7 been able to be resolved and worked through in the submittals.

8 MR. CRANE: I will tell you that we've had discussions up to
9 last week with the EDO's office on closing this issue out. We agree. We've
10 spent over \$1 billion in the industry to put these sumps in and it is an
11 evolving science at this date.

12 It's not the willingness of resources to close this out. It's having a
13 final definition of what it takes to close it out.

14 COMMISSIONER JACZKO: Well, I have a couple more
15 questions. Chris, you mentioned you're working towards a goal or have a
16 standard of 30 to 45 days for RAI responses. How is that working? Are you
17 meeting that target?

18 MR. CRANE: We're in the test phase now. I was trying to get
19 some data on that earlier. We believe we're getting there. We have to
20 continue to monitor and have the metrics in place to say we're consistently
21 doing it, but it's at its infancy and it's the goal. It's what we're monitoring

1 ourselves to, but I can't give you the results yet.

2 COMMISSIONER JACZKO: I'd certainly be interested and
3 perhaps the staff may have a better idea, too, of what they're seeing if that
4 goal is being met.

5 I certainly would echo the comments that the Chairman made about
6 the importance of standard contracts. I think that's an important issue that
7 needs to be resolved.

8 The last issue that I would comment on that I think the Chairman
9 referenced in regard to ESBWR is the simultaneous design review and the
10 COL application. I certainly agree with his comments that that is not how
11 the Commission envisioned this process.

12 I would note that it's not just an issue with ESBWR, but effectively
13 with all of the designs that we're dealing with, other than perhaps with the
14 ABWR. We have a similar situation where either a large amendment or a
15 significant amendment -- perhaps large isn't the right word -- a significant
16 amendment is being worked on for design cert or the design cert itself. It is,
17 I think, an area that will continue to present challenges as we try and
18 coordinate all these activities as we move toward.

19 Those were all that I had. Thanks.

20 CHAIRMAN KLEIN: Thanks. I think part of that on the design
21 cert we probably were overcome by events that we didn't expect a lot of

1 things happening, increased base load, global warming concerns and those
2 things.

3 We are where we are and we need to move forward to the extent that
4 we can. I think from our perspective as Commissioners what we would --
5 the reason we like to have these meetings is if there's anything that needs
6 to be elevated to our attention. I think you're having good communication
7 with the staff and so I would encourage that to continue.

8 And as Commissioner Lyons indicated if there's things that need to
9 be brought to our attention please let us know. Thank you for your
10 presentations.

11

12 PANEL 2: NRC STAFF

13

14 CHAIRMAN KLEIN: While we're getting settled, I think for
15 those of us that have been watching Luis in the halls the last few days,
16 we've noticed he smiles more. He's bouncing.

17 We noticed that Bill is sort of like the deer in headlights look.
18 Welcome to your final presentation as EDO, but I'm sure not your final
19 presentation before us.

20 MR. REYES: Thank you. Good afternoon, Chairman and
21 Commissioners. Before we start the presentation, let me just thank you for

1 your kind remarks. But I'd like to, if I can, reflect on your comments in a
2 different way.

3 I have spent 30 years in public service, all of it with this organization
4 and I came in as an entry-level inspector. So, I think for those who are
5 watching, this is an organization where you can come in, take advantage of
6 the training, the developmental opportunities, and there are many, and you
7 can us aspire to move to the highest level position at the career level.

8 I'm an example of that, but I think it's because the agency has such
9 programs in place that that could be achieved. So, thank you very much.

10 Okay. I'll start the presentation. We want to update the Commission on the
11 new reactor issues. If I can have slide number two.

12 We plan to talk to you about the accomplishments and our recent
13 activities, the status of the new reactor projects and rulemaking, some
14 selective safety and environmental technical issues and some potential
15 schedule impacts. With that, I'll turn it over to Gary.

16 MR. HOLAHAN: Thank you very much. I'm here today
17 because Bill Borchardt is learning how to be Luis Reyes. I'm going to cover
18 a number of subjects just on an introductory basis and then we have three
19 of our technical branch chiefs here to give the Commission some insight into
20 the types of technical issues that we're dealing with in the design
21 certification reviews.

1 The three selected topics, ECCS sump design, LWA implementation
2 and operator licensing are issues of interest, but they're only three out of
3 literally hundreds of issues associated with each design certification. So,
4 may I have slide number four, please?

5 The first point I'd like to make is that we are in the process of doing
6 acceptance reviews as you're probably well aware. We have nine COL
7 applications. We've completed a number of the acceptance reviews and
8 we're continuing on others. Tom Bergman will give more detail into the
9 project status.

10 I think it's important that we are getting to the point where the
11 acceptance reviews are a proven process. This was something
12 recommended by Commissioner Merrifield's task force to take a little bit
13 longer on the front end to do an acceptance review, but in the process not
14 just decide whether we're going to accept it or not, but to get enough
15 detailed information so that we can actually construct a plan and a schedule
16 that we were willing to be committed to.

17 And I think that's working well. It's not perfect. In fact, it has turned
18 up difficulties. There have been a number of cases where we weren't willing
19 to commit to a specific schedule because the information wasn't available
20 from the applicant, but that was important to get on the table early in the
21 process as well.

1 So, Tom will talk about project status including our acceptance
2 reviews. Brent Clayton will speak to Limited Work Authorization. In fact,
3 he'll cover the issues that the industry raised just a little while ago.

4 We've also completed a number of environmental and siting audits
5 and they're an important part of our siting activities. It is also an opportunity
6 for increased interaction with the public at the local level. Can I have slide
7 number five?

8 I just wanted to mention a couple of other activities that are ongoing
9 and are important for the Commission's awareness. Vendor inspection
10 activities are becoming important. I think we're developing a very healthy
11 program.

12 You heard earlier that NUPIC is the industry's version of vendor
13 quality activities. We certainly interact with those people and we use the
14 results of what they do, but we're also finding that international cooperation
15 is important and valuable.

16 You heard earlier that there'll be a lot of construction of parts,
17 manufacturing of parts for new reactors in other countries. We have good
18 working relationships with the regulatory authorities in those other countries
19 and this is a very good opportunity to exercise those relationships and
20 having them help us with our inspection activities and we can help them with
21 their inspection activities as well.

1 Another thing that we've put in place is planning and scheduling tools
2 at a level of detail well beyond what we've done before. I think it's
3 interesting that you heard some comments on that subject as well from the
4 industry and I think there's also a level of transparency that we've been
5 willing to put out there.

6 Our original schedules, the first time through, they are not perfect, but
7 we are willing to put them on the table and discuss them with the applicants
8 to say, "If you don't like our schedule, where can you shorten something that
9 you're doing or can do it in a different order."

10 We've been willing to have those discussions in a public forum and I
11 think it's been a little risky in some ways of sort of putting our issues out
12 there on the table, but it's been worth while doing and I think it's a healthy
13 process.

14 With respect to issues of being capable to get the staff and have
15 them available to do the resources -- to do the inspections and reviews that
16 are necessary, I think that's an important issue. We've come a long way on
17 that subject.

18 As of today, the New Reactor Office has 425 staff. We have 40
19 known additional staff to join us by the end of June. And so in fact, we'll
20 probably meet our staffing level of 489 by the end of the year. That doesn't
21 mean we spent 489 FTE.

1 We still have a challenge in the fact that those people weren't here
2 for the whole year and we're going to manage that. I think we've come a
3 long way.

4 In parallel with just hiring people, we're dealing with training and
5 qualification and knowledge management tools. We are rolling those
6 together in what we think is a healthy way.

7 What I'd like to do now is turn it over to Tom Bergman to deal with
8 the new reactor projects. And I guess before I do that, just a second before
9 I do that, I introduced Brent Clayton. Let me also introduce Chris Jackson
10 who's our branch chief who will discuss the ECCS sump designs and Mike
11 Junge who will discuss our operator licensing issues. Tom?

12 MR. BERGMAN: Thank you, Gary. As mentioned, I'm going
13 to provide an overview of reactor project status as well as some other
14 activities. Of course -- go to slide seven, please.

15 There are three types of application reviews we do in the office: early
16 site permits, design certification and combined license reviews. For early
17 site permits, we've issued three to date: for the Clinton site in March 2007,
18 Grand Gulf in April 2007 and North Anna in November 2007.

19 We currently are reviewing one early site permit for Vogtle. That
20 review also includes a Limited Work Authorization. We issued the Draft
21 Safety Evaluation Report in August of 2007 and the Draft Environmental

1 Impact Statement in September 2007.

2 Our current schedule is we expect to issue the Final Environmental
3 Impact Statement in August 2008. The Final Safety Evaluation Report
4 schedule is currently under review due to some additional information
5 needed from Southern, but we do expect to complete that late this year.

6 For design certification, the agency had already certified four designs
7 before NRO stood up. The Advanced Boiling Water Reactor and the
8 System 80+ were both certified in May of 1997.

9 The Advanced Passive 600 in December 1999 and the Advanced
10 Passive 1000 in December 2005.

11 We currently are reviewing three additional design certifications: the
12 Economic and Simplified Boiling Water Reactor, the U.S. Evolutionary
13 Power Reactor and the U.S. Advanced Pressurized Water Reactor.

14 For all three of those design certifications, we've completed the
15 acceptance reviews and we have issued schedules for both the ESBWR
16 and EPR. We do expect to issue the schedule for the Advanced
17 Pressurized Water Reactor next week.

18 The final safety evaluation dates for the Economic and Simplified
19 Boiling Water Reactor are June 2009 and for the U.S. Evolutionary Power
20 Reactor May 2011.

21 In addition, of course, the new -- the revised Part 52 allowed

1 amendments to design certifications. We are reviewing an amendment to
2 the Advanced Passive 1000. We accepted that application and the
3 schedule for its final safety evaluation report is March 2010.

4 Four combined license application reviews, as Gary mentioned, we
5 have nine out of 23 in house. We have completed seven acceptance
6 reviews and are reviewing the applications. Those are Calvert Cliffs Part 1,
7 South Texas Project, Bellefonte, North Anna, Lee, Shearon Harris and
8 Grand Gulf.

9 We have issued schedules for three of those to date: the Bellefonte
10 for the Final Safety Evaluation Report of February 2011 and Lee also with a
11 FSER date of February 2011 and then North Anna, which is an Economic
12 Simplified Boiling Water Reactor design, in August 2010.

13 We have two additional applications currently under acceptance
14 review: Vogtle and the V.C. Summer. Our formal acceptance review won't
15 occur until June. Staff are available doing portions of the acceptance review
16 now.

17 This is a case where the applicant gave us late notification of when
18 the application would come in house and it simply isn't feasible to begin that
19 acceptance review earlier. The earliest we can schedule the staff was
20 beginning in June.

21 We also have Calvert Cliffs Part II under acceptance review. So, it

1 could be six and a half, two and a half, but I rounded up. Slide 10, I guess.

2 We've developed, as Gary mentioned, a number of tools to improve
3 effectiveness of our reviews. About a year ago we issued Reg Guide 1.206
4 and we did a pretty much a complete update of the Standard Review Plan.

5 More recently we have implemented an electronic request for
6 additional information workflow and database. This pushes the work
7 through the agency electronically in terms of getting concurrences as well
8 as it provides a database tracking of the status of all those including when
9 they go to applicants and come back.

10 And of course, as any database, it has reporting features on how the
11 work is progressing. We have a tool known as The Wizard, which is a
12 knowledge management tool. We have developed SER templates for both
13 the Advanced Boiling Water Reactor and the Advanced Passive 1000 and
14 we're going to develop templates for the other two designs.

15 These templates provide a lot of the boilerplate for the reviewers as
16 well as give a standard format so that the SER has a consistent look and
17 feel within a design center.

18 We have what's known as ADAMS Explore. This is a web based
19 ADAMS and the way the applicants are submitting the applications is the
20 combined license application is hyperlinked extensively into the design
21 certification application.

1 With web based ADAMS, it almost appears as one continuous
2 document. You can go between the two seamlessly. It's a big advantage
3 for the staff. All these tools and EPM are integrated together through what
4 is known as SharePoint, which is a virtual desk tie up that has all the tools
5 available as well as some other features like a collaborative work space.

6 Of course, as Gary mentioned, we're using the Enterprise Project
7 Management System, which isn't only a planning tool. Part of the power of
8 the system that we are really just beginning to appreciate is in terms of
9 project performance management, understanding where problems are
10 occurring so we can identify and bring resources to bear before it becomes
11 an issue in terms of achieving schedule.

12 These tools all together do help us focus on safety by insuring that
13 not only have we planned the work out well, we can have enough resources
14 to do a thorough job.

15 In terms of execution, as noted, we've completed all acceptance
16 reviews and all other major milestones have been met by the staff. We
17 currently hold weekly design centered based project performance meetings.
18 These focus on critical path and other at risk tasks that could potentially slip
19 schedules.

20 We have greatly increased the project status information and project
21 risks on the internal web site. And we continue to look for ways to get

1 better.

2 Over the summer we will be offering all the project managers and
3 management a course specific to the use of project management tools like
4 the Enterprise Project Management System in monitoring and measuring
5 and improving performance on projects.

6 We are also looking and we've asked industry to help identify metrics
7 of interest to them as a way to convey project performance internally and
8 externally.

9 As Gary mentioned, we have worked, I think, very hard to enhance
10 the openness and transparency of our project execution. We have made
11 public detailed resource and schedule information.

12 We are rolling those out for each project as they're ready and these
13 are very detailed. This is a dump out of EPM down to the task level. It
14 includes not only the tasks and the resources projected to accomplish the
15 tasks, it shows start and stop times. It shows baseline schedule versus
16 actual schedule; actual resources percent complete. It's a fair amount of
17 information that we're going to put out there and we'll keep it up-to-date.
18 We expect to probably update those schedules monthly.

19 Again, when we can get some good performance metrics developed,
20 we do plan to make those publicly available as well. Additionally, we are
21 going to revamp our web site.

1 From public outreach meetings we've gotten feedback that it's hard to
2 find -- if I live near Bellafonte, I can't find Bellafonte. So, we are looking at
3 how to not only improve the ease of access to the applications, but the
4 content, the consistency and the organization of that website.

5 We hold really an incredible number of public meetings both near the
6 sites related to both the environmental and safety reviews as well as here
7 with public and with industry.

8 For the status of key rule making activities and I'm calling them "key"
9 because all three of these have the potential to impact either design
10 certification or combined license schedules.

11 The aircraft impact rulemaking. We're currently resolving public
12 comments. We do expect to go to the ACRS in July, with the draft final rule
13 to the EDO this September.

14 The Security rulemaking, which was mentioned earlier, we have a
15 draft final rule going to the EDO this June. We are currently preparing the
16 guidance documents associated with that rule.

17 As noted, we did decide to defer the reviews of the affected portion of
18 the COLAs until the rulemaking and guidance were final.

19 I understand there's an urge to keep moving forward with the reviews
20 and as a project manager that's my natural inclination. When we met with
21 NSIR -- if you say the end in mind is to issue a complete Final Safety

1 Evaluation Report against the requirements in place at that time, we
2 considered that this approach has overall less risk to the projects than
3 potentially deferring work on that rulemaking and doing some template
4 reviews.

5 It is the same staff who would conduct those reviews who are doing
6 the rulemaking. We agreed with NSIR that the best course of action was to
7 focus the resources on the rulemaking and guidance and get that complete
8 and then do the reviews rather than do reviews and work on the rulemaking
9 as resources were available. So, both approaches can work.

10 I think the key date for us is if we have an effective rule by
11 March 2009. We think it's extremely unlikely that this would impact any
12 Combined License Review schedule.

13 For the design certification rule making process this is of course a
14 Lean Six Sigma initiative in the agency. We are looking for enhancements
15 and policy changes that can expedite that rulemaking or change the timing
16 of the start date so that the finish date moves up.

17 It isn't necessarily that we'll have to start the rulemaking after the
18 Final Safety Evaluation Report is issued. There may be some ability to
19 overlap those two processes, for example.

20 The need for this is right now in most cases the design certification
21 reviews are driving the schedules of the first Combined License Reviews.

1 So, again, in conclusion we have a lot planning and review tools. We
2 think they've been beneficial to the staff. They insure that we have the
3 resources to perform a thorough safety, environmental and security review.

4 We've met all scheduled commitments to date and we continue to
5 develop infrastructure to support the new reactor reviews. Good
6 infrastructure is critical to our success. With that, Chris?

7 MR. JACKSON: Good afternoon. My name is Chris Jackson.
8 I'm the Chief of the Containment Systems Branch 1. I'm responsible for
9 PWR reviews.

10 I'm here to talk about one of the many interesting technical issues
11 under review. We've gained an enormous amount of history, knowledge
12 and experience over the last 20 years on this and related issues and we're
13 bringing that all to bear on new reactor reviews.

14 We've got four design certifications under review. The AP1000
15 amendment includes a new sump strainer design as well as the ESBWR,
16 EPR and APWR are all design certifications that will have to address this
17 issue.

18 In this presentation I will touch on our knowledge, capability and
19 guidance that we have available to do the reviews, the level of detail in the
20 original applications and how we're managing that, as well as our
21 coordination efforts. Can I have the next slide, please?

1 10 CFR 50.46(b) addresses long-term cooling. This is the regulation
2 that covers this as well as the general design criteria on containment
3 systems and emergency core cooling systems which rely on recirculated
4 water.

5 Reg Guide 182 Revision 3 addresses long-term sources of water and
6 at a high level covers all the issues we know about the sump. This
7 guidance has been augmented with more detailed guidance in a number of
8 areas in the recent years.

9 Reg Guide 1206 covers the applications -- contents of applications
10 and it specifically directs applicants to address this issue. With the
11 experience we've gained over the recent years we feel that we have the
12 capability to review any new reactor design; active, passive, boiling water
13 reactor or pressurized water reactor.

14 As we all know, this is a very difficult issue. It's got large
15 uncertainties; however, new reactors are better suited to address this issue.
16 They have option of choosing materials to go into containment, insulation,
17 coding.

18 They can always choose materials to minimize debris generation and
19 take steps to minimize debris transport and they can maximize the surface
20 areas of the screen. Unfortunately, the first applications were not adequate
21 to bring the issue to closure.

1 We received a lot of information over recent months. I can give you a
2 couple of examples. Detailed design information on the sump strainers,
3 assumptions associated with the head loss weren't supported by data and
4 key aspects of Reg Guide 182 Rev. 3 weren't addressed.

5 We received a good deal of information over the last two months and
6 we've got schedules for the remaining information that we need and we are
7 scheduling those reviews accordingly. So, that's good.

8 The information we don't have, though, is pushing some of the
9 schedules out. So, some of the information that we're awaiting does have
10 schedule impacts.

11 The last point I want to touch on is innovation. We see a number of
12 designs taking innovative approaches, which is good. We have a unique
13 trash racks. There's passive designs. Refueling water storage tanks and
14 containment. Each of these have benefits, but we will be challenging the
15 staff to do a detailed review on that. Move to the last slide, please. Slide
16 15.

17 NRR is doing a number of reviews in relation to Generic Issue 191
18 and they're learning things on a day-to-day basis. We're working very hard
19 to make sure that we stay in tune with them. We meet with them regularly.
20 We make sure that we have the same knowledge they have. A lot of
21 coordination going on there.

1 Additionally, we're working with Office of Research and the Office of
2 Nuclear Reactor Regulation, lessons learned from the closure of GSI 191
3 that's incorporated into new guidance.

4 Additionally, we're working to maintain -- remain aware of what our
5 international counterparts are doing. For example, at a recent MDEP
6 meeting or Multinational Design Evaluation Program meeting, we discussed
7 the EPR design and some of the things our foreign counterparts have done
8 there.

9 Additionally, on a recent trip to Japan the sumps were described
10 there. We sent some questions related to the new reactor sump designs.

11 So, in conclusion, I wanted to point out we feel we have the capability
12 and knowledge to review the new reactor designs. Although the level of
13 detail in the original applications was inadequate, we feel we are managing
14 that by scheduling the information and scheduling the reviews appropriately.

15 We're working hard to remain coordinated with all our other
16 counterparts who are knowledgeable about this and we're going to move
17 forward with safety focus design certification reviews.

18 That's all I have. I'm going to turn it over to Brent.

19 MR. CLAYTON: Thank you, Chris. Good afternoon,
20 Chairman and Commissioners. I'd like to talk to you today about three
21 implementation issues that we've identified with the Limited Work

1 Authorization or LWA rule.

2 I'm one of three Branch Chiefs that's responsible for doing all the
3 environmental reviews and Environmental Impact Statements for the new
4 reactors.

5 The former speaker, Mr. Byrne and Commissioner Jaczko, stole part
6 of my thunder on the separation issue, but I'd like to go through it briefly
7 anyways just to make sure everybody understands.

8 One of the significant changes of the LWA rule is the new definition
9 of construction, which is consistent with our statutory authority. It's limited
10 to things that are directly related to radiological health and safety or
11 common defense and security.

12 There are some things that came out of the rule that I don't think we
13 fully understood when we issued it. The first one is the separation.

14 A definition of construction, just to set everybody on the same
15 wavelength here, those things are construction I talked about, but
16 everything else is called pre-construction in the rule. Even if it's going on at
17 the same time as construction, it's pre-construction and construction.

18 While this definition came about as part of the Limited Work
19 Authorization rule it really affects all the applications even under the old Part
20 50 process for construction permits, for combined operating licenses or for
21 early site permits. Slide 18.

1 The way this issue of separation came up is the new rule requires
2 applicants to submit in their environmental reports a description of the
3 impacts -- the environmental impacts of the construction activities and to
4 include the impacts of the pre-construction activities so that we can consider
5 them in our review -- the cumulative impacts which is required under NEPA
6 and under our regulations.

7 In some areas, doing the separation is fairly easy. We issued some
8 interim staff guidance on April 8th for public comment for 60 days. I expect
9 when we get comments back from that we'll have a meeting with
10 stakeholders to try to work through those issues.

11 In that guidance there are some areas where it's more difficult to
12 separate the impacts; socio economics, for example. If you have part of
13 your construction work force is working on construction and some are
14 working on other things you've got to build a new school for their kids. It's
15 kind of hard to separate exactly how you do that.

16 In our interim staff guidance we went along with the principles of
17 NEPA and the NRC regulations. The level of detail that you need to discuss
18 these impacts should be commensurate with the level of the impacts or the
19 significance of the impacts.

20 In the past we've found that the significance of the impacts in most
21 cases have been small. So, our guidance to the industry or our draft

1 guidance is that doing a rough estimation to separate these activities such
2 as 50/50 or 70/30 is probably good enough in most areas. We don't think
3 it's going to be a huge effort to do that.

4 Although I'm a little surprised at the half a million dollar estimate by
5 the industry. Anyway, we'll continue to work through that. If I could go to
6 the next slide, slide 20.

7 The second issue is applicant interactions with other permitting
8 authorities. Again, some of those are really easy, some are more difficult.
9 Under the Endangered Species Act, for example, for projects that are
10 funded or authorized by government authorities -- by Federal Government
11 authorities, they go under Section 7 of the Act.

12 If it's a private activity that doesn't have government funding or
13 authorization then it's under Section 10 of the Act. So, that's a place where
14 clearly the industry can deal with the Fish and Wildlife Service and whoever
15 and take care of those issues without our involvement.

16 With the Army Corps of Engineers, though, it's a little different. When
17 one of our applicants approached the Army Corps of Engineers and said,
18 "We want to build a barge slip and a haul road." The Army Corps of
19 Engineers said, "Why?" They said, "Well, we're going to build a power
20 plant; probably a nuclear power plant." They said, "Well, we need to see
21 the whole project. We have to do an Environmental Impact Statement on

1 the whole project. We don't have that budgeted. It's going to take us a long
2 time to do it."

3 So, we're working with the Army Corps of Engineers to try and
4 update our 1975 MOU, which doesn't even address Part 52. It's just got the
5 old licensing process.

6 I'd like to thank Carol Bernstein from the Corp for being here today to
7 support our meeting. She's the staffer who's been assigned the lead for
8 helping us update that MOU.

9 They recently requested to be a cooperating agency in our
10 Environmental Impact Statements and we're considering that and we're
11 working our way through that. It will probably work out, but there's some
12 questions that we have to get answered first. OGC is helping us work
13 through some of those issues.

14 The Corps has indicated that if they are a cooperating agency with
15 us, they think they can support our review schedules, which will be, I'm
16 sure, a benefit to the applicants.

17 They probably will require additional details in the applications that
18 we wouldn't be requiring otherwise for the Corps to have the information
19 they'll need to issue their permits, but its information that the applicants
20 would have to provide to the Corp anyways, so I don't think it will be an
21 extra big burden for them.

1 We are meeting with the Corps again in about two weeks to continue
2 our discussion on how to revise the MOU and how we move forward on this.

3 And the third issue is the schedule. The industry asked us if they
4 submitted an LWA application if it would impact or how much it would
5 impact their application for a combined license.

6 We said we don't know, but if you tell us in advance so that we can
7 work it into our schedule and our resource model, we don't think it will have
8 much impact. If you spring it on us at the last minute and we don't have
9 time to build it into the schedule it may have some impact and we'll address
10 it on a case by case basis, especially if in those cases we're resource
11 limited.

12 And that was the end of my prepared remarks. If there's no
13 questions now, I'll turn it over to Michael Junge to talk about operator
14 licensing.

15 MR. JUNGE: Thanks, Brent. Good afternoon. I'm Mike
16 Junge. I'm the Branch Chief for Operator Licensing and Human
17 Performance. I'm here this afternoon to talk about operator licensing for
18 new reactors. Next slide.

19 Over the past year we've held several meetings with industry, INPO,
20 NEI and stakeholders to discuss operator training and licensing. From
21 these discussions we've created this time line.

1 If you consider the earliest COLA we're somewhere in the minus 80,
2 minus 79 month time frame. As you know, to load fuel we have to have
3 licensed operators. To accomplish this we have to have several things
4 occur in parallel.

5 For the industry, the applicants must train the operator instructors,
6 procure a simulator and develop a training program for new reactor
7 operators. Licensed operator training will begin approximately 42 months
8 prior to fuel load.

9 The plant reference simulator is required for operators to be
10 examined and we expect that to be available approximately 22 months prior
11 to the fuel load.

12 For the NRC, we must train and qualify licensed examiners for new
13 reactors and we need to develop a training qualification program for the
14 examiners and procure simulators as well.

15 So, we're working on an information paper for you that will explain
16 our approach to the training qualification of inspectors and examiners. Next
17 slide, please.

18 Existing regulatory guidance addresses the training and qualification
19 needs of licensed operator candidates for operating reactors. Current
20 regulatory guidance doesn't address the situation when the plants are not
21 operational or under construction.

1 So, cold licensing is a process used prior to fuel load that will provide
2 a consistent method for operations personnel to acquire the knowledge and
3 experience required for licensed operator duties following construction.

4 Both NRR and NRO operator licensing branches have met with NEI,
5 INPO and the industry numerous times to discuss the licensing and training
6 of personnel necessary to operate the new reactors. The need for efficient
7 and effective operator training will be necessary.

8 The interactions have been very positive, very productive and the
9 staff is currently reviewing a technical paper on a cold licensing process
10 submitted by NEI.

11 This paper covers areas in which consensus between NRC and NEI
12 and industry have been reached and they include overall operating crew
13 experience.

14 There will be two operators with previous operating experience on
15 each crew and also documentation of experience for each individual used to
16 meet the cold license eligibility requirements.

17 The time spent obtaining experience prior to licensing must be
18 meaningful and consistently calculated and the final determination will rest
19 with the NRC. Next slide, please.

20 The industry group members requested that we continue to meet and
21 discuss exams and how they'll be handled for digital control rooms. The

1 discussion topics included how many general fundamental exams to
2 administer; do we have multiple utilities; take one examine at one area; how
3 to handle digital failures, et cetera.

4 Following a visit to Halden with the colleagues from Research and
5 TTC, the ham lab which is a digital simulator control room, we identified
6 several additional issues that need to be discussed.

7 The first is the communications are different at digital control rooms.
8 The operators are sitting at computer monitors rather than walking around to
9 the different control room panels. One operator won't know what another is
10 doing on his monitor, whereas the old control room, if you walk to a panel
11 you know what systems are on the panel, so, you knew which manipulations
12 he was performing on what systems.

13 Also, oversight by the control room supervisor is different for the
14 same reason. He won't know what screen or the systems that the operators
15 are manipulating. The alarm handling is much different as well.

16 So, we need to evaluate these from a human factors standpoint as
17 well as an operator exam standpoint. The group is really interested in
18 getting these exams done right. Next slide, please.

19 We're heavily involved with the TTC, NRR and the regions in
20 determining examiner trainer and qualification needs as well as simulator
21 needs.

1 We've entered into discussions with the industry, Westinghouse, GE
2 and GSE, for example, for simulator market research. Our plans for digital
3 control room simulator training involve three options.

4 The first option is to purchase the second simulator of each design
5 off the shelf from each vendor. These would be copies of the simulators
6 made for their first customers.

7 The second option would involve purchasing simulation models and
8 services to have the models work in a common NRC hardware/software
9 environment.

10 The third option would involve contracting training services so that
11 our examiners and inspectors would train at vendor facilities.

12 For examiner training and qualification our current plans are to
13 continue our discussions with NRR, regions, TTC and the industry on how
14 the exam process might change and in cooperation with the TTC will modify
15 or create a new qualification training program based on what we identify.

16 Following completion of a licensed operator training program, the
17 NRC license examiners will administer initial exams approximately 18
18 months prior to fuel load.

19 Since the plants will require about 45 operators, operator licensing
20 classes will be larger than normal; approximately 50% and there will be
21 about 30 candidates per class.

1 To administer these exams to large classes and to maintain the rate
2 of exams for the operating fleet we'll need additional examiners. They'll be
3 placed in the regions based on the number of new reactors expected in
4 each region. Next slide, please.

5 We interface with NRR and the TTC and the regions on a regular
6 basis regarding the transition of the new reactor operators into the operating
7 fleet as they become operational.

8 Since the regulations require re-qualification of operators, many
9 operating reactor examiners will be cross trained into the new design
10 reactors to review and administer these re-qualification exams. We plan to
11 train these examiners during initial exams as we move forward.

12 That concludes my remarks.

13 MR. REYES: That concludes our prepared remarks and we're
14 looking forward to your questions and I'm very happy to agree on any action
15 item starting Monday.

16 CHAIRMAN KLEIN: Good plan. Well, thank you all for a very
17 good presentation. Obviously, a lot of activities going on. So, you think
18 your going to meet your 489 number?

19 MR. HOLAHAN: Yes, sir.

20 CHAIRMAN KLEIN: Good. Commissioner Lyons?

21 COMMISSIONER LYONS: Thank you all for an excellent

1 briefing. Let we start with a first question that I also asked to the industry
2 representatives. I'm not sure if it's for Luis or Gary.

3 I'm curious about your view on the agreement between staff and
4 industry on identification of key issues. Are there any substantial
5 disconnects? I haven't heard any.

6 MR. HOLAHAN: I haven't heard any either. I think it's
7 interesting that when we prepared our presentation for today we didn't
8 consult with industry, but in fact there's a fair amount of overlap in the
9 issues that they raised and the ones we raised. I think that's probably an
10 indication that we've got the same things on our mind.

11 MR. REYES: On my level in addition to the daily or frequent
12 staff exchange, I meet with the vendor senior management and all the COL
13 applicants' senior management all in one meeting.

14 We discuss some issues that are generic to all the applicants of a
15 particular design and sometimes we discuss site specific issues to make
16 sure that in fact, the vendor, the COL applicants and senior management of
17 the NRC are in agreement.

18 And we're doing that with all the designs that are currently the subject
19 of COL applications.

20 COMMISSIONER LYONS: I think it speaks very well for
21 certainly our management, our staff and the same for industry that we've got

1 this level of alignment on recognition of the key issues and working together
2 to solve them. So, there are lots of compliments to go around.

3 I was going to ask a question on the sump chemical effects, Chris.
4 You and some of the industry comments may have answered this. There
5 was a statement that the new plants based on current experience would
6 probably avoid use of fibrous insulation.

7 Is that sufficient to say that the chemical effects are largely behind us
8 or do we still have to continue to pay attention to the chemical affect issues
9 in the sump designs?

10 MR. JACKSON: We still have to pay attention. The choice of
11 materials and the choice of chemicals makes the job much easier. So, we
12 know the bad actors. We know how they work together.

13 We have guidance out there, so it's much easier for somebody
14 coming in with a clean containment to choose the materials.

15 Now, what we have to make sure is that the testing that's been done
16 in effect umbrellas what they have so that as you build in the innovation, you
17 can introduce more chemicals or different chemicals. That would be the
18 nature of our review.

19 But from a design standpoint, they have a leg up, but our review
20 would still make sure that they have adequately addressed them.

21 COMMISSIONER LYONS: In general, are you finding that the

1 containment designs are coming in, let's say, much cleaner than the existing
2 plants?

3 MR. JACKSON: By and large we're seeing much less use of
4 fibrous insulation if no use at all. So, we're seeing much more reflective
5 metal. So, yes, big improvements.

6 COMMISSIONER LYONS: Thanks. A question for Mike on
7 some of the operator exam issues relating to the Digital I&C, which I've kind
8 of been interested in the past. I'm looking at you're slide 23 that talks about
9 a time line on instructor training and a number of other aspects.

10 You also mention that there's a paper on its way to the Commission
11 to talk about a number of these issues including simulators for the Digital
12 I&C.

13 I was just curious. Based on that time line are we still acceptably
14 following this timeline? I'm noticing it says start instructor training 67
15 months out. That's still a ways in the future.

16 MR. JUNGE: I heard today they've already started, so that's a
17 good sign for the industry. On our side, we're running right to the limit of we
18 need a simulator by 2010 so we can have it operational by 2012 so we can
19 have our examiners and inspectors ready.

20 We're planning on hopefully getting more examiners 2010, 2011 time
21 frame, so that we will have the capability to handle the increased number of

1 exams we're expecting.

2 The industry is also going to take -- as I talked about, we're going to
3 have experienced operators in the control room. So, they're going to have
4 to take operators from the current fleet and use them in these new reactors.

5 So, we're expecting the number of exams to go up for the operating
6 fleet as well as for the new reactor fleet.

7 MR. REYES: On the industry side, they have a very detailed
8 staffing curve that includes everything from pre-construction activities,
9 construction activities, initial operation. It goes through all that and, of
10 course, that curve moves back and forth depending on when you want to
11 start pre-construction and construction.

12 Within those curves, they recognize that you need the operating staff.
13 I'm aware of some of the negotiations already going on between some of
14 the applicants and the vendors regarding simulators.

15 On our side, we are preparing the 2010 budget as we speak and
16 you'll see a request for funds for the NRC related activities for staffing and
17 equipment, such as simulator or an equivalent.

18 We're still working on what is the best approach. There's a
19 recognition that in fiscal year 2010 we need to do that.

20 There is an issue that we haven't resolved. As you know, we survey
21 the industry to give exams. How many exams are planned to be given to

1 the current fleet? We have that feedback for 2010 and it's a decrease from
2 2009.

3 We're trying to make sure that that issue was responded to at the
4 right level in the industry and they -- to make sure. Once we plan for a
5 much smaller number of operator exams, we can't recover. We won't have
6 the resources. So, we have to resolve that part.

7 COMMISSIONER LYONS: In fact, that point came up, I think,
8 on a visit I had in Region II -- no, Region III. It did seem very surprising that
9 industry was projecting a decrease in the number of license exams required
10 in 2010, which to me made absolutely no sense.

11 So, I'm glad you're elevating that and making sure that's really what
12 they want to say.

13 MR. HOLAHAN: Can I just add one thing? Not to belabor the issue,
14 but this time around with digital control rooms and large displays and
15 computer capability now, which is so different from when everyone else was
16 in high school and I did a little work on the Calvert Cliffs simulator, that was
17 1970's, having computers to run simulators was an enormously difficult
18 problem. To put a simulator together these days -- to put a control room
19 together or to put a simulator together is a much more manageable task.

20 I think that's why the NRC has a feasible task in front of it to get it
21 done and get it done in time.

1 COMMISSIONER LYONS: Well, I very much hope you're
2 right, Gary, but it's certainly an area that I think you and I think the
3 Commission, too, needs to really stay focused on. I'm nervous about this
4 area, but I hear you and I hope it's all going to come together. I'll stop there.
5 Thanks.

6 CHAIRMAN KLEIN: Commissioner Svinicki?

7 COMMISSIONER SVINICKI: Thank you Mr. Chairman. I
8 thank all of you for very informative presentations. I raised with the industry
9 representative the issue of the quality and completeness of submittals. I
10 notice, Gary, that you said "acceptance reviews are a proven process".

11 So, I take from that we have a data set now that we could determine
12 some trends. Is there a trend there in the quality and completeness that you
13 would comment on?

14 MR. HOLAHAN: I think the database is we've basically
15 completed, I guess, seven acceptance reviews. We're doing a few more. I
16 think the most noticeable thing is that the subsequent plants, not the first of
17 a kind, but the second of a kind looks like they really are learning the
18 experience from that first application. And so, in fact, I think Tom probably
19 has more of the details.

20 We've even had acceptance reviews for which we laid out a 60 day
21 schedule, which we actually completed in a much shorter period of time.

1 It wasn't that we got a lot smarter; it's that the system got a lot
2 smarter.

3 MR. REYES: We did.

4 MR. HOLAHAN: Well, maybe we got a little smarter, but the
5 process just worked better.

6 MR. REYES: If I could add, we also have seen an
7 improvement not only within the design center, but there's a lot of good
8 communication across the industry. So, when we see the first reference of
9 a new design it's much, much better than the first reference of the previous
10 design; meaning, lessons learned from this one were transferred to a
11 completely different technology.

12 So, there's a lot of cross communication in the industry. We're
13 seeing not only through the reference plants and the subsequent COLs but
14 across designs.

15 COMMISSIONER SVINICKI: That's encouraging. I hope we'll
16 see that trend continue. Tom, I wanted to mention, I think sometimes
17 success is enabled by the most mundane of things. I appreciate the time
18 you spent talking about the planning and review tools.

19 I think it's really important for the Commission to understand how it
20 is -- I'll contrast it to what I call "and then a miracle happened school of
21 planning". I really appreciate and I'm going to take a moment just to

1 commend Chairman Klein because one of the first things he told me here is
2 that he wanted to invest in software and IT and work planning tools that
3 were going to give us any chance of success in getting done the workload
4 that was projected.

5 So, I appreciate you're taking the time to cover that. I think it's
6 important for us to hear. I would hope that you would bring to the
7 Commission's attention anything that you feel that you lack in that area. I
8 think it's important that it be addressed.

9 I think my last question is for you as well, Tom. On the security
10 rulemaking, as I understand it you talked about a projected schedule of
11 having a rule in place by March 2009; is that correct?

12 I think if you back that up that requires a draft to the EDO by end of
13 June of this year.

14 MR. BERGMAN: Correct. That's draft final.

15 COMMISSIONER SVINICKI: What's your confidence level on
16 getting that to the EDO on that schedule?

17 MR. BERGMAN: We are very confident.

18 MR. REYES: You were not here in the previous Commission
19 meeting, but I made a point -- either Dr. Mallett is going to deliver it to me in
20 June or his replacement will soon move to his office.

21 MR. BERGMAN: We did need a planning and scheduling

1 system for that deliverable.

2 COMMISSIONER SVINICKI: We're at 100% confidence.

3 Okay. That's doable.

4 COMMISSIONER JACZKO: Just to clarify, he'll be delivering
5 it to Bill.

6 MR. REYES: Yes.

7 COMMISSIONER SVINICKI: Thank you. That's all I have,
8 Mr. Chairman.

9 CHAIRMAN KLEIN: Thanks. Tom, I have a few questions. I'll
10 start with you. On the early site permit for Vogtle, could you talk a little bit
11 about efficiencies that we learned internally for the first three processes that
12 we went through and what you learned and implemented to make the Vogtle
13 one any better? How much more efficient do you think we were?

14 MR. BERGMAN: In terms of schedule, I'm probably going to
15 have to get back to you with more details on that. In terms of schedule, it's
16 very hard to apply to say, "Hey, we were able to cut huge steps out of the
17 process."

18 In terms of the types of issues we face, we've got a better
19 understanding of that. We've learned how to work better with applicants
20 and that's paid off, but we still continue to struggle in the reviews with -- the
21 site issues, it seems, drive the schedules heavily. There something unique

1 about every site, even where it's only three-quarters of a mile, I think,
2 approximately there from currently operating units. That's what makes
3 those very challenging.

4 But the process especially with respect to the Environmental Impact
5 Statement is they're already very efficient. They already learned from the
6 license renewal program how to do EISs very short. The roughly two year
7 period for an EIS is very good and that drives that schedule.

8 Now, it turns out in this case because of some siting aspects that are
9 related to the safety reviews, the safety reviews have been extended a little
10 bit there. But in general, that is a pretty good process.

11 MR. REYES: We don't have the number here, but it's a
12 significant reduction in the effort and the time on the fourth early site permit
13 based on lessons learned on both sides.

14 The fourth early site permit is very precise. The technology was
15 picked instead of doing an envelope analysis. So, a lot of improvement on
16 the industry side and a lot of practice by us. We had done three of them, so
17 we did get smarter and much significant improvement.

18 MR. BERGMAN: The total schedule is shorter there.

19 MR. CLAYTON: If I could add to -- on the environmental side.
20 As the Commission has encouraged us to do, we look for whatever
21 information is already out there; other agencies' Environmental Impact

1 Statements or environmental assessments or previous ones here.

2 I was talking to one of my staff members this morning. One of the
3 alternate sites for Bellefonte is the former Clinch River site, which TVA still
4 owns. I got one of my staffers this afternoon going out looking for the EIS
5 that we did back in 1974, '75.

6 There's information there that may still be viable. So, we start with
7 what little we can find.

8 CHAIRMAN KLEIN: You mentioned about the amendment for
9 the AP1000 on the design cert. Do we expect an amendment on the
10 ABWR?

11 MR. BERGMAN: No, we do not expect an amendment to that
12 design. We expect South Texas to pursue departures.

13 MR. REYES: We know what they are and they're just safety
14 improvements. For example, the turbine on the high pressure core injection
15 system. Since the design was certified, we've seen a much improved
16 turbine to drive that pump.

17 So, there's a handful of departure from the certification, but there all
18 practical and improvements on safety.

19 CHAIRMAN KLEIN: Very good. I would like to compliment
20 you on your public outreach activities. I think across the board that we've
21 done a good job in having public meetings, raising issues, talking to people

1 and I think that will really enhance the communication as we go forward and
2 reduce unnecessary anxieties.

3 So, congratulations on your public outreach. I read where public
4 meetings are held often and I think the more we can do that the better we
5 will be. So, keep up the good work.

6 Chris, I have a question for you. On page 14 of you're slide you
7 talked about the detail that was lagging. I assume that the detail that was
8 lagging gets corrected on future COLs; is that correct.

9 MR. JACKSON: My presentation was focused mainly on the
10 design certifications. The COLs we're seeing are incorporating this
11 information by reference. My statement was directed towards design
12 certification.

13 CHAIRMAN KLEIN: How about on design certs? In other
14 words, the detail that you're seeing; EPR did lessons learned from the
15 AP1000 and the ESBWR helped for those design certs?

16 MR. JACKSON: We didn't see a big improvement from my
17 standpoint. The Mitsubishi design, the EPR came in very close to each
18 other, so I don't think they really had an opportunity to learn from those.

19 I didn't see a benefit there, but since then in the last two months we
20 have gotten a lot of information and we have the rest of the information
21 scheduled or the applicants schedule and we're planning our reviews

1 around it.

2 CHAIRMAN KLEIN: Hopefully, we won't have quite as many
3 RAIs on the last two as the first ones.

4 MR. JACKSON: That's our hope.

5 CHAIRMAN KLEIN: Commissioner Jaczko?

6 COMMISSIONER JACZKO: I had a couple specific questions
7 back on the sump issue. Again, in some of the background material that
8 was here there is a statement for ESBWR that GE's plan is to use an active
9 pump after 72 hours following a low pick. Do you know more about that?
10 Can you explain what that --?

11 MR. JACKSON: I'm reviewing the PWRs, but I can touch on it
12 briefly. ESBWR is a passive plant. It's passive for the first 72 hours. After
13 72 hours, they're permitted to credit --

14 That's where the issue is. The passive plant becomes active at some
15 point and we would have to consider those issues.

16 COMMISSIONER JACZKO: How does that issue affect the
17 sump issues? Am I misunderstanding?

18 MR. JACKSON: The long-term cooling is typically done
19 through some sort of recirc, so they take water from the suppression pool or
20 one of the other pools in containment and cool it.

21 So, that would potentially be susceptible, but right now the

1 discussions are still going on with GE as to what systems they'll credit and
2 whether they would be affected by it.

3 MR. REYES: If you don't need to recirculate the water from
4 there then there's no issue, right?

5 MR. JACKSON: Yes.

6 MR. REYES: If at some point in time --

7 COMMISSIONER JACZKO: These wouldn't be pumps for
8 recirculation? These would be pumps to supply water for recirculation?

9 MR. HOLAHAN: No, no for recirculation.

10 MR. REYES: Yes. Because the water is down in the
11 basement of the building and whenever you're going to get the water from
12 the basement of the building back into whatever action to mitigate the
13 accident, at that point in the accident mitigation then the issue surfaces. As
14 long as you don't do that, the issue is not there.

15 MR. JACKSON: There's still discussions with ESBWR on
16 exactly what they're going to credit when and whether those issues will
17 come into play.

18 COMMISSIONER JACZKO: If I could go back to a comment, I
19 think Tom, that you made and one that I'm not quite sure that I agree with.
20 But I'll perhaps give you an opportunity to expand on it a little bit.

21 You made a comment about -- in the design cert about looking for

1 ways to have additional overlap potentially within an SER being issued and
2 potentially a rule going out earlier than that.

3 Can you comment a little bit more on what you meant by that?

4 MR. BERGMAN: I don't want to prejudge the Lean Six Sigma
5 process, but it is possible that you can start the rulemaking process while
6 you're developing the FSER. Right now, our current plan would be you
7 issue an FSER, then you go to ACRS, then you begin rulemaking.

8 It is possible that you could overlap those two processes somewhat.
9 You have to go through that FSER, ACRS before you finalize the rule, but
10 you may be actually able to overlap the two.

11 We want to both shorten the process and if possible move up the
12 start date so that the end date comes forward.

13 MR. REYES: The Lean Six Sigma process specifically looks
14 for something they call idle time. And idle time could be as simple as you
15 do things sequentially with a gap on them or you could before you do the
16 last step on one sequence start the step on the next sequence as easy as
17 lining up the staff and doing some work.

18 Lean Six Sigma as a business process improvement minimizes idle
19 time. In Lean Six Sigma lingo that's what Tom was talking about, reduce
20 the idle time on the process which has several sections.

21 MR. HOLAHAN: In this case, there's an additional

1 consideration, which is organizations like the ACRS will have already
2 reviewed the design and if you simply did the standard rulemaking process
3 they would review the design as part of the final design approval. Then
4 they'd review it again as part of the proposed rule. Then they'd review it
5 again as part of the draft final rule.

6 It seems like there's a lot of opportunity for rolling that maybe into two
7 or maybe into one process.

8 COMMISSIONER JACZKO: Well, I'd certainly be interested in
9 what comes out of this, but at this point I'm somewhat skeptical of this
10 approach. I think one of the things that's important to keep in mind is that
11 these rules go out for public comment and I think this information is valuable
12 for people who want to comment.

13 I'm not sure that we want to put out too much simultaneously. I think
14 there's already a tremendous amount of overlap going on with the design
15 certs as well as the COL review as well as potentially an LWA hearing that
16 may be in progress.

17 At some point we make it pretty much impossible for members of the
18 public to track everything that's going on at the same time. That is an
19 important part of our responsibility and I hope that that's being factored into
20 whatever we're looking at from a Lean Six Sigma that we continue to ensure
21 that the public has ample opportunity to review materials in sufficient time to

1 be able to comment in an informed way on these rulemakings and the entire
2 process.

3 I get a little bit worried when I start hearing about more overlap
4 because I think we've got enough as it is.

5 In that vein as well, I would certainly encourage whatever follow-up
6 meeting we do on the interim staff guidance on the Limited Work
7 Authorization that certainly the staff makes sure that a large group of
8 stakeholders is present because we certainly got a lot of comments on the
9 rule as well.

10 A lot of people raising varied kinds of issues that we're struggling
11 with. Going back and reviewing some of it. If, in fact, some of the things we
12 indicated was, don't worry, those issues are going to be resolved in the
13 interim staff guidance.

14 We certainly have an obligation, in particular, to make sure we go on
15 to those commenters and insure that they participate and do comment and
16 work this out. I think as I said I was not sure that this rule was going to do
17 anything other than create more problems. So far, I'm not sure that I was
18 wrong.

19 So, I think as I said, it's something -- it's an opportunity, it is not a
20 requirement for anyone and I don't know that it's necessarily going to
21 accelerate. I would just comment, too, we touched on this earlier.

1 We have a lot of applications in front of us. We have a lot of interest
2 and there's a lot of desire on the part of industry to move forward with
3 applications.

4 The real issue in a lot of ways is who's actually serious about
5 constructing? I have heard from several people that the most important
6 issue for construction, obviously apart from getting a license from the NRC,
7 is the approval of Federal loan guarantees. Right now, there are not
8 sufficient Federal loan guarantees for more than several nuclear power
9 plants.

10 At some point, there appears to me to be a disconnect in terms of
11 what the goals are in terms -- we right now have nine applications, I believe,
12 for 15 units. Clearly, not all of those can be funded right now with Federal
13 loan guarantees that are about \$8.5 billion.

14 At some point if that issue is not addressed, then either that
15 statement needs to be changed from the industry or those plants aren't
16 going to get built.

17 So, I think we need to be careful as we look at these things that we
18 don't get too far ahead of ourselves in terms of what's actually going to
19 happen with any of these applications if they get approved in the end.

20 I didn't really have any questions in that round. I apologize. I have
21 one quick question.

1 CHAIRMAN KLEIN: Brent, did you want to comment?

2 MR. CLAYTON: I'd just say we certainly plan to proceed as
3 you suggested and we'll keep you posted on our progress.

4 COMMISSIONER JACZKO: Great. Appreciate that.

5 CHAIRMAN KLEIN: Commissioner Lyons?

6 COMMISSIONER LYONS: I don't have any more questions.

7 Just a comment out of what you just said, Greg. It's my understanding and I
8 may be wrong and the industry folks are still here and can comment.

9 The importance of the loan guarantees is very different, whether
10 you're looking at a merchant plant or looking at a plant on a rate base. I
11 think you'll get very, very different answers on the importance of the loan
12 guarantee depending on which group you ask.

13 COMMISSIONER JACZKO: I asked both and I've received
14 the same strong assurances from both that that's important. Now, again,
15 I'm sure people's situations may change, but I have bifurcated that question
16 and was surprised by some of the answers I got.

17 COMMISSIONER LYONS: That would surprise me.

18 CHAIRMAN KLEIN: I've asked the same question and I've
19 gotten different answers. That depends on who you ask.

20 COMMISSIONER LYONS: I don't have more questions.

21 CHAIRMAN KLEIN: Just one question. What's our critical

1 path for getting a Digital I&C for us so we can train our staff to be ready to
2 give exams and get trained?

3 MR. JUNGE: To have the simulator? Going backwards from
4 that slide, our training is going to start at the same time the operator training
5 is.

6 MR. HOLAHAN: What does it take for the staff and the
7 Commission to do to get that simulator in place?

8 MR. JUNGE: We have to resolve the three options that we're
9 working on and we'll need it in place at least 12 months before the examiner
10 training finishes. So, there is an overlap of time that we don't need it, but it's
11 coming down.

12 COMMISSIONER LYONS: There's another little detail of
13 funding it.

14 MR. REYES: Fiscal year 2010 budget will answer your
15 question. We're wrestling with what to ask because there's two or three
16 ways to go. There's two or three ways to go and we're trying to make sure
17 we ask you resources for what we need, but that we're smart that it is the
18 right thing; not necessarily what we've done in the past.

19 So, as we speak Dr. Mallett spent the day yesterday working the
20 budget issue. He came with a number that I didn't like. So, he's going
21 back. Bill will have an answer for you Monday.

1 MR. BORCHARDT: I thought it was alright.

2 MR. REYES: Bill will have the perfect answer for you
3 Monday.

4 CHAIRMAN KLEIN: Any more questions?

5 COMMISSIONER JACZKO: Just one question. Maybe you
6 can update me on where we stand in general. I don't want to get into
7 specific issues on any applications that have been docketed.

8 Where do we stand with seismic issues? I know that's been a
9 recurring issue and one of the technical challenges. If you can update us on
10 where we are there?

11 MR. HOLAHAN: Do you want to take it, Tom?

12 MR. BERGMAN: In terms of --

13 COMMISSIONER JACZKO: Laura is sitting back there.

14 MR. HOLAHAN: We can ask an expert. Before she gets
15 there, we have in fact -- in the presentation to the Commission, you heard
16 us talk a lot about issues on design certification because in fact we've
17 avoided dealing with issues on COLs because of the possibility of hearing
18 and separation of functions and stuff.

19 We'll probably continue to do that; to focus on design certification
20 technical issues.

21 MS. DUDES: Actually, I want to go back to one question Glen

1 and I were talking about the critical path for the simulator. We're sitting in
2 our chair. We think its design. We hope that everyone is focused on getting
3 the plants designed and that will allow us to get our simulator.

4 With respect to seismic, I'd like to turn it over to Nilesh.

5 MR. REYES: I think I know the answer.

6 COMMISSIONER JACZKO: Whoever wants to answer it.

7 MR. REYES: Here's the expert.

8 MR. CHOKSHI: One of the issues we have been talking about
9 is so-called high-frequency issues and we in February, we have reached
10 agreement with the industry. Our interim staff guidance will be out within a
11 couple of weeks. It's going through the process.

12 COMMISSIONER JACZKO: As I recall, there was also an
13 issue with the ability to analyze core borings.

14 MR. CHOKSHI: That's the geotechnical -- and we also issued
15 an ISG. The primary issue there was the availability of the testing labs and
16 facilities. Industry is addressing to increase that capability.

17 COMMISSIONER JACZKO: Has there been an increase at
18 this point?

19 MR. CHOKSHI: Yes. There has been some increase. There
20 are more instruments available and a number of people are trained and we
21 have developed a position on how to deal with a limited number and what to

1 do subsequently.

2 MR. REYES: So, at a high level, we don't see that as a
3 significant issue. We have to resolve the interim staff guidance. You heard
4 about the availability of more instruments and more people trained.

5 And we have a path to resolution on how to resolve the high
6 frequency analysis, but there's work to be done. We don't see that as a big
7 stumbling block.

8 COMMISSIONER JACZKO: Thank you.

9 CHAIRMAN KLEIN: Thank you very much for a good
10 presentation. Obviously, you can tell by the audience participation here
11 today that this is an area of interest to a lot of us. Thank you for your hard
12 work and good luck in your next assignment, Luis.

13 MR. REYES: Thank you.

14 CHAIRMAN KLEIN: Meeting is adjourned.

15

16 (Whereupon meeting was adjourned.)