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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
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BRIEFING ON STATUS OF RISK-INFORMED,
PERFORMANCE-BASED REACTOR REGULATION

+ + + + +
WEDNESDAY,
MAY 3, 2006
+ + + + +

The Commission at 9:00 a.m., the Honorable Nils J. Diaz, Chairman, presiding.

COMMISSIONERS PRESENT:

- NILS J. DIAZ, Chairman
- EDWARD McGAFFIGAN, JR., Commissioner
- JEFFREY S. MERRIFIELD, Commissioner
- GREGORY B. JACZKO, Commissioner
- PETER B. LYONS, Commissioner

PANEL 1 PARTICIPANTS:

- JIM LEVINE, Executive Vice President, Arizona
Public Service

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DAVID CHRISTIAN, Senior Vice President, Dominion
Generation
TOM JORDAN, Vice President, South Texas Project
NOC
STEVE FLOYD, Vice President, Regulatory Affairs,
NEI

PANEL 2 PARTICIPANTS:

LUIS REYES, EDO
GARY HOLAHAN, Associate Director for Risk
Assessment and Special Projects, NRR
JIM LYONS, Director, Division of Risk
Assessment, NRR
FAROUK ELTAWILA, Director, Division of Risk
Assessment and Special project, RES
RANDY BLOUGH, Director, Division of Reactor
Safety, Region I

I-N-D-E-X

PAGE

Opening Comments by Chairman Diaz

4

1	Presentation by Panel 1:	
2	Jim Levine	11
3	David Christian	16
4	Tom Jordan	19
5	Steve Floyd	25
6	Question/Answer Session	34
7	Presentation by Panel 2:	
8	Luis Reyes	73
9	Gary Holahan	74
10	Jim Lyons	75
11	Farouk Eltawila	83
12	Randy Blough	107
13	Question/Answer Session	109

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

1
2 CHAIRMAN DIAZ: Thank you, Madam Secretary. And
3 welcome, everybody, to what I hope will be an interesting session in risk-
4 informed and performance-based regulation. I could probably take the
5 rest of the morning and talk just about what the "and" means, but I won't
6 do that.

7 (Laughter.)

8 It brings memories of many years ago when there was a
9 comma in between and a difference between a comma and the "and."

10 As you know, you know, I have about seven pages of
11 written comments in here which I am not going to use. But I want to
12 thank the industry for asking for this meeting, and I want to thank the staff
13 for hopefully being prepared to provide us with a good update of why it's
14 risk-informed regulation, a vital component of the NRC and the industry
15 operations.

16 I'd like to hear what you think we should be doing to
17 make it better. I think that we have done well, but, you know, I've said
18 this several times. It seems like things slow down, and I don't want to
19 take the responsibility to say that this is the NRC's own doing or the
20 industry's own doing.

21 I think we all have a little bit to do with that, and the
22 reason is that sometimes it goes back to communications and
23 implementation, rather than the principles. It seems to me that we agree

1 on the principles, and then we start disagreeing and spending an
2 enormous amount of time in what the details are, and that's because
3 people still don't realize that the technique is powerful, that it's flexible,
4 that it's safety-focused, that it allows us to do many, many things that we
5 couldn't do before.

6 The fact -- you know, one of my favorite thoughts of
7 being -- what will the industry -- what will the NRC do if all of a sudden
8 magically somebody will take risk-informed, performance-based
9 regulation out? What would happen? You see how things would slow
10 down tremendously, and that we would be all of a sudden looking for a
11 way of doing things.

12 I think the answer lies on the other way. How can we
13 better utilize, and how can we better implement? How can we develop
14 additional principles? Because I think it has served the country well. I
15 think it serves the industry well and is an everyday tool that the NRC
16 uses.

17 Last night I was going through a list of things, which is
18 twice as long as what the industry has and twice as long as what the staff
19 has, just going back to my Memory Lane book, and found out, you know,
20 things after another.

21 Before I ask my fellow Commissioners if they want to
22 make a comment, I want to recognize Steve Floyd. I'm sorry you guys
23 have to break his arm to bring him over here.

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(Laughter.)

But, you know, Steve is one of those tough cookies that sits on the other side of the table at times. But he's one of these tough cookies for which we have great respect for. We've got great respect for his knowledge and for his dedication. We sometimes wish it was a little easier on us. But having said that, we do appreciate the honesty and the knowledge that he brings to the table.

And, Steve, we're going to miss you. But if you go past the west coast of Florida, stop by.

MR. FLOYD: I sure will.

(Laughter.)

I might point out, this is just age-related degradation.

(Laughter.)

CHAIRMAN DIAZ: I know the feeling.

With that, fellow Commissioners?

COMMISSIONER McGAFFIGAN: Mr. Chairman, I join you in praising Mr. Floyd. We've not always agreed on some matters, but I think he serves NEI very well. He is a persuasive advocate, and we'll miss him as he sails around the globe, perhaps docking in Tampa. I don't know.

On the issue of risk-informed regulation, obviously I have been less than enthusiastic at times, and my lack of -- it isn't that I'm not for risk-informed regulation. I'm deeply frustrated that more than three

1 decades after WASH-1400 the infrastructure for risk-informed regulation
2 is so, I don't know, threadbare.

3 I was for the mitigating systems performance indicator. I
4 thought that was a good thing. I thought it was a good thing because it
5 was going to force people to improve their PRAs, and it did. But I think
6 NEI was honestly embarrassed by the outliers in the industry who kept,
7 you know, that from being -- from going into effect as rapidly as we
8 thought it was. We ended up waiting a quarter, and we'll start getting
9 data, but it could have been longer.

10 We are suffering from the half-measures of previous
11 Commissions, and we could have required high-quality PRAs. I think the
12 backfit rule would have allowed us to require high-quality PRAs. Quality
13 obviously is something that would have evolved over time, but I have --
14 because of the lack of infrastructure, I have been less than enthusiastic
15 about some of the initiatives, the 50.69 and the 50.46(a) initiatives, that
16 have come along.

17 When the infrastructure is there, I'll be more supportive.
18 I find it incredible that no Commission in 30 years has been able to
19 convince itself that a PRA requirement for the existing plants, not for new
20 plants -- we have that in Part 52 -- the PRA requirement for existing
21 plants in a rule could be sustained.

22 If we really believe that risk-informed regulation has all
23 the benefits we all claim it does, then we could have gotten a lot further if

1 we had taken that simple step a long time ago rather than the half-steps
2 and side steps we've taken over the last 30 years.

3 CHAIRMAN DIAZ: Thank you, Commissioner
4 McGaffigan. Commissioner Merrifield.

5 COMMISSIONER MERRIFIELD: I want to join with the
6 Chairman and Commissioner McGaffigan in wishing Steve Floyd well in
7 his future sailing career. We have on many occasions hammered him on
8 various things, but he has nonetheless taken it in stride with a smile and
9 has been an engaging advocate on the part of the industry. We certainly
10 will miss that smile, but we wish you well in those future efforts.

11 I also note you have disproven the fact that sailing is a
12 non-contact sport.

13 (Laughter.)

14 Hopefully you'll have better luck in your future sailing.

15 MR. FLOYD: Short trip.

16 COMMISSIONER MERRIFIELD: Yeah.

17 As it relates to risk-informed regulation, I'm not going to
18 go into too great a detail. I recollect when I first came to the Commission
19 seven and a half years ago, it certainly had to be one of my first meetings
20 here where we were going deep into where the Commission wanted to go
21 on risk-informed regulation. And I will always remember Shirley
22 Jackson's repeated use of the words "double-edged sword" when it came
23 to risk-informing, and we've seen some of that.

1 I think as I look back on it, I mean, I think there is a
2 frustration in various places about the fact that we haven't progressed
3 faster than we have. I think from my own reflection some of that, and we
4 can get into that in the questions, some of that may be reflective of the
5 fact that we have really been dealing with some of the low-hanging fruit
6 early on, and that some of the tougher issues have really -- we have
7 really been grappling with some of the tougher issues more recently and
8 have even tougher ones to deal with going forward.

9 That having been said, I think the periodic opportunities
10 of the Commission to revisit this issue in a public fore is a good
11 opportunity to help us refocus our efforts and those of the utilities and
12 perhaps get us over some of the hurdles that are keeping us from making
13 more progress than so far we've made.

14 So in that spirit, I'm looking forward to the dialogue we're
15 going to have today with our counterparts across the table, with our staff,
16 among the five on us on this side of the table, to really get a sense of
17 where are we, where are we going, and is there a way of getting there in
18 a more common-sense way in terms of meeting our expectations for a
19 risk-informed, performance-based alternative to 10 CFR Part 50.

20 So with that, I thank you, Mr. Chairman.

21 CHAIRMAN DIAZ: Thank you, Commissioner Merrifield.
22 Commissioner Jaczko.

1 COMMISSIONER JACZKO: Well, I'll just be very brief
2 again. I would certainly join my Commissioners in saying farewell to
3 Steve. I hope your right arm fares better with your sailing than your left,
4 so -- but I've certainly enjoyed the interactions that we've had and
5 appreciate your insights on a lot of issues.

6 As far as risk-informed regulation goes, probably about a
7 year and a half ago I would have thought it was probably a topic I was
8 never going to learn anything about. But in the last year and a half I've
9 learned quite a bit about risk-informed, performance-based regulation,
10 and I certainly share some of the thoughts of Commissioner McGaffigan.

11 I do have a lot of concerns about where we are with the
12 infrastructure and in particular with the PRA modeling, an issue we're
13 dealing with now, of course, in fire protection as with fire modeling as
14 well. Modeling is an important thing, and modeling can sometimes be
15 deceiving in its accuracy and effectiveness. And I think it's important as
16 we look at all these issues to keep that in mind.

17 COMMISSIONER LYONS: I'd certainly echo the
18 comments of my fellow Commissioners regarding Steve. And Steve and
19 I had a chance to talk a little bit before this meeting, and wishing him all
20 the luck in his travel.

21 I'm looking forward to this meeting to perhaps better
22 understand what I think are some very different statements and
23 perceptions between the industry's report of progress on risk-informed

1 regulations and the staff's view. And I'm looking forward to this meeting
2 to better understand those differences.

3 CHAIRMAN DIAZ: Thank you, Commissioner Lyons.
4 And with that, Mr. Levine.

5 MR. LEVINE: Thank you, Mr. Chairman,
6 Commissioners. Good morning. Let me start by introducing myself and
7 the others here. I'm Jim Levine with Arizona Public Service, and I chair
8 the working group for risk-informed regulation for the industry. Dave
9 Christian from Dominion is on my right. Tom Jordan from South Texas
10 Project, and, of course, Steve Floyd, who by the way was tied to the pier
11 when he hurt his arm, not out sailing.

12 We do appreciate the opportunity to brief the
13 Commission today on what we believe is a very important topic to both
14 the industry and to the NRC. Risk-informed, performance-based
15 regulation, if properly implemented, allows both the regulator and the
16 industry to place the greatest attention and resources on those activities
17 with the highest safety significance, and it appropriately lessens the
18 oversight and the resources on those activities that have been
19 determined to be of lower safety significance.

20 While we believe that both the NRC and the industry
21 agree upon the goals of enhancing safety and efficiency, the
22 implementation and timeliness of achieving these goals does cause us
23 some concern.

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Next slide, please.

Risk-informed, performance-based approaches have been demonstrated to be effective. The concept that risk-informed, performance-based approaches, as discussed in the NRC PRA policy statement and SECY-98-300, have proven to be successful.

There have been a number of successful applications, most significant of which are listed above as the revised oversight process, the maintenance rule, mitigating system performance index -- that's being implemented -- but there are many others, such as risk-informed ISI, technical specification improvements, to name a few.

These applications have proven the effectiveness of risk-informed, performance-based approaches, and they have also stimulated the industry to improve the technical adequacy of their PRA models. We should be confident in proceeding with more ambitious rulemaking.

Plant safety, reliability, and economic performance have been sustained at high levels by all accounts. Safety-significant events, plant transients, have continued to trend downward.

Next slide. We don't have the slides here?

However, momentum has slowed significantly. Development and implementation of the major risk-informed rulemakings has taken far too long. While probabilistic insights give clarity to what is truly safety-significant, existing deterministic barriers that some perceive continue to be difficult hurdles to cross.

1 The Commission direction associated with SECY-98-300
2 approved proceeding with two significant rulemakings using risk-
3 informed, performance-based insight. Eight years later we are still
4 waiting to implement these regulatory improvements.

5 Further delays continue to impact enhancements that
6 would improve safety. In addition, at a time when resources are at a
7 premium, risk-informed, performance-based regulations would aid in
8 effectively managing the resource challenge that we have.

9 Today we'd like to talk to you through -- talk to you
10 through some of the examples of these difficulties and discuss how we
11 can achieve timely and effective regulatory improvements.

12 Next slide, please.

13 Industry is in full agreement with the NRC's 1995 PRA
14 policy statement. It has stood the test of time and correctly articulates the
15 fundamental issues. Risk insights should complement, not supplement,
16 the current deterministic framework. PRA methods have led to a much
17 better understanding of what is important, and industry has increased its
18 focus in these areas.

19 In the plants, this awareness and better understanding of
20 the risk can be observed in the day-to-day operations and maintenance.
21 The maintenance rule certainly is an example of this, giving more
22 attention to those things that are taken -- put in and out of service, and I

1 believe MSPI will also bring more attention to those most -- those
2 systems that are bearing the most safety.

3 However, in developing risk-informed applications, there
4 is a tendency for some to dwell on the residual risk for controls relative to
5 lower risk components. This can lead to an inordinate focus on items of
6 low safety significance, opposite the intent of the policy statement. This
7 is not conducive to enhanced safety.

8 Regulatory stability has been an issue for risk-informed
9 regulation. We have observed continually escalating expectations in this
10 area. Before we proceed with some examples of the current rulemaking
11 that we're struggling with, I would like to identify what the industry key
12 points are.

13 First, as I noted in the previous slide, NRC's PRA policy
14 statement states that risk insights are intended to complement the
15 existing deterministic regulatory methods. Based on risk insights, new
16 regulations such as maintenance rule, station blackout rule, and ATWS
17 rule have been added and implemented throughout the industry.

18 However, risk insights may also show that existing
19 deterministic requirements do not add value, and these existing
20 requirements should be reevaluated. This is a more problematic exercise
21 for those who are accustomed to the existing regulatory framework.

22 Second, absent strong management oversight, there is a
23 tendency amongst some to move towards supplemental use of risk

1 insights on top of the existing deterministic methods or to make very
2 minimal changes to the existing requirements while at the same time
3 requiring extensive risk analysis.

4 And, third, the major risk applications involve the need
5 for internal events and fire PRAs at power conditions. Other models,
6 such as shutdown and seismic, are of lesser value for our applications
7 and also involve significant technical and developmental challenges
8 relative to standards. New PRA standards for fire and internal events set
9 high expectations. Industry infrastructure for PRA will be saturated for
10 many years meeting the standards for internal events and fire.

11 With that, I would like to turn this over to Dave Christian,
12 who is going to talk about some of the issues we see with 50.69.

13 MR. CHRISTIAN: Good morning. Next slide, please.

14 This slide more or less speaks for itself, and I think it's a
15 good illustration of the timeframe in which it has taken to get rulemakings
16 completed and implemented. Following initial interactions with the NRC
17 and staff in 1998 categorization guidance where 50.69 was developed by
18 the industry, there are several pilot plants of which one is Surry Plant
19 operated by Dominion, tested that guidance and the improvements and
20 lessons learned were incorporated.

21 Industry believed that the South Texas exemption
22 addressed many of the 50.69 technical and implementation issues. That
23 exemption request was approved by the NRC in August of 2001, and

1 STP has demonstrated that concepts of this rulemaking can be
2 implemented safely and effectively. Tom Jordan in a few minutes will
3 summarize their implementation experience.

4 However, it has been almost five years now since that
5 approval and we still don't have a final regulatory guide necessary for a
6 licensee to submit a license amendment request to adopt 50.69.

7 Next slide, please.

8 At the heart of 50.69 is the risk-informed process
9 categorization of SSCs. STP's Surry and Wolf Creek -- and there may be
10 another current emerging to be interested here -- but STP's Surry and
11 Wolf Creek have all demonstrated that the categorization process for
12 50.69 can be successful. The reg. guide has concluded that the industry
13 guidance is acceptable for categorizing SSCs under 50.69.

14 There were a number of issues, a number of substantial
15 issues with the reg. guide indicative of a continuing desire to maintain
16 some prescriptive degree of regulatory controls over low-risk
17 components. And I think here is where we've kind of gotten a little bit
18 away from the policy guidance, if you will, what I would call a belt and
19 suspenders approach to low-risk or non-risk-significant components.

20 Throughout the rulemaking process, including the
21 development of the industry and regulatory guidance, the majority of the
22 discussion has focused on the treatment of low-risk equipment. We have
23 recently had successful interaction with the NRC staff in resolving many

1 of these issues associated with 50.69 as it relates to categorization of
2 active components. We commend staff management for exhibiting the
3 leadership necessary to achieve closure in those areas.

4 There is a remaining issue with an ASME code case,
5 which we won't go into the details of here, but it has to do with passive
6 components, passive pressure-retaining components. The pilot plans
7 have to resolve these issues through their license amendments. With or
8 without the code case -- or without the code case, I would say the
9 benefits of 50.69 are limited.

10 I could speak maybe directly to our experience at Surry,
11 we've got about four man years into this. And without this code case, I
12 would say we're probably at the situation of diminishing returns, where
13 the benefits would not accrue to us.

14 Surry is a pilot plant for this rulemaking. We are also a
15 pilot plant for Reg. Guide 1.200, which is the vehicle for invoking PRA
16 standards. We have made substantial PRA improvements which are
17 benefitting us in a number of areas, including the recent procurement of
18 the Kewaunee station.

19 Wolf Creek is also a pilot in this rulemaking, and by
20 submitting a topical report on the 50.69 categorization process there is
21 almost interest from other plants to implement 50.69.

22 It is the -- has always been the thought of the industry
23 that this would be a strategic investment that's complementary in nature

1 of determinism and risk-informed adjustments that would be strategic to
2 the industry, that we could be -- focus on safety, do it efficiently. And if
3 that proves true through these pilots, we would expect broader industry
4 implementation.

5 We look forward to working with the staff to ensure that
6 the pilot process is successful and the license amendments are
7 processed in a timely and effective manner.

8 Tom Jordan will now summarize STP's experience in
9 implementing their regulatory exemption that was a pilot for the 50.69
10 concept. And following that, he'll discuss the 50.46 rulemaking to
11 redefine the large break LOCA.

12 Tom?

13 MR. JORDAN: Okay. We'll go to the next slide.

14 Good morning, everyone. STP was the pilot for the
15 50.69 application, and our categorization and treatment allowances mirror
16 those that are reflected in 50.69 rule. The intent was for the South Texas
17 Project lessons learned to be factored into the rulemaking process. And
18 to some respect, that has occurred.

19 I want to talk about our implementation. We have
20 categorized nearly 78,000 structures, systems, and components at STP.
21 This is a large number, and it is driven by the users in the plant wanting
22 additional insights that can be given from categorization of those

1 structures, systems, and components. And I'll talk about the ways that
2 those insights are used in a minute.

3 The results of the categorization is for safety-related
4 structures, systems, and components. About 25 percent have been
5 determined to be safety-significant or RISC-1 structures, systems, and
6 components, while 75 percent are classified as low safety-significant or
7 RISC-3.

8 One of the concerns that has come up throughout the
9 years is whether or not there would be a large amount of movement
10 between those risk categories based on additional insights or changes in
11 the plant. But we have determined through our experience and our
12 reviews by our expert panel and our working group that those
13 categorization levels have remained very stable at STP. So we have very
14 little movement and reclassification going on.

15 About one percent of our non-safety-related structures,
16 systems, and components have been assessed as safety-significant or
17 risk-significant. And as part of our program, then, we have assessed
18 those for enhanced treatment. Examples of that are instrument air
19 compressors, our main feedwater regulating valves, and some fire
20 dampers.

21 So we have -- and some of our non-safety-significant
22 (cough) (inaudible) motor control centers that have been upgraded and

1 preventive maintenance program enhancements made as a result of the
2 upgrade of those non-safety-related components.

3 The insights that we gain from this treatment applies
4 across the board in a number of areas beyond the original focuses. We
5 have provided insight which guides enhancements to our operations
6 procedures as well as operator training, and a focus and a sharpening of
7 the focus on the true risk significance of certain components and their
8 interactions in -- during events.

9 So it has been helpful to our operators in focusing the
10 training. It's used to determine levels of detail in work packages and
11 specifying our preventive maintenance requirements and sharply
12 focusing those as well as identifying the areas of risk in our work-week
13 schedule so that we can plan for heightened supervision and attention to
14 compliance with our work schedules on the more risk-significant
15 components.

16 It also guides our engineers in modification planning and
17 other assessments. So it helps in a number of ways beyond some of the
18 areas where it was originally intended to help.

19 Implementation so far has been focused in the areas of
20 in-service testing, local leak rate testing, parts procurement, our work
21 control, preventive maintenance, and, of course, the maintenance rule
22 and those areas that were previously covered in our programs.

1 Some of our implementation has been restrained due to
2 some broader concerns about regulatory uncertainty, and those are the
3 areas -- and Dave talked about one of them, and that is the code
4 applications of the code interpretation, which is 660, and the pilots will be
5 working through that. But we have restrained some of our going forward
6 based on some of the uncertainties related to that activity.

7 Next slide, please.

8 I'm going to switch now to talk about 10 CFR 50.46 alpha
9 redefinition rule. It's an important rulemaking, the option 3 rulemaking,
10 which seeks to establish a new brake size for the design basis loss of
11 coolant accident. This slide provides another example of the lengthy time
12 needed to develop important risk-informed rulemakings.

13 We believe that a simple enabling code -- rule codifying
14 the allowance to seek a new brake size with appropriate staff approvals
15 could have and should have been enacted years ago.

16 Next slide, please.

17 The industry has provided significant comments and
18 extensive comments on the proposed rule outlining our concerns that are
19 reflected on this next slide. The proposed rule would impose plant
20 configuration restrictions that are diametrically opposed to the risk
21 principles and are inconsistent with other regulations such as the
22 maintenance rule requirements.

1 The rule also proposes a very burdensome process to
2 assess, quantify, track, and accumulate extremely small risk impacts,
3 although the industry believes, as the Commission does, that it is
4 important for us to quantify and track, but the methodologies are what is
5 questioned here. The scope of this requirement extends the licensing
6 basis with respect to the change control requirements to the entire plant,
7 and that's another area that we're really concerned about.

8 We believe that these issues have resulted from a lack
9 of stakeholder participation throughout the process and particularly in key
10 parts of the process related to the infrastructure associated with
11 implementation of the rule.

12 The proposed rule, as it's written, is simply not viable,
13 and significant revisions are needed. The proposed rule does not satisfy
14 the intent, we believe, in the NRC policy statement, and we await NRC's
15 resolution of our comments of the proposed rule. And with NRC
16 management leadership similar to that needed to resolve 50.69, we hope
17 for a more constructive and timely interaction going forward.

18 Next slide, please.

19 There are many safety enhancements possible from this
20 rule, including the modification of equipment and test strategies to align
21 with the more frequent events that represent a much greater fraction of
22 overall risk.

1 Some of those examples are -- and this is an area where
2 we have worked in concert with the staff in developing these safety
3 benefits -- elimination of emergency diesel generator fast starts, more
4 tolerance in load sequencing following station blackout, enhanced
5 equipment reliability resulting from less stress-inducing tests.

6 Moreover, this rule change is important to position the
7 industry to move forward with additional important risk-related changes in
8 the future.

9 We believe that the implementation does not need to be
10 encumbered with extensive and burdensome change control
11 requirements that in some cases extend the licensing basis. We're
12 concerned that there may be some feelings of wherever we have
13 diminished -- or we have received benefits from implementation of a rule
14 there's a quid pro quo type feeling that additional infrastructure is required
15 on top of existing regulation.

16 Effective communication throughout this rulemaking
17 process to ensure that the application concerns of the stakeholders are
18 properly considered and addressed before the rule is finalized is a vital
19 and necessary part of issuing any rulemaking and the new guidance
20 associated with that.

21 Our past lessons learned point to the need for increased
22 and enhanced communications between the NRC and the industry.

1 Steve Floyd of NEI will now discuss additional important
2 risk applications going forward.

3 MR. FLOYD: Thanks, Tom, and good morning. I'm
4 going to talk about two topics, first touch on a few future risk applications,
5 and then talk about the status of PRA standards and our views on those.

6 First, in the area of fire protection, as you well know, a
7 number of plants, quite a number actually, have expressed an interest in
8 proceeding with NFPA-805. We really need to get fire protection right
9 this time. As we all know at this table, that has been a pretty problematic
10 regulation since its implementation in the early '80s. It's an opportunity,
11 we believe, for the industry and the NRC to work very closely together to
12 achieve and workable and effective standard this time around.

13 I won't diminish the effort, though. The effort is
14 necessary to develop standards, produce the fire PRAs, conduct peer
15 reviews, and implement the other aspects of NFPA-805. It will be a very
16 enormous undertaking for the industry.

17 What we've learned from other risk applications and
18 attempts like this is that risk-informed methods in themselves do not
19 necessarily provide regulatory stability and can actually make the
20 problem worse in some cases. And I think it goes to your point, Mr.
21 Chairman, about getting down to the level of detail is where that will arise.

22 Part 52 rulemaking, we noticed that the earlier versions
23 of this rule had a full scope PRA requirement in it. We understand that

1 may be removed. What we believe is that the Part 52 rulemaking should
2 be aligned with the PRA expectations for the operating plant.

3 And, really, our basis for this is the Part 52 plants really
4 actually maintain a deterministic design basis, and the primary severe
5 accident features that are designed into the new plants are codified as
6 tier 1 requirements. And we really don't see the need at this point to
7 make it a requirement to have a full scope almost PRA when you have, in
8 essence, captured the important risk insights from the studies that have
9 been done, and actually codified those into the regulation already.

10 Much can be learned, we believe, from the existing
11 efforts that have gone underway. That should help out with NFPA-805
12 and Part 52 and help them to be implemented in a timely and effective
13 manner. However, if we continue to struggle with the low risk-significant
14 items on top of all the risk assessments that will be required, we believe
15 we will have lost ground.

16 I think one of the things that has been the most
17 disappointing in working in the risk applications area over the last 10
18 years is that we seem to have to repeat that lesson on every application.
19 And maybe it's because of the low-hanging fruit approach where we are
20 picking a cherry over here and one over here and one over there.

21 And that each time we go through that process it's a new
22 group of folks working on that, it's a different area, it's a different

1 discipline, and everybody kind of has to learn that, gee, you really don't
2 have to pay attention to the real low risk-significant items.

3 Hopefully, now we've reached a point with the
4 applications that have gone on, setting the stage for these broader
5 applications, that we can perhaps move forward a little bit more
6 efficiently.

7 Next slide, please.

8 We believe that the current and envisioned applications
9 do all need an acceptable at-power internal events PRA model. We have
10 a standard that is endorsed by Reg. Guide 1.200, and we have five plants
11 that have piloted that process, and we believe the industry will move
12 towards meeting this standard.

13 This should simplify the review of risk-informed license
14 amendments as well in the future. The PRA standards for fire and
15 internal events really do set high expectations. Industry infrastructure for
16 PRA, as Jim pointed out, will be saturated for many years to come,
17 meeting these standards for internal events and fire.

18 Now, just because we're focusing on internal events and
19 fire doesn't mean that we don't apply risk insights from other models that
20 have been done. Just because we don't quantify the risk in a PRA model
21 doesn't mean that those insights get thrown out. And, in fact, through the
22 incorporation of the existing regulations today, including Maintenance
23 Rule A-4, we factor in risk insights from shutdown conditions, from

1 various changes in mode and changes in plant configuration, even
2 though there isn't a PRA that directly models that.

3 So I think you can get an awful lot of the benefits of the
4 PRA work that has gone on without getting down to necessarily having to
5 have a standard and a PRA model at this stage for every single aspect of
6 a PRA.

7 The peer review is also resource- and time-intensive.
8 The industry process for peer review of the internal events model took
9 over five years to complete. The fire peer reviews are likely to take even
10 longer, because many of the new fire PRAs are just being developed,
11 and obviously that has to occur before we can do the peer review.

12 Many new peer reviews will be required at the same time
13 that industry personnel are expected to be developing and implementing
14 guidance. So it's going to be enough of a challenge in our view to get the
15 internal events and the fire PRA, which is the vast majority of the risk,
16 done correctly, get that right, and get that implemented before we think
17 about moving ahead to a broader PRA scope for which, quite frankly, the
18 technology and the standards are not yet there to support that.

19 I will now turn it over to Jim Levine to provide the
20 conclusions for our briefing. Jim?

21 MR. LEVINE: Thank you. Next slide, please.

22 Well, as stated earlier, industry is fully supportive of the
23 direction set forth in a 1995 NRC PRA policy statement for the inclusion

1 of risk-informed, performance-based regulations. We believe this
2 approach not only offers safety enhancements but also allows us to move
3 more effectively -- be more effective stewards of our available resources.

4 So today we wish to restate our commitment to risk-
5 informed, performance-based regulations, as stated in the PRA policy
6 statement. We also call on the Commission to continue down this
7 visionary pathway and to reinforce these goals among the NRC staff such
8 that safety and economic benefits may be realized in a timely fashion.

9 Strong leadership and changed management is needed
10 by all parties to support implementation. It is important to reinforce the
11 Commission's policy on using risk insights to focus on matters of high
12 safety significance as many of these issues that have complicated these
13 rulemakings have been associated with residual risk.

14 We need to ensure the many lessons learned in
15 developing both 50.69 and 50.46 rulemakings lead to more constructive
16 and timely process on going forward as we face the large impact of
17 NFPA-805 and Part 52.

18 Our goal is for these rulemakings to be finished and
19 widely implemented in the next several years. Further, other significant
20 risk applications, such as technical specification improvements, need to
21 be brought to a timely closure. We propose the following actions to
22 ensure this goal is met.

1 In order to avoid further delays, such as those discussed
2 in the briefing, our recommendation -- recommended actions are aimed
3 at enhancing the timeliness of communications between the NRC and the
4 stakeholders.

5 So very much along the lines of some of Commissioner
6 Merrifield's opening statements, we would propose to hold periodic semi-
7 annual meetings of the NEI risk-informed regulatory working group with
8 senior NRC management to discuss the process of the rulemakings
9 associated with guidance and implementation of the pilots, or issues for
10 the pilots. We would develop and publish schedules for final rules and
11 pilot plant implementation.

12 And, third, hold periodic, at least on an annual basis,
13 Commission briefings such as this one, to discuss the progress, identify
14 issues, and to address policy matters.

15 Again, we appreciate the opportunity to talk to you today
16 about this subject, and we thank you for your attention.

17 CHAIRMAN DIAZ: Thank you, Mr. Levine, Mr. Christian,
18 Mr. Jordan, and Steve. I was trying to see how to navigate in between
19 the comments and my own thoughts, whether I was going to make a lot
20 of comments or a lot of questions. I haven't decided yet, so I'll start with
21 the comments first.

22 First, let me go back to a point that is always in there and
23 kind of address it that Commissioner McGaffigan brought out -- is the

1 issue of the industry having a common framework for a PRA. Let's call it
2 -- I'm going to give you the internal, you know, at-power fire PRA. I think
3 what is important -- it has been always important to me.

4 You know, I just don't want to go back in history, but in
5 1997 I went and addressed the NEI group. And I told them the simplest
6 things that you can do in life is to go ahead and do a Level 1/Level 2
7 PRA, and that you make the front investment and you will find that you'll
8 get benefit from it. I think this became a cultural issue.

9 We didn't want to order it. The industry didn't want to do
10 it. People in the industry were afraid what they were going to find out
11 when they do the PRA. It's a long history. Here we are nine years later.
12 I still believe there is a value for the industry to consider what integrated
13 approach to have in, you know, a common structure for having a PRA
14 that is, you know, Level 1/Level 2 that actually we can say these satisfy,
15 you know, the quality standards that we have worked on, because it
16 provides a platform where regulatory, you know, improvements can be
17 made and where operating improvements can be made.

18 And that's a viewpoint. You know, I'm going to agree
19 with Commissioner McGaffigan that this is needed. I, of course, have
20 never wanted to order it because I think the backfit rule does provide
21 some protections.

22 But I don't want to get into the issue of whether we do
23 this or we do that. I think the opportunity is here at the present time to

1 take an integrated look at what needs to be done to be able to go
2 forward. And I think one of those necessary steps is to have a common,
3 you know, framework for the industry that we can say the industry across
4 satisfies this level, and, therefore, we are willing to work with it whenever
5 anything comes, whether it's licensing or whether it -- you know, we have
6 a common product.

7 The staff doesn't have to be looking at many, many,
8 many different things, which takes time, and which becomes, you know,
9 one of the reasons for delays. I think that common level of understanding
10 is fundamental to avoid the delays, because those delays come both
11 ways, because people are not sure that where the staff is going, you
12 know, and, therefore, a common structure, okay, in which PRA can be
13 used, okay, both for your purposes and for us to make regulatory
14 decisions continues to be what I call the common denominator and is not
15 the lowest common denominator. It is a common denominator.

16 I think the issues of the delays, you know, worries every
17 one of us. I believe the Commission is taking a very serious look at the
18 issue of rulemaking, and I expect that in some period of time we will be
19 able to take a look at how we actually are going to manage rulemaking in
20 a better fashion.

21 I do think that sometimes rulemaking, which actually, you
22 know, normally have to have every I dotted, takes a long period of time,
23 because sometimes the interactions don't take place when they should

1 take place. We need to have the processes open, so that stakeholders
2 can see what is happening.

3 But we should be able to structure our rulemaking in a
4 risk-informed manner, get those that are really important to safety coming
5 out first. There has to be a rulemaking structure, and I think that's fine.

6 But we need to be able to have, as we are faced with the
7 potential for a significant amount of work, to come to the agency. These
8 other components need to be going, and they need to be accelerated,
9 because the reality is that now we have the information. Now we know
10 how to handle the information. Now we can make the decisions.

11 I think the culture needs to change, both at the industry
12 and at the NRC, if we are really going to use this technique for enhancing
13 safety. That's what we are concerned.

14 Now, I know you have the concern that has costs that
15 apply, you have to do it. But I believe that, you know, first-level analysis
16 would show that overall there is a benefit to the reliability of your plant,
17 will eventually be, you know, a benefit for you to be able to buy the right
18 components, okay, at the right time, you know, from, you know, quality
19 providers.

20 I think plants that are getting 20, 30, 40 years old, that's
21 a valuable thing. And these things cannot be done, you know, one at a
22 time always. There has to be a plan, and the plan has to be done.

1 Now, I was young and foolish when I proposed 98-300
2 instead of doing one thing at a time, do it all, get a group and get - sort it
3 all out. I was, you know, defeated. I can't remember what the vote was,
4 four to one or seven to zero.

5 (Laughter.)

6 Something like that. But I still think I was right. I still
7 think that if we would have set off on that path, we would now be better
8 than where we are. But that's water under the bridge. What is it that we
9 need to do?

10 And so here comes my first question. When my time is
11 up, I'll raise it. If you were to say what will move, you know, the safety
12 benefits and your benefits, which, you know, you need to consider on this
13 area, what would you put up, you know, as your first priority? Is it to
14 create a plan that the industry will put together that people in industry
15 would serve? Is it to move 50.69 implementation and 40, 46 -- will you
16 select or would you actually say, "I can grab the bull by the horns and
17 move it forward"?

18 My time is out. Commissioner McGaffigan yesterday
19 was over at the clock. I'm --

20 (Laughter.)

21 COMMISSIONER McGAFFIGAN: Mr. Chairman, with all
22 due respect, I think all Commissioners are -- have mastered the art of

1 starting their last question while there's time remaining, hoping that it
2 leads to a five-minute discussion.

3 CHAIRMAN DIAZ: This is the first time I do it.

4 (Laughter.)

5 COMMISSIONER MERRIFIELD: Mr. Chairman, I was
6 going to say you don't really want to --

7 (Laughter.)

8 You said water under the dam, and I think in the spirit of
9 that we should remind ourselves of --

10 CHAIRMAN DIAZ: I didn't finish --

11 COMMISSIONER MERRIFIELD: -- transgressions on
12 time.

13 CHAIRMAN DIAZ: I didn't finish the phrase. This is the
14 first time I do it today.

15 (Laughter.)

16 Yes, sir.

17 MR. LEVINE: Mr. Chairman, let me try to address that. I
18 think to answer your question, at this point in time, I think we do need a
19 plan. I think we have a lot of lessons learned. Back from when this all
20 started in the late '90s to now, we've had some very good successes, and
21 we've had some things that moved in a timely fashion.

22 And then, we've had some of the more problematic ones
23 that haven't moved. So I think taking those lessons learned and sitting

1 down with the stakeholders and saying, "How do we move this forward?"
2 whether it's 50.69 or 46 or whatever it is in the future, there probably does
3 need to be some type of a plan that says, "Here are the steps we need to
4 do if we're going to be successful."

5 MR. FLOYD: I would just like to add to that. I think the
6 thing that moves the industry most is success. We're pretty good
7 copycats. If something works well for somebody, and it seems to have a
8 lot of benefits to it, everybody piles on and figures out how to make it
9 happen for them. So I would urge a plan to get 50.69 and 50.46(a) out
10 there, show that they can work, and I think people will follow.

11 If it's a successful application and a successful
12 implementation with the pilots, people will make the investment in the
13 PRAs by following the standards to be able to reap the benefits, and
14 that's the best thing I think we can do.

15 MR. CHRISTIAN: I would just elaborate a little bit and
16 say it's my belief that at some time in the future we will look back on risk-
17 informed and performance-based regulations, and we will equate its
18 emergence as something along the lines of relativity as additions to
19 Newtonian physics. And we had the determinism before, and Newtonian
20 physics, and then we found out that we needed relativistic adjustments.

21 Similarly, this complementary relationship between
22 determinism and PRA is -- gives us the truest picture of plant safety and
23 risk. And I think the thing that we need to do going forward, the one --

1 you asked the question, what one thing can we do, is to not get distracted
2 with the focus on low-risk or non-risk-significant systems, and apply a
3 belt-and-suspenders approach to those.

4 We seem to have managed to stray from the policy
5 intent I think in that complementary relationship between determinism
6 and the risk insights.

7 And when we look at NFPA-805, and when we look at
8 the PRA resources that are going to have to be allocated to multiple hot
9 shorts, things like when we look at the pool available of PRA resources
10 and the industry, when we look at the NRC's trying to acquire PRA
11 resources, and I guess -- Commissioner McGaffigan's words -- the
12 "laggards in the industry" trying to acquire PRA resources, the number of
13 PRA resources entering the pool of qualified personnel, we just simply
14 can't afford and we will not make the desired progress if we get bogged
15 down by straying off the path that is pretty clearly laid out in the policy.

16 The policy intends that we -- that there's a
17 complementary relationship here between the old deterministic approach
18 and using risk insights, and we just really can't afford to be distracted.
19 That's why I think it's so valuable, the suggestion that Jim concluded with,
20 that we open up the lines of communication a little bit more with periodic
21 briefings of senior management and periodic perhaps Commission
22 briefings to make sure that we are kind of keeping this thing on track.

1 As I listen to your comments, early on it seemed like
2 your perception of our concern was perhaps the delays or the speed of
3 progress. But in my opinion, it's more the tendency to divert off of the
4 track of the intent of the policy and get kind of bogged down as a result.

5 CHAIRMAN DIAZ: Thank you very much.

6 I think we're running out of time. Do you want to -- no?

7 COMMISSIONER McGAFFIGAN: I don't have anything
8 else to add to that.

9 CHAIRMAN DIAZ: Commissioner McGaffigan.

10 COMMISSIONER McGAFFIGAN: I commend the
11 Chairman on his masterful use of his time. I'll try to emulate.

12 (Laughter.)

13 The issue of risk-informed regulations, I'd say I'm all for
14 it. I'm oftentimes disappointed by what little has been done in more than
15 three decades since WASH-1400, and I think the blame can be pointed
16 all around. I mean, I -- in my opening remarks I pointed to the industry.

17 One of my -- when Chairman Diaz and I arrived at the
18 Commission, Chairman Jackson had underway a bunch of direction-
19 setting issue papers. And I forget the fellow's name, but he was a soon-
20 to-retire senior research person, probably Farouk's predecessor a couple
21 times removed, and we were talking about the direction-setting issue
22 paper and the risk-informed regulation.

1 And this particular staffer did what I thought -- or what I
2 value, and I'm sure we all value, committed truth in my presence, and he
3 talked about the crummy PRAs that were then prevalent in the industry in
4 his view. And they were good PRAs. And the people across the table,
5 you know, you guys have made large investments and shouldn't be held
6 back by the people who have refused to make those investments.

7 But that's a new Commissioner learning about risk-
8 informed regulation, probably as my two colleagues at the end of the
9 table have been this last year. In my first briefing, I hear from a senior
10 research staffer and his view, having gone through the various submittals
11 that had come in as a result of the Commission's sort of half-hearted
12 effort in the late '80s to get something out of you all, was that there are a
13 lot of crummy PRAs out there, not the people on the other side of the
14 table, you know, or many others, but -- so that's one data point.

15 I think on our side of the table we did nothing for a
16 couple of decades to actually prepare for risk-informed regulation either,
17 other than, you know, asking for IPEs and taking a decade to figure out
18 whether -- what the quality of the product was. The senior risk analyst,
19 which is a position we have today, didn't exist when the Chairman and I
20 came to the Commission. We came to the Commission two decades
21 after WASH-1400.

22 There was a small coterie of people in the research
23 office who had some PRA knowledge, but that was about it, two decades

1 after WASH-1400. So there's a lot of blame to put around. And I don't
2 know, you know, if we can get the infrastructure there, I think there is a lot
3 that can be done, and I do feel badly about holding up those who are
4 ready.

5 I personally -- one of you mentioned that the right thing
6 to have done on 50.46 was to say -- have a very short rule without all of
7 the detail in the 50.46 rule that's out there, that basically would have said
8 NRC is open for business for anybody who can make a case.

9 And the people who had the best PRAs would have had
10 a chance at making a case for something other than the double-ended
11 guillotine break of a 36-inch pipe. And those who couldn't, wouldn't. And
12 I think we'll end up somewhere similar maybe years later, you know, but
13 somebody might have been making a case today if we had done the
14 relatively simple rule, which would have been pretty non-controversial,
15 because all we would have said, all it would have been was, "We're open
16 for business. Take your risk." Instead, we put out something.

17 The question -- a question I was going to try to get into,
18 would the changes that you're asking for in 50.46 require renote under
19 the logical outgrowth test expounded by the Court, you know, expanded
20 on by the Court -- the D.C. Circuit Court last year? Do you know, Steve?

21 MR. FLOYD: No, I don't. No.

22 COMMISSIONER McGAFFIGAN: It sounds to me like it
23 probably does, and so just -- everybody should be -- it doesn't? Tony

1 Pietrangelo in the audience claims that it -- that the NEI comments would
2 be a logical outgrowth of what we put forward. His law credentials are
3 about as good as mine, so our --

4 (Laughter.)

5 Okay. The second question -- I'm still under my time, so
6 I'm going to try to get a second question in. How committed is the
7 industry to PRA going forward? Do you have a problem -- you say you
8 want to focus on internal events and fire. If the Part 52 rule were to result
9 in a requirement that the plant starting to operate in 2015 or later shall
10 have at least an up-to-date internal events and fire PRA, would the
11 industry oppose that for the plants that may operate to 100 years after
12 WASH-1400 to 2075?

13 MR. CHRISTIAN: I don't want to speak for the industry
14 on this. Dominion would not oppose it.

15 COMMISSIONER McGAFFIGAN: But would Dominion
16 want us to require that as part of the licensing process for North Anna 3
17 and 4?

18 MR. JORDAN: I think I'd like to have some time to --

19 COMMISSIONER McGAFFIGAN: Okay.

20 MR. JORDAN: -- look through that. I would say that,
21 how committed is the industry to PRA? I would say very committed to
22 PRA, and we have found, you know, that it has generated profound
23 safety benefits in our understanding of risks that have gone unnoticed by

1 many -- by operators for long periods of time. And we're working to
2 mitigate those risks.

3 But it is a powerful tool. I think it is -- you cannot -- it's
4 not going back in the box. It's just like relatively has not gone back in the
5 box as a matter of physics. So it only make sense that that tool be
6 applied going forward by the industry and by the NRC to --

7 MR. FLOYD: I'd like to maybe add a little bit, too. You
8 know, I think we have another initiative on the table, really, really
9 ambitious. I don't know how long this one is going to take, and that is
10 coming up with a risk-neutral framework, which does place very high
11 reliance on a high quality PRA, where it will actually change in the design
12 basis of the plant from a deterministic basis to much more of a risk basis,
13 you know, risk-informed basis I guess is a better way of saying it.

14 I think if we ever get to that point, then certainly PRA is a
15 requirement. In fact, in the paper that we submitted to the Commission in
16 '02, we recommended that the PRA be a formal requirement if you're
17 going to shift to a risk-informed design basis for the plant.

18 But given -- in our view, I think that the Part 52 plans are
19 still a deterministic-based design plant, there isn't a need to require a
20 PRA, but I think that like the current vintage of plants, if they want to take
21 advantage of some of the tools that are being developed and some of the
22 rulemaking changes, like 50.46 and 50.69, they will have to have a high
23 quality PRA in order to employ it, just like the current plans will.

1 And I think that's really -- I think that's really the key.
2 Right now these initiatives are voluntary. They are not mandatory
3 requirements, but the price of admission is you're going to have to make
4 the case that you have a very good PRA that meets the standards if
5 you're going to be able to apply one of these applications.

6 CHAIRMAN DIAZ: We continue to consider this issue of
7 which come first, the chicken or the egg.

8 COMMISSIONER McGAFFIGAN: If you all -- if
9 generation 3-plus plants don't need PRAs, if we have to be sort of the
10 triple hyphenated perfect, you know, grand unified theory system, as I
11 said in one of my votes, to get there, it's going to be a long time. And if
12 we -- and under your theory, plants operating in 2075, a hundred years
13 after WASH-1400, will not have PRAs, unless they want to participate in
14 the benefits, whatever.

15 CHAIRMAN DIAZ: I believe the industry really needs to
16 take a look at that issue, because it's not going to go away.

17 Commissioner Merrifield.

18 COMMISSIONER MERRIFIELD: No, I -- I am going to
19 follow on some of that. I was struck by, as we start here, you know,
20 when I -- again, going back to when I joined in '98, at that time we had --
21 when we sort of set down our list of what's important, you said, okay,
22 inspection oversight activity is the most important thing we do. We were
23 focused on license renewal. We had a lot of focus on our risk-informed,

1 performance-based alternative, and we needed to manage costs. Those
2 really were the things that we were working on, and that's what we heard
3 generally from the other side of the table from you all.

4 Today, obviously, inspection oversight is still the most
5 important thing. License renewal is important. Security in a post-9/11
6 environment is taking more than a little bit of our time. Power updates
7 have become important for a lot of people, and it is taking a lot of our
8 time and attention. New plant orders, which is no small issue, risk-
9 informed regulation, and we're still supposed to manage costs. And
10 that's -- we've just got a lot more on our plates.

11 I think part of the -- what my two fellow Commissioners
12 have just spoken of, that sort of big picture discussion, is really part of
13 what we need -- really need to be talking about. In the notes that you had
14 for your presentation, Jim, you talked about the need for strong
15 leadership and changed management. And you did say, in fairness,
16 needed by all parties for implementation.

17 And I think as it relates to these efforts, I would say a
18 couple of things, and then I want to open it up for your comments. I took
19 very much to heart the comments that Tom Jordan made about, you
20 know, additional infrastructure is the quid pro quo of going for risk-
21 informed activities. I don't think that was at all what I intended when I
22 voted for some of these activities going forth.

1 We recognized it was a double-edged sword, that there
2 may instances where we had to do more, but it wasn't -- it wasn't we're
3 going to make -- necessarily even balance every time we go through one
4 of these activities.

5 But piling on to the comments that both the Chairman
6 and Commissioner McGaffigan have made, one of the conundrums that
7 we face is that these are voluntary actions. And there are some folks in
8 the industry, those across the table and some others, who are really into,
9 really bought into risk-informed activity. And there's a group of folks in
10 the industry who, frankly, are just as happy for the most part being where
11 they are.

12 And so because of that, we torture ourselves, we
13 struggle back and forth between the quality of the PRAs, the quality of the
14 PRAs is demonstrably connected to the ability to move forward with some
15 of these initiatives, and do get -- as the Chairman says -- this chicken and
16 egg phenomena.

17 And I think -- you know, I don't want to back off from this
18 being voluntary, because I still think that was the right way to go. But it
19 creates this conundrum, which I think is part of the reason we're focused
20 on this today.

21 So I guess, to focus into a question, you know, is there a
22 -- I mean, it seems to me there's sort of a two-track approach. One is
23 we've got 50.69 and 50.46. We need to move forward and resolve those,

1 because I think that will help us collectively to increase the enthusiasm for
2 these efforts, and focuses on the things that are really important.

3 But going forward, beyond there, I think we do need to
4 think in a much bigger sense, in a collective way with the stakeholder
5 meeting, to say, "Hey, where do we really want to go with all of this?"
6 Having made progress -- and I would say the revised reactor oversight
7 program and the maintenance rule may not get as far as the WASH-
8 1400, as Commissioner McGaffigan would like. I think those are a
9 couple of areas where we have made some significant progress in really
10 changing the way we do business.

11 So how do we do that? How do we get beyond just
12 50.69 and 50.46 and get to that bigger picture on discussion and get not
13 just the most enthusiastic supporters of PRA to buy into this, but how do
14 we get NEI and its membership as a whole to buy into this program down
15 the road?

16 MR. LEVINE: Well, Commissioner, I think, you know,
17 we're always going to be in a position, no matter whether it's this subject
18 or some other subject, that a certain element of the group is going to take
19 a lead and others are going to follow. This one is no different. We can
20 name plenty of other initiatives that have gone the same way.

21 But I think this is an example where the industry over the
22 years has seen the benefit of risk-informed regulation, and although
23 somewhat begrudgingly by some have come along. And if you look at

1 the evolution of this process, particularly the PRA, from where it has
2 come back when people referred to it as the crummy PRAs, which in
3 some cases may have been the case, to where it is today after peer
4 review and after going through upgrades through standards and stuff, it
5 has come a long way. And it is much better, and it is serving the industry
6 from a stand of making us look at things that enhance safety on a day-to-
7 day basis.

8 How we get from here to the next platform, I'm not sure
9 any of us are willing to sit here and say we've got the magic answer. I
10 think opening up the dialogue of why are we stuck where we are, and
11 how do we get from this point to the next point, how do we get
12 compromise on some of these issues, particularly on the issue of, you
13 know, what is the intent of dealing with low risk-significant items versus
14 high risk, I think will help us move to what you're asking.

15 But I don't know that the industry has an answer to that
16 right now, other than open up the dialogue and see what we can get out
17 of it.

18 COMMISSIONER MERRIFIELD: Well, I think, you
19 know, we all face a similar problem in life. And the similar problem in life
20 is sort of what I equate to dealing with my kids at Christmas. And that is
21 that I -- you know, when I was a young parent, I was trying to find out
22 what to buy for my kids for Christmas, and so I gave them the catalog
23 from Toys R Us and I said, "Circle everything you really want."

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(Laughter.)

And I get the catalog back with very few items that had not been circled by the three of my children. And we all -- I'm not any different, I'm not saying it's just you all, I'm not necessarily any different from that. And making choices about prioritization is something we've just got to discipline ourselves to do.

And part of the point I was trying to make early on is we've got just a lot more on our plate right now that is being demanded of us by a litany of our stakeholders, NEI being just one of those. And we've got to -- and we're getting to that time of year where we've got to start making some budget choices. We've got to make choices about that.

I think that risk-informed regulation is important, and I think we do need to move forward. I think we have been delayed for too long on some of these initiatives. But I do think as we move forward, with all of the new things we've added to our plate in the last seven and a half years, we've got to figure out, where does this fit in that? And what is the real vision going forward for how we ought to have a system for this?

And I don't think it can just be, you know, that smaller group of folks within NEI who are the most committed to this, you know, being the only voice. I think collectively NEI has got to come to this agency with a collective view of, really, what do you want down the road? And where does that fit with everything else you'd like to see us do?

1 MR. LEVINE: And, again, I think, you know, narrowing
2 that down to some degree today, the industry would probably say 50.69,
3 46, and some of the tech spec issues probably are the litmus test for us
4 for going forward. So if we're trying to narrow the scope down, those are
5 the things that I think the industry would put forward and say, "If we get
6 through these, we'll probably solve a number of the issues for whatever
7 the future activities are."

8 MR. FLOYD: There's the optimist and the pessimist out
9 there right now. I think Jim is representing the optimist view that if we can
10 get through this there's a group of folks that are willing to commit the
11 resources to move ahead, try to see if it can work, and there's a whole
12 bunch of people in the background waiting and seeing to see if it's
13 successful. And that's why we believe that if it's successful people will
14 follow and pile on.

15 A good example of this, look at risk-informed in-service
16 inspection. Yes, we could have kept -- we could have stayed with the old
17 deterministic way of doing in-service inspection activities. It provided an
18 adequate level of protection of public health and safety. But there was a
19 much better way of doing it in PRA space -- work through that standard.
20 It took several years to get through it.

21 First few pilots went through, turned out it was a
22 workable way, there were some good benefits of doing it all across the
23 board, and just about the entire industry has piled on and adopted that.

1 And I think that's what we have to demonstrate with 50.69 and 46(a).
2 And then, I think if that is successful, I think you will see the industry pile
3 on and be willing to proceed ahead with development of more fully
4 integrated PRA models.

5 CHAIRMAN DIAZ: Thank you. Commissioner Jaczko.

6 COMMISSIONER JACZKO: I'll try and ask some
7 questions, but I'm not sure I'll get there.

8 (Laughter.)

9 CHAIRMAN DIAZ: Welcome to the club.

10 COMMISSIONER JACZKO: I think there's a couple of
11 things that it seems as I've listened to the discussion that have kind of
12 been -- become clear to me. One of the things, I think as I mentioned in
13 the beginning, is really the issue of modeling and infrastructure. And I
14 think that is an important issue, and I think what Mr. Floyd said is a fair
15 statement, that if we're still using largely a deterministic-based regulatory
16 scheme, you know, then clearly requiring full scope PRAs may be
17 something that is asking too much.

18 But, and by the same token, I think as was alluded to, it
19 becomes a chicken and a egg. If you never get there, then you never
20 can demonstrate, you know, the ability to go to a more purely risk-
21 informed -- and I'm always reminded about modeling. When I was a
22 graduate student, we used to -- I did theoretical work as a graduate
23 student and, you know, would do things. And these days it's amazing all

1 the things you use, calculations, algebra, algebraic manipulations that
2 can be done on computers.

3 And I always remember that my advisor used to, you
4 know -- I also kind of managed the computers for our theory group, and,
5 you know, I always used to think that those days when the computers
6 crashed, and they invariably did, and I'd have to go and explain that to my
7 advisor. Whenever those days happened, he actually would say to me --
8 you know, be on a joyous exclamation, "Well, finally we can get some
9 work done now."

10 And, you know, and I carry that with me today, that I --
11 you know, as I said earlier, I think, you know, we have to be careful that
12 we don't put too much emphasis and reliance on models that are being -
13 these systems these powerplants are extremely complicated systems,
14 and modeling them accurately and effectively is extremely difficult and
15 challenging.

16 And I think as I look at the policy statement, the '95
17 policy statement, I think that that's really clear in one of the cornerstones
18 of that policy statement, which is that PRA methods should complement
19 the NRC's deterministic approach. And one of the things that it seems as
20 I've listened to the discussion here is perhaps in many ways there is not a
21 clear path forward on what that means or there's not a clear
22 understanding about what exactly that means.

1 You know, I'll follow up to the analogy that Mr. Christian
2 gave about Newtonian versus relativistic mechanics. I think that's a good
3 analogy. I perhaps would interpret it a little bit differently than you.

4 You know, simply to say, I think it's a good analogy
5 perhaps for how PRAs should be used and how these methods should
6 be used. I mean, we -- while we know relativistic mechanics provide
7 perhaps a better description of mechanics, it doesn't provide the
8 description that we use on a daily basis.

9 We work in a Newtonian mechanics world. That is how
10 when I drive my car I don't have to worry about deterministic effects. I
11 don't have to worry if somebody else is driving at a different speed we're
12 going to get to work at different times, and, you know, we'll have all kinds
13 of concerns like that. We don't do that.

14 But relativistic mechanics plays an important role, and it
15 provides insights in areas when we're in slightly different regimes. And I
16 think PRA can do some similar things there. It provides insight -- when
17 we're trying to look at how perhaps -- you know, certainly with the
18 maintenance, that's an area where it provides good insight.

19 It provides good information about what the overall effect
20 may be about a change in one particular location, because that's not
21 always clear to see from the -- kind of the Newtonian mechanics
22 description if you will, the purely deterministic, it may not be evident.

1 So I think to try and get to a question, I think, you know,
2 what I would just ask perhaps is just your thoughts on what you think that
3 PRA statement means by complementing the deterministic approach,
4 and, you know, how we can better kind of flesh out what that means. I'd
5 ask anyone who wants to answer.

6 MR. LEVINE: Do you want to give the Newtonian
7 answer?

8 (Laughter.)

9 MR. CHRISTIAN: I wish I had an answer. I mean, I've
10 been in this business 30 years, and I've seen -- if I go back far enough, I
11 can think to the time when we had tech specs that required us to place
12 the plant in an unsafe condition when the LCO was not met.

13 You know, and I'm not sure this is the best example, but
14 here we had this what I'll call a deterministic spec, that said if your boron
15 injection tank goes out of spec on boron concentration you place the
16 plant in hot shutdown in six hours. Very deterministic approach. It turns
17 out the mass in the steam generators is much greater at hot shutdown.
18 Therefore, if you had an accident at hot shutdown, the power excursion
19 on the reactor would be more severe, you know.

20 And then, it's something that -- there was that early day
21 deterministic, it looked good to the grandfathers, and I -- believe me, I
22 don't want to throw the baby out with the bath water. The shoulders on
23 which we all stand, the grandfathers of this industry, did a great job I think

1 with the initial cut at things. But I think studying these things with risk
2 insights and PRA has shined a light on some areas where we can make
3 improvements in safety and at the same time be efficient about it.

4 So that may be an example where the spec was just
5 plain dumb, you know, early on. But today, in terms of the -- let's say
6 50.69, you'll find that, you know, we are procuring a Parker Hannifan O-
7 ring which comes off the same production line at Six Sigma quality.

8 And, you know, we pay a factor of 100 or 1,000 times
9 more for that O-ring just because it's qualified or named safety-related.
10 But it -- in terms of its physical characteristics, there's no difference
11 whatsoever from a non-safety or commercial grade O-ring, and that could
12 bring significant benefit to the industry.

13 So I don't want to throw the baby out with the bath water
14 on determinism. I think there was a lot of good with determinism, but I
15 think it's important that we be able to apply risk insights where it makes
16 sense and it yields a safety result. And also, it yields an efficiency result.
17 That's my view of it.

18 MR. FLOYD: We have often taken the view that risk
19 insights are just one part of what goes into deciding what's important at
20 the plant. The deterministic role plays certainly a key role, your operating
21 experience plays a key role, your engineering judgment plays a key role,
22 and risk insights are just one more tool that goes into the box.

1 And that's what I think what you mean by -- what the
2 statement meant by complementary. It's another factor that ought to be
3 considered when you're deciding, what should I really pay attention to?
4 And not just say, "No, no, this is what the deterministic requirement says,
5 and that's it exclusively."

6 COMMISSIONER JACZKO: And do you think -- and just
7 very briefly, because I know I'm far over my time -- do you think the
8 current 50.46 specifically on that point meets that standard of
9 complementing?

10 MR. FLOYD: I don't think so as written right now. No, I
11 do not think it does.

12 MR. JORDAN: I think it adds regulatory burden to the --
13 in the requirement in the rule that every change to the plant and
14 procedures have this thought process and test applied to it, expands on
15 the deterministic requirement. And I think it goes beyond being
16 complementary.

17 COMMISSIONER JACZKO: Thank you.

18 CHAIRMAN DIAZ: Thank you. Commissioner Lyons.

19 COMMISSIONER LYONS: I arrived at the Commission
20 approaching a year and a half ago, very, very strongly supportive of risk-
21 informing our processes. And nothing has changed in that time, except
22 that I have gained a far greater appreciation for the complexity of the

1 overall process. And this meeting is helping me to build my knowledge in
2 that area.

3 I mentioned at the start that I was hoping to address in
4 questions the different perceptions between industry and our staff, and I'll
5 ask a similar question from staff who is sitting at the table.

6 But certainly as I go through the staff viewgraphs, they
7 discuss a substantial number of -- I would use the word successes that
8 risk-informing has enabled over a number of years, yet from -- there
9 certainly were exceptions in your presentations, but overall I heard a very
10 pessimistic assessment I thought from you folks of the progress that we
11 have made in risk-informing.

12 I'm curious, by way of a question, if any of you can help
13 me understand the difference in views between what you've presented,
14 which, frankly, it seems to be somewhat similar to what some of my
15 fellow Commissioners have said, too, and staff.

16 So if anyone would want to address that as a first
17 question, I would appreciate it.

18 MR. FLOYD: I'll take a shot at it. I think it -- I agree with
19 the staff presentation that there is a fair amount of progress that has
20 been made, but we've been working at this for an awful long time, and
21 there has been a tremendous amount of resources that have gone into
22 this.

1 Maybe just to highlight one example, take combustible
2 gas control. That was identified by the agency in 1986 as one of four
3 significant items under a program called Eliminating Requirements
4 Marginal to Safety. That was '86.

5 It took an exemption request on the part of a licensee in
6 1995 under a test case -- and I can remember a senior Commission
7 meeting that we were at when we were proposing what was called Task
8 Zero at the time, where we had three elements and when we put that one
9 on the table the senior staff at the meeting said, "Oh, we wish you'd have
10 a more robust or a tougher example to go through, because that one is
11 too easy and it won't test the process. We ought to be able to approve
12 that in three or four months." And it took five years to get that one put
13 through.

14 So there's a tremendous amount of resources and a
15 tremendous amount of effort that goes through even to get what
16 apparently is a number of relatively easy items that the vast majority of
17 people when they initially look at them say, "That's a no-brainer." You
18 know, obviously that requirement is not adding very much in the way of
19 safety value, and we can sharpen it using risk technology.

20 I think that's really the frustration, and there's a lot of
21 those items on that list that I think fall into that category. And there are
22 some other good ones, too; don't get me wrong. But I think that's -- that's
23 really I think maybe the difference in perspective, that we think it takes far

1 too many resources, and, therefore, far too long to make even small
2 incremental gains.

3 COMMISSIONER McGAFFIGAN: I might just point out
4 to Pete that the -- we did do it, and I was supportive of that at the time.
5 But I would point out our foreign colleagues, particularly in France, have
6 moved in the opposite direction at the same time. So, you know, it is
7 complicated.

8 CHAIRMAN DIAZ: Anyone else want to address that?

9 MR. LEVINE: I'll just add to what Steve said. I think if
10 there's pessimism being sensed it's not the theory or the application. It's
11 the amount of effort and the reward, if you will, at the end whether that's a
12 more safety-significant or some other benefits that -- that we gain out of it
13 is we all sit back on a daily basis and ask, where are we getting the
14 biggest bang for our buck for our resources today? And when things take
15 years and years and years, and you don't see an end coming, then you
16 start to lose interest in those things, and that's part of the problem we
17 have with a good part of the industry not jumping on board if you will is
18 because they don't see the payback quick enough for the effort that's
19 being put into it.

20 So, again, I don't think it's the application. I think it's,
21 what are the results?

22 COMMISSIONER LYONS: To some extent, Jim, your
23 comments start to get to a question that I have wanted to ask, similar to

1 what Commissioner Jaczko asked, I think, to try to better understand
2 some of the industry concerns on 50.46.

3 At least at I read the letter of concerns, I would
4 paraphrase it by saying perhaps that your view is that some of the
5 demands in the current incarnation of the rule apply risk criteria that are
6 really already required and are redundant with other regulations.

7 To the extent that is true, then I am puzzled why it is a
8 burden in the sense that if other regulations are going to require the same
9 considerations, then why the frustration with the rule spelling out the risk
10 criteria, which, in turn, are similar back to, say, 50.59.

11 I may not have asked that very well, but in general I am
12 trying to better understand this particular and I think very key concern
13 industry has with the current writing of 50.46.

14 MR. LEVINE: Well, since Tom is embroiled in this, let
15 me let him take a shot at that because he's the one that's in the trenches
16 with it.

17 MR. JORDAN: Yes. The real heart of that matter is that
18 the test isn't the same as those other applications that are already in
19 existence.

20 10 CFR 50.59 is one of those evaluation tools that's
21 already in place. And it is, in fact, the deterministic test of your design
22 changes. And to mandate that risk test for every structure system
23 component procedure change in your plant goes beyond what is in

1 existence. But what is in existence is already a sufficient test of changes
2 you make to the plant. So that is the point I am trying to make.

3 Steve, did you want to add anything to that?

4 MR. FLOYD: It's really an expansion of scope to which
5 the requirements would apply.

6 COMMISSIONER LYONS: I'm out of time.

7 CHAIRMAN DIAZ: Thank you, Commissioner Lyons. I
8 think we might get one more round because we don't get you here so
9 often. And then the staff will be more disciplined in their approach.

10 And let me just make a comment that thinking of all the
11 years back on this question, you know, the industry and the NRC -- and,
12 of course, I see the NRC more -- we have a hard time to let go of a
13 deterministic process that had been used because it's just a fact of life.
14 And then it comes in this give and take.

15 Yes, we want to become risk-informed, but if I could
16 keep this much in here, I'll feel better. And I think I've said, you know,
17 many times that if we look at the relative value of the PRAs to make
18 determinations, there has to be a time in which we can say, "We need to
19 let this go." And I think we have not gotten there.

20 It is important to say, "This is slow risk-significant. This
21 is where it's going to play. And we're going to let go. We're going to let it
22 go."

1 We have not developed the structure or the
2 decision-making process to be effective and say, "We can cut it right
3 here." And then, you know, we're going to use it. And because we have
4 all of these elements of oversight and we have all of the things that make
5 part of what I think is a great regulatory body, they come together. And
6 you really haven't lost much. But people have a hard time doing that.

7 I've seen people in industry with the same problem.
8 They don't want to go uncomfortable. Oversight is going to be exercised.
9 They don't know how they're going to come at it. I don't know how they're
10 going to come at it from the other way.

11 This is why I say that eventually we need to look at this
12 whole issue in a master plan, a holistic fashion, address each one of
13 those things. And maybe next year, you know, you can come and we'll
14 be there. And I will come and sit back there in that chair with my suntan
15 and my head over and look like a wise man.

16 It's really, really neat to get there sometimes. Okay. The
17 reality is we are keeping all of these things like if there were normal
18 issues and we're not going to move fast enough. We're not going to
19 make the right decision. We're not going to be able to use you when we
20 need it because, like Commissioner McGaffigan says, it keeps going on.

21 If we have made a decision to be a risk-informed
22 regulatory agency and the industry has made a decision to inform its

1 operations and its maintenance and its design changes by using
2 risk-informed regulation, the argument should be over.

3 There are some things that in relative things are
4 high-risk, medium-risk, and low-risk. And we should be able to make that
5 decision - you have proven that it can be made. And I think the industry
6 should be willing to accept that. And the NRC should be able to regulate
7 according to those things.

8 Having said that, Commissioner McGaffigan?

9 COMMISSIONER McGAFFIGAN: Okay. I am going to
10 try to run through a couple of questions. BWRs. Notice everybody on
11 the other side of the table manages PWRs. And I know the PWR folks at
12 least aren't very interested in 50.46 because of the determinations that
13 are made by staff with regard to what the new break size would be. Are
14 they interested in 50.69, BWRs?

15 MR. LEVINE: Yes, they are.

16 COMMISSIONER McGAFFIGAN: Okay. But they aren't
17 interested in 50.46 just currently?

18 MR. LEVINE: That's correct, for the reason you stated.

19 COMMISSIONER McGAFFIGAN: Okay. Steve, on the
20 50.59, the issue of if you say 50.59's changed process is more
21 deterministic, but we put those famous words "more than minimal." I
22 opened it up to see how many times the words "more than minimal" are
23 in there.

1 CHAIRMAN DIAZ: Commissioner McGaffigan
2 remembers all that wording.

3 COMMISSIONER McGAFFIGAN: As opposed to the
4 zero standard the staff once had, "more than minimal" I thought was tied
5 in some reg guide somewhere to criteria similar to risk-informed criteria,
6 right?

7 MR. JORDAN: Sliding scale.

8 COMMISSIONER McGAFFIGAN: Sliding scale. So why
9 is it different? Why is what the new rule requires different from 50.59 in
10 the way of thinking about changes in your plant?

11 MR. JORDAN: It requires a specific review and
12 justification under the criteria of the rule for every change.

13 COMMISSIONER McGAFFIGAN: But don't you do that
14 -- not so much NRC, but don't you think about everything under 50.59
15 today that will make --

16 MR. FLOYD: That's a screening process that you go
17 through to determine whether or not it could affect the design basis
18 requirements for the plant. And the answer is no, you don't go further.

19 MR. JORDAN: There are limitations in 50.59. There are
20 none that we can see in the 50.46a rule.

21 COMMISSIONER McGAFFIGAN: And I've just gone
22 blank on what my third question was going to be. So I'm going to cede
23 back all of six seconds.

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CHAIRMAN DIAZ: All right.

COMMISSIONER MERRIFIELD: We talked a little bit about the difficulty. You talked a little bit about the difficulty in getting fire PRAs put together because of all of the demand. Where are you all on down the road developing PRAs for external events and low-power modes of operation?

MR. LEVINE: Well, yes. Correct me if I'm wrong. My perception is that the industry again has focused on the fire and internal events at power. Some have pursued the areas that you're talking about, but I think most people are trying to get what they have as good as they can get it first. And then depending on what applications are down the road, they may pursue a seismic or some of the other ones.

MR. FLOYD: Yes. As difficult as it is to even to do a level I in a fire PRA, it's even more difficult to do the external event standards and the mode change standards, although there is work ongoing in that area. The code committees are actively engaged in preparing draft standards for those other areas. And, in fact, some of them have been sent out for comments.

And as you might imagine, given the breadth and scope of those, the comments are all over the map and very difficult to resolve. So, quite frankly, I think it is going to be some time before we see a standard in those other areas.

1 MR. JORDAN: And, once again, there is a spectrum of
2 level of use of those. For instance, our internal events already includes
3 fire and a number of the -- and we've gone through several evolutions of
4 flooding analysis in our PRAs, but there's a spectrum that follows that
5 where there are a few plants that are that far along and others that are in
6 various stages.

7 COMMISSIONER MERRIFIELD: Well, Mr. Chairman, I
8 sort of go back to what I said before. I think moving forward, we are
9 going to have to -- I think the Commission's going to have to focus on
10 what we're going to do with what we have in front of us, but I do think
11 there is a value in thinking of the bigger picture in terms of where we are
12 going to go and where the industry is going to go in terms of risk-informed
13 regulations and how we're going to use PRAs.

14 CHAIRMAN DIAZ: Thank you.

15 COMMISSIONER JACZKO: I just wanted to ask a little
16 bit about fire PRAs. Here I think is an area where, although I ask the
17 question about the PRA policy statement, we may not be complementing
18 our deterministic-based regulations here, but deterministic-based
19 regulations have so many challenges from a regulatory standpoint that
20 50.48 provides a good alternative to try and look at that. But, of course, it
21 depends crucially on the fire PRAs.

22 So maybe you could just comment briefly on where from
23 the industry's perspective you area with fire PRAs and what work you still

1 think needs to be done. At the latest, we've got 39 and some plants that
2 are looking at going to NFDA on --

3 MR. FLOYD: There's a standard that's been developed
4 and that is out there. It's not finalized, though, at this point.

5 MR. LEVINE: No. That's correct.

6 MR. FLOYD: But it's in the balloting process. It would
7 be our hope that it wouldn't be too long before you could have a final
8 standard for PRA.

9 A lot of work has been done on that one, as we said in
10 our remarks. That's why we believe the focus ought to really be on the
11 level I and the fire PRA because they are the closest and the furthest
12 along well in fact the level I is complete. But the fire PRA is the next one
13 that's in the pipe and getting very close to be finalized.

14 I think we will have a workable tool in the not too distant
15 future.

16 MR. LEVINE: But Tony or whoever can correct me.
17 That's intended to be piloted.

18 MR. FLOYD: Yes.

19 MR. LEVINE: And then by the time we get through that
20 pilot, we're probably looking at the end of '07 time frame to do that. So
21 people are committing to going forward and with the NFP, but I'm not
22 totally sure what they're committing to yet because that standard has
23 been run through the mill there.

1 MR. JORDAN: And there are a number of plants us
2 included that are going to wait patiently for the pilots to be completed
3 and to work through the guidance that comes out as associate as a result
4 of the lessons learned from the pilots and make sure that that achieves
5 some stability there. And then we'll make a decision to go froward with
6 805. That's the way that is going to proceed.

7 MR. FLOYD: I think there's some real optimism out
8 there, hopefully not against hope but there are so many problems with
9 some of the issues that plants are trying to deal with deterministically on
10 fire protection that I think some people have signed up with NFP 805
11 because they feel like they really don't have much choice and they're
12 hoping that that one will solve their problem for them.

13 COMMISSIONER JACZKO: Thank you.

14 CHAIRMAN DIAZ: Commissioner Lyons?

15 COMMISSIONER LYONS: One of the main arguments
16 for a risk-informed approach is to enable you folks to provide greater
17 resources on the most risk-significant items.

18 I at least hear criticism and I am sure you hear criticism
19 that, instead, what's happened is that resources have been taken off the
20 least risk-significant items, but resources have not been increased on the
21 most risk-significant items.

22 And I'm just curious. Given this criticism. Perhaps you
23 will tell me it is already written, but has there been an attempt to counter

1 this in a formal or written way in a document that would be available to
2 us?

3 Tom in his comments came close to -- well, not came
4 close. You did describe several counters to this. But has there ever
5 been such a study done?

6 MR. FLOYD: We actually did do a study in conjunction
7 with EPRI, EPRI and NEI, a few years back and tried to quantify what
8 were the risk-benefits achieved through the use of risk technology. I
9 believe the study showed roughly a factor of three reduction across the
10 board for plants over about a ten-year period in terms of their contribution
11 to core damage frequency.

12 The other thing that was done was I know that there
13 were some charts and graphs that were prepared that kind of identified in
14 a timeline fashion what were some of the major expenditures that were
15 made in improving system performance based upon risk insights.

16 There really has been quite a bit done. We can pull
17 those papers out again and get them to you.

18 COMMISSIONER LYONS: I would appreciate it. In my
19 20 seconds, I want to make one other comment. In the NEI's long letter
20 that they sent us on item number 8, I had authored a fair bit of that
21 question. And one of the questions I asked was whether any of the
22 changes made possible by 50.46 could enhance plant security.

1 I was just going to hopefully suggest that perhaps you try
2 to supplement your answer on this question because, really, the answer
3 that came back just said it was a dumb question.

4 (Laughter.)

5 COMMISSIONER LYONS: The answer reads, "There is
6 a common misperception associated with this rule, as reflected in this
7 particular question." And it never really answers. I mean, maybe it's a
8 dumb question, but I would really like to know the answer.

9 (Laughter.)

10 MR. FLOYD: We'll see if we can do better.

11 COMMISSIONER LYONS: I think you can make some
12 very strong statement. I could even make some strong statements. But I
13 think that would be useful to us as we work through the process on 50.46.

14 CHAIRMAN DIAZ: Very well. I want to thank David,
15 Jim, and Tom, now Steve for coming today and having this wide open
16 exchange. It appears to me that we could have used the entire morning.
17 And maybe next year we will have two panels and I will be able to spend
18 a day sitting back there.

19 I just can't help to point out the importance of, again,
20 communications and how things are. You look at the industry slide. The
21 industry talks about risk-informed, commerce performance-based
22 regulation. The staff, which is now more disciplined, talks about

1 risk-informed and performance-based regulation, the probability of
2 separating.

3 Let me just make a comment back to Commissioner
4 Lyons. In the issue of security, there was very little that we could do that
5 was really risk-informed. However, the Commission decided to make
6 them performance-based, many of those security requirements. And in
7 that case, we separated, you know, this very powerful phrase to make it a
8 useful tool for that particular need.

9 We keep seeing that as time progresses, there would be
10 a timeline in which they would merge, but there still is a separation. I
11 think waiting every time now, the benefit of risk information or risk in size
12 and performance base continues to be an art. And hopefully as time
13 goes on, it will become more the common denominator than those
14 differences.

15 With that note, I want to thank you for coming over. I'm
16 sure you might find the next engagement good. And we shall look
17 forward to keep working with you to make risk-informed regulation a tool
18 that includes safety for the American people. Thank you very much.

19 COMMISSIONER MERRIFIELD: Just to make one
20 clarification for my own part, we always struggled on the issue of
21 risk-informed as it relates to security. And while one might say in a
22 calculable way security is not directly risk-informed, I would certainly say
23 that the DBT that the Commission comes up with is informed by risk.

1 CHAIRMAN DIAZ: I did not say that we do not use
2 risk-informed. There was a series of issues on the security arena that
3 were made performance-based because we did not have risk
4 information. Every time that we can put risk-informed in anything we do,
5 we'll do it automatically. There are some cases in which we cannot. And
6 there were cases in the security where that happens.

7 And, with that, we are adjourned. No. Five minutes.

8 (Whereupon, the foregoing matter went off the record
9 briefly.)

10 CHAIRMAN DIAZ: I think we can go right ahead, Mr.
11 Reyes.

12 MR. REYES: Okay. Chairman, Commissioners, good
13 morning. The staff is ready to brief the Commission in the status of
14 risk-informed and performance-based regulation. I almost said my name
15 is Paul Harvey, and I'm going to tell you the rest of the story.

16 (Laughter.)

17 MR. REYES: Without any further delay, let me just turn
18 it over to the staff, which specifically are going to touch on 50.69, 50.46,
19 and risk-informed tech specs. Gary?

20 MR. HOLAHAN: Thank you. I would like to thank the
21 Commission for the opportunity to speak today on these issues. I think,
22 from what we have already heard today on the staff's side and the
23 Commission and the industry, it is possible to be on the right track, to

1 make substantial progress, and still to be frustrated that additional
2 progress hasn't been made at a faster pace.

3 We recognize these issues. As part of NRR's
4 reorganization last October, we did elevate the PRA Branch to the level
5 of a division to give it more management attention. I think, in part, that
6 has helped us to focus on the attention recently to allow us to get to the
7 root of some of the issues.

8 For example, we have recently published reg guide
9 1.201, which was a matter in some difficulty. That has been published. It
10 is on our Web site. We think that it is useable and will facilitate the 50.69
11 pilot activities that we expect to go ahead.

12 In that reorganization, we also put the PRA Division in
13 close proximity to the rulemaking division because you recognize that
14 there is a synergistic effect between these groups. Some of the
15 important rules we are doing are risk-informed activities.

16 So the 50.69 rule is in place. 50.46 is where our focus of
17 attention is. We had - the rule is out for comment. We had a public
18 meeting. We have collected many comments. And we are digesting
19 those.

20 A summary of some of those comments you heard this
21 morning from the industry. We recognize those comments. We are
22 working on them. We are developing some positions. We expect to
23 have at least one more public meeting on the rule and perhaps selected

1 meetings on individual issues, in addition to that one meeting, where
2 there are substantial issues that we need to address.

3 Probably the issue of the use of risk information in the
4 change process has been highlighted. I think we talked about it just this
5 week as to how the staff would like to approach that issue. That's
6 probably a matter on which either a planned meeting or an additional
7 meeting will use that to address the topic.

8 I am going to let Jim Lyons, who is the Division Director
9 of our new Risk Assessment Division, speak to the issues. Also here are
10 Randy Blough we invited from Region I for the perspective from the
11 regions on the use of the reactor oversight process. And Farouk Eltawila
12 will speak to the supporting technical activities in the Office of Research.

13 So, without using any more of our time, Jim?

14 MR. LYONS: Thank you, Gary.

15 This morning what I really want to do is give you a
16 picture of how we are using risk-informed and performance-based
17 initiatives throughout all the activities that we're involved in and how we
18 are trying to make steady progress in implementing the Commission's
19 policy statement and the Commission's direction and that we want to
20 keep looking for opportunities, as Gary said, to look for ways to
21 accelerate our performance in that area.

1 If I could go to the agenda slide? I've used the
2 Commission policy statement and the direction that we have been getting
3 over the years as a basis for putting together this briefing.

4 I want to talk about our progress in the areas of
5 rulemaking, licensing actions, pilot programs, and the reactor oversight
6 process. And then Farouk will talk about the technical basis support that
7 the Office of Research has been providing us.

8 I'm going to focus on some of the key directions that the
9 Commission has provided over the years. Obviously the PRA policy
10 statement established the overall policy. In response to that, one of the
11 key elements we took forward was the implementation of reg guide
12 1.174, which provided a practical approach for using PRA and making
13 decisions on plant-specific changes to the licensing basis.

14 Then in 1998, the Commission asked the staff to
15 propose options for risk-informing 10 CFR, part 50. And that led to SECY
16 98-300. In the same time frame, the Commission also directed the staff
17 to make changes to the regulatory oversight process. And that led to
18 SECY 99-007.

19 More recently the staff proposed and the Commission
20 approved implementation of a phased approach to increase the quality
21 and usefulness of PRAs in our future actions.

1 To be sure, there have been other directions that the
2 Commission has given us throughout this time frame on risk-informed
3 and performance-based regulation.

4 And, as you noted, Mr. Chairman, there are many more
5 activities than I am going to cover today that we have undertaken. And
6 we try to keep track of those as part of our risk-informed regulation
7 implementation plan, the latest of which we provide to you every six
8 months is in SECY 06-0089 that was just issued a couple of weeks ago.

9 In SECY 98-300, the staff provided three options for
10 moving forward in the risk-informing the regulations. The Commission
11 approved all three options and gave us some clarifying direction.

12 Option 1 was to continue with the rulemaking efforts that
13 were already underway at the time. And we have completed all five of
14 these regulations. The first three are rules, have been implemented by
15 all of the licensees. The last two are rules that were voluntary in nature
16 and are being implemented through plant-specific licensing amendments
17 for risk-informed in-service inspection and the applications of the
18 alternate source term.

19 Option 2 was to develop a risk-informed definition for
20 safety-related and important to safety and to use those definitions to
21 make changes to the scopes of systems, structures, and components
22 that were covered by the special treatment sections of part 50. The

1 Commission also directed the staff to change the scope of the
2 maintenance rule at that time. And we completed that in 1999.

3 With respect to the special treatment, the systems,
4 structures, and components that we talked before, we used the South
5 Texas pilot application as a proof of concept. And we used that to also
6 address issues that we needed to address to develop the final rule on
7 50.69.

8 We issued the regulatory guide for trial use, 1.201, in
9 January. We got some comments from that. And we revised the guide
10 to clarify the staff's position.

11 Looking back on that regulatory guide that we issued, I
12 think that we really weren't that far away from the industry on our
13 positions, but the words in the reg guide didn't convey that message very
14 well. As Gary said, that reg guide is now on the Web site and available
15 for use.

16 In option 3, the Commission has directed the staff to
17 determine the best way to proceed with risk-informing the remaining
18 sessions of part 50. And that led us to identifying specific sections of the
19 regulation that could be risk-informed.

20 Two rulemakings falling into this category have
21 completed. And we have discussed a little bit before. 50.54 revises the
22 requirements for combustible gas control. And 50.48c incorporates the
23 risk-informed, and performance-based provisions of the National Fire

1 Protection Association's standard NFP-805. We now have, actually, 40
2 plants who have committed to convert to NFP-805. And we are
3 expecting more.

4 The staff has several other rulemakings in progress, as
5 we discussed: obviously 50.46a, which redefines the large break
6 loss-of-coolant accident. That is one that we have tried to keep moving
7 forward on.

8 We did have a workshop on the proposed rule before
9 the public comment period closed. And, as Gary said, we are planning at
10 least one and maybe more meetings to address the resolution of the
11 comments that we have received. And we plan on providing the final
12 50.46a rule to the Commission in October of this year.

13 Staff is also finalizing its rulemaking plan for 50.61, which
14 will revise the fracture toughness requirements for protection against
15 pressurized thermal shock. The staff plans on having a proposed 50.61
16 to the Commission in the first quarter of 2007.

17 Last year the Commission also directed the staff in three
18 separate SRMs of note to move forward on a new risk-informed,
19 performance-based revision to part 50. In March, the staff received the
20 Commission's approval to issue an advanced notice of proposed
21 rulemaking to begin the dialogue with external stakeholders on
22 approaches for making the technical requirements for power reactors,

1 risk-informed, and performance-based for a spectrum of future reactor
2 technologies.

3 And this NPR does ask a question of where do we go
4 from here in the whole aspect of looking at risk-informed regulations. The
5 notice has been sent to the Federal Register. And we expect that notice
6 to be issued this week or next.

7 Now let me turn to how we have been using our risk
8 information in other areas outside of the rulemaking. As I said before, reg
9 guide 1.174 provides an approach for using PRAs in making decisions on
10 plant-specific changes to the plant's licensing basis.

11 Licensees have requested and we have approved
12 risk-informed license amendments for extensions on allowed outage
13 times and service inspection intervals and integrated leak rate test
14 intervals.

15 The double-edged sword of that, in some cases we have
16 requested risk information from a licensee on amendments that were not
17 risk-informed. This was done when the staff believed that there was a
18 concern about adequate protection that could be addressed through a
19 risk-informed review.

20 We have also been working with stakeholders on eight
21 risk-informed tech spec initiatives. Of these, we have completed the
22 supporting guidance on half of them.

1 The industry has implemented these to varying degrees.
2 For example, over 95 percent of the plants have implemented the revised
3 actions required when a surveillance test has been missed. Other
4 initiatives only cover specific classes of plants and are not widely
5 adopted.

6 For the other half of the initiatives, we are still working
7 with industry to complete the guidance. Three of the four we have on a
8 path to resolution. On a fourth, we're waiting for the industry to provide
9 us their proposed guidance.

10 In the staff SRM on SECY 98-300, the Commission
11 encourages the staff and the industry to use pilot programs to reach
12 agreement on the implementation of risk-informed activities. We have
13 noted the South Texas pilot in the development of 50.69. And we have
14 also completed during the last year five pilot applications of the reg guide
15 1.200 on PRA quality.

16 We are also planning two pilot applications, as I think
17 Steve Floyd mentioned, on reg guide 1.201 on the special treatment now
18 that that reg guide is out.

19 As I said before, we have 40 plants who have committed
20 to convert to 50.48c and using NFP-805. The first two of those plants will
21 be pilots. We are conducting pilot observation visits to stay abreast of the
22 licensee's progress in developing their submittals.

1 In addition, we are holding periodic workshops at various
2 locations to discuss NFP-805 implementation issues with the non-pilot
3 licensees so that they can keep abreast of where we are going.

4 We are in the final process of issuing the reg guide
5 1.205 that will also support the actions. And we expect to have that out
6 next month. Not shown on this slide is that the staff also plans to use
7 pilot applications as we implement 50.46a when that rule is finalized.

8 The last area that I will talk about is the reactor oversight
9 process, which was developed, in part, to focus our inspection efforts
10 where we can on risk-insignificant activities and systems.

11 The ROP provides for a significance determination
12 process to evaluate the findings that the inspectors make out in the field.
13 The inspection findings are integrated with performance indicator data to
14 determine a licensee's performance and to help us allocate our resources
15 to those plants who have performance deficiencies.

16 We have developed improved tools for the inspectors
17 and headquarters staff to use in the significance determination process,
18 such as the plant-specific SPAR models and the phase 2 STP
19 notebooks.

20 These notebooks that have just been provided to the
21 staff include pre-solved worksheets for about 50 systems, components,
22 and operator actions for each plant that are plant-specific. And the

1 worksheets are expected to cover the majority of anticipated inspection
2 findings. So it should help us be more timely in our STP work.

3 As you know, the industry just implemented the
4 mitigating system performance index on April 1st. As we noted, it
5 replaced the safety system (Inaudible.) ability performance indicator.

6 This was done after much work between industry; the
7 NRC staff, especially the Office of Research and after we resolved the
8 concerns that we had regarding PRA quality.

9 With that, let me turn it over to Farouk to talk about how
10 Research has been supporting this.

11 MR. ELTAWILA: Next viewgraph, please. I am going to
12 briefly discuss some of the activities in the Office of Research under the
13 Commission direction, the EPRA quality, expectation, and requirement.

14 Towards that end, we have been working with the
15 Standard Committee at the American Society of Mechanical Engineers
16 and American Nuclear Society, EPRI, and NEI.

17 And, as a result of all of this interaction, there are at least
18 four standards right now at different stages of completion. I am going to
19 mention every one of them. And there are additional guidance
20 documents that are provided by the staff.

21 So the first PRA quality standard is related to the level I
22 PRA and large early release frequency. That standard has been issued
23 in a couple of years ago and after the pilot application and the public

1 comments, this standard has been revised and been reissued again in
2 December of last year.

3 The second standard is related to the PRA quality
4 standard on external event. And that standard was issued by AMS in
5 2003 in draft form. We received a lot of comments on it. These
6 comments have been resolved right now.

7 Only 4 out of 20 members of the Standard Committee
8 opposed publication of the standard. So, as a result of that, the AMS put
9 a subgroup together, about four-member group, to look at why these four
10 members are opposing to the publication of that standard. And they are
11 going to review the evidence of that. And we're going to continue working
12 with them to try to resolve this issue. So that's with regard to the external
13 event.

14 The other standard is the low-power shutdown. And,
15 again, the writing group completed its work on this standard, but there is
16 some opposition for releasing that standard. And I expect the ANS will
17 have a smaller group again to look at why some members are opposing
18 to the publication of that standard.

19 The fourth standard, PRA quality standard, is related to
20 the fire standard. And we received it on April 20th of this year. It was
21 disseminated in the office, NRC. And we are going to be collecting all of
22 the input from the other offices and provide our comment to AMS by June

1 19th of this year. There is no major problem with that standard. We
2 expect its publication in final form by the end of the calendar year.

3 In addition to these four standards, NRC has published
4 additional documents. I'm going to mention a couple of them to save
5 some time. One, we have developed a data analysis notebook, that has
6 already been issued. We issued for public comments a draft NUREG
7 report on human reliability and on license good practice.

8 In October or September of this year, we are going to
9 issue for public comment a report on treatment of uncertainties. So,
10 again, all of these reports are being published. And I'm going to now on
11 the next viewgraph talk about Regulatory Guide 1.200.

12 We issued that Regulatory Guide in February of 2004 for
13 prior use. It described an acceptable approach for determining the
14 quality of the PRA and ensure it is sufficient to provide confidence in the
15 results.

16 It is intended to reflect and endorse guidance. And right
17 now Appendix E of that Regulatory Guide endorsed the staff position on
18 ASME level I PRA and the LERF PRA standard. And Appendix B
19 provides staff position on NEI peer review and self-assessment process.

20 We were hoping to reissue this Regulatory Guide 1.200
21 in October of this year, but we have not received comment from a major
22 stakeholder. So we are waiting to receive these comments before we
23 can issue the Regulatory Guide as final Regulatory Guide.

1 Next slide. Talk about fire PRA. Our research activity
2 related to fire resulted in the publication of two new reg reports. The first
3 is state-of-the-art fire PRA methods and the second is on verification and
4 validation of the fire models.

5 We cooperated with EPRI on the development of both of
6 these new reg reports. And we cooperated with National Institute of
7 Standards and Technology on the verification and validation NUREG
8 report.

9 The fire PRA method is the state of the art. It is
10 risk-informed. And it has removed a lot of the concern that was
11 expressed during the IPEEE evaluation of external events.

12 In 2005, we held a workshop in Charlotte, North
13 Carolina. And there was a lot of interest in that workshop. So we are
14 holding another public workshop on May 24th and 26th here in the
15 Rockville area, in the auditorium. And we have been expecting to get
16 more people than we have room for. If that happens, we might either
17 have another workshop in a regional office or something like that, but
18 there had been a lot of interest in industry in that workshop.

19 The second NUREG report related to verification and
20 validation. And it contains our assessment validation of fire, five major
21 fire models that are currently used in the nuclear industry. It also includes
22 an extensive analysis of uncertainty.

1 The NUREG report was peer-reviewed. And the result
2 of the peer review was very encouraging. It indicated that the fire model
3 can be used with confidence. So we are very comfortable with the
4 process that we have gone through peer-reviewing the model for the fire
5 PRA.

6 The staff is currently revising the NUREG report based
7 on public comments that ended in March 2006. And we are planning to
8 go to the ACRS Subcommittee in September of this year and the full
9 Committee in October. And after that, we are planning to issue this
10 NUREG in final form by the first quarter of 2007.

11 Next slide. Talk about another activity in the Office of
12 Research which is related to the standardized plant analysis risk model.
13 That model has been used extensively for the SPAR analysis. Currently
14 we have 72 SPAR models covering all operating power plants. They are
15 routinely used in phase III significant determination process and the
16 accident consequence precursor analysis.

17 Our plan right now is to expand the scope of the SPAR
18 model to include external events that would put model for fire PRAs so it
19 would help all implementation of the NFP-805. There are currently eight
20 SPAR models with external event models built in them. And we are
21 sending them out throughout the agency for trial uses right now.

22 I am not going to spend much time on the next slide. It's
23 related to PRA training. Again, we are working with the industry. We are

1 working with the ASME, EPRI, NEI, and honors group to develop a
2 training course for PRA that will be offered to industry people. And we
3 will make it available here to NRC staff.

4 And that concludes my presentation.

5 MR. HOLAHAN: Last slide. I hope that what we have
6 shown the Commission today is that risk-informed activities have had an
7 effect on every aspect of reactor regulation.

8 And I think we know it's not just in this country. The
9 agency's leadership in this area can be seen around the world and
10 affects the improved safety in plants around the world.

11 We have made what we have characterized as steady
12 progress in implementing the Commission's policies and directions. A lot
13 of activities have been accomplished with strong support from Research.
14 And certainly in the regional offices, it's seen in reactor regulation every
15 day.

16 We do recognize and we share some of the frustration
17 over the timeliness of progress on these activities. And we are
18 committed to accelerate and increase our efforts when we see the
19 opportunities to do so.

20 Thank you.

21 MR. REYES: Mr. Chairman, Commissioners, that ends
22 our prepared remarks. And now we're open for questions.

1 CHAIRMAN DIAZ: Thank you, Mr. Reyes, Gary, Jim.
2 We are glad to have you here so we can start on our incisive part of the
3 questioning.

4 If you look at the issue of have we slowed our
5 risk-informed, there are several indications that you have just given. One,
6 the OIG report pointed out that although the staff now felt confident that
7 risk-informed activities were effective and were actually doing what they
8 should do, they also felt that it was slow. I think Chairman Inhofe was a
9 little bit strong in his comments to me regarding whether risk-informed
10 regulation.

11 So, you know, it is in here. And I wonder if all of these
12 things don't have some common rules. Looking at it and standing back
13 and hearing all of the processes that we go by, which includes in the end
14 codes standards and peer reviews, these are all very time-consuming
15 issues.

16 I wonder when was the last time that we took a holistic
17 look at one entire process, one issue from beginning to end and, instead
18 of accepting what the schedules are and just saying this is going to take
19 this much time, whether we are capable of discerning, you know, that
20 efficiencies in time and schedules and decision-making could be made.

21 Is it possible -- and this is something that Commissioner
22 McGaffigan has for many years been saying. Can we improve the
23 communications with stakeholders at certain times? Can we look at this

1 process in time and find accelerating factors? How can we accelerate
2 some of the things?

3 Because I still believe that, whether it is a rulemaking or
4 whether it is an activity like the ROP, we are at a stage of knowledge and
5 at a stage of effective communications, that we can look at the process
6 and say we can accelerate it here. And if this cannot be accelerated,
7 what is the alternative? Okay?

8 We don't have to have always the blessing of every
9 committee in the world to move forward. Okay? It's nice, but it doesn't
10 have to be.

11 So are we at a point in which we can take a fresh look
12 and take the old boilerplate away and say, "This is how we should be
13 making this process"?

14 MR. HOLAHAN: I think we have a few examples. Part
15 52 was an obvious example where the Commission is interested in
16 getting that rulemaking in place as early as possible to support future
17 reactor licensing.

18 We have gone back. We, in fact, asked the Commission
19 for some opportunities to accelerate elements of the process. We
20 discussed it at the last Commission meeting on the NRR program.

21 I think one of the keys has to do with communication.
22 And there is a bit of a mindset that I think the staff needs to adopt. And

1 that is increased communication is an important element to coming to
2 resolution of issues.

3 Sometimes for the staff who actually has to do the work,
4 asking them to do another public meeting or to have a workshop is extra
5 work. And it makes their lives more difficult. And when they're put on a
6 tight schedule and you ask them to do one or two or three more things, it
7 is difficult.

8 I think our experience is that ultimately getting
9 stakeholder input early resolves issues better. You don't have to go back
10 and do them again.

11 So we're committed to find a way to get stakeholder
12 input as early as possible and in an efficient manner.

13 CHAIRMAN DIAZ: Is there something you need from
14 the Commission and our legal counsel? Are there bottlenecks or stops in
15 there that now, 2006, we can look at it and say, "This is the way it should
16 be done"?

17 MR. HOLAHAN: One of the things we're doing is in
18 general we have asked the rulemaking group in NRR to look for
19 opportunities, you know, to, in effect, do a self-assessment of the
20 rulemaking process, to look for opportunities to make the process better
21 and more timely.

22 You know, we start with a model that says every rule
23 takes two years. Well, you know, that shouldn't be the case.

1 CHAIRMAN DIAZ: That's my point. We should be
2 reevaluating every rule has value (inaudible.).

3 MR. HOLAHAN: Yes, yes. And I think there are helpful
4 and appropriate roles for committees like CRGR and ACRS, but I think
5 our process now just goes to every committee all the time and doesn't
6 really ask ourselves what is the value added, do we need it at this stage,
7 do we need it to help us get this issue done. Those are opportunities for
8 streamlining the process.

9 CHAIRMAN DIAZ: Mr. Reyes, if you would like to
10 comment on that?

11 MR. REYES: No. I think Gary is right on. We have
12 done a lot of internal discussion about what can we do with the
13 rulemaking process. I think he hit it. Our model is two years, and we
14 check every box in the process, regardless of whether it adds value or
15 not.

16 And we're questioning that now. I think it is the right time
17 to question it.

18 MR. HOLAHAN: There is one additional thing we're
19 doing, which we can use in rulemaking but it's actually driven by the North
20 Anna early site permit.

21 When we did the first evaluation, we got numerous
22 comments, thousands of comments, 7,000 comments; in fact, probably
23 even more. And what we realized is that the front end of that process

1 was very inefficient. When comments come in, putting them into the
2 electronic system and how those comments actually came to the staff
3 actually cost us a month in the schedule. Okay?

4 We have worked out with OIS, Office of Information
5 Services. We have worked out a process where what used to take a
6 month can probably be done in minutes; thus, the front end of the
7 comment process.

8 There is probably more we can do on the back end of
9 the comment process. And that is, putting the comments into the proper
10 bins, identifying which comments are related or similar, which comments,
11 in fact, we have addressed maybe previously. And we can build on some
12 previous answers that we have had to questions.

13 So there are opportunities. There are process
14 opportunities. There are electronic opportunities. And I think we are
15 trying to make --

16 CHAIRMAN DIAZ: It might very well be that this is in the
17 area of change management across the agency. This might be one of
18 the most important ones. Thank you.

19 Commissioner McGaffigan?

20 COMMISSIONER McGAFFIGAN: I'll follow up on the
21 Chairman's discussion in a different way. The question I asked the first
22 panel about renoticing 50.46, I got a little bit of an answer in all of those
23 workshops that you are planning, Gary. You wouldn't be planning all of

1 those workshops if there weren't some matters that might not pass the
2 logical outgrowth test and maybe would.

3 Did you draft 50.46 broadly enough that there aren't
4 going to be any logical outgrowth issues consistent with the D.C. Court of
5 Appeals decision last year?

6 MR. HOLAHAN: The staff's drafting of 50.46a I think
7 allows a lot of opportunity.

8 COMMISSIONER McGAFFIGAN: You've got to figure
9 that out quickly because in Part 26, Commissioner Merrifield and I got a
10 briefing earlier this year. It was one of Commissioner Merrifield's
11 happiest moments on the Commission and as he was told about the
12 renoticing and we might get that one done by December or January or
13 whatever, one that we have been working on for more than a decade.

14 And so I just urge you. I think part of your process, --
15 this is a follow-up from the Chairman's point -- if you're more transparent
16 and, yet, from the proposed rule you have captured all of the options,
17 even if you don't necessarily agree with them but you seek comment on
18 the chance that you might agree with them someday, if you take that
19 approach to things and you're more transparent, you're actually more
20 efficient because you don't get into this renoticing stuff.

21 COMMISSIONER MERRIFIELD: Before you answer
22 that, just for the purposes of the record, to clarify, Commissioner

1 McGaffigan made a reference to a meeting we had on Part 26. Just so
2 that for the record –

3 COMMISSIONER McGAFFIGAN: I was being sarcastic.

4 COMMISSIONER MERRIFIELD: No, no, no, no. It's no
5 problem. I have no problem with that. Generally I'm known as a
6 relatively nice, collegial guy. And when we came to the discussion with
7 our staff, I was neither nice nor collegial with our staff regarding that rule,
8 which I continue to believe was a miserable failure on the part of our
9 agency.

10 I just want to put that as a clarification. Thank you.

11 COMMISSIONER McGAFFIGAN: I was being
12 whatever. He was not a happy camper that day.

13 MR. HOLAHAN: This is a significant issue. If you recall,
14 when we sent out 50.46, we sent out more than rule language. We sent
15 out a list of questions, a long list of questions, about 20 or 25 by my
16 recollection. I think that provides an opportunity in the public comment
17 process to look at virtually all of the likely outcomes for a rule that we
18 would recommend to the Commission.

19 So I don't expect this rule to need a renoticing.
20 However, if the staff thinks that, you know, for the spirit of safety, we
21 need to do such a thing, we'll come back to the Commission and
22 recommend it.

1 COMMISSIONER McGAFFIGAN: Let me get to my
2 second question because I will only get in two probably. You all know
3 what I think of the triple hyphenated grand unified theory. I enjoyed the
4 conversation between Mr. Jaczko and Mr. Christian talking about
5 Newtonian versus Einsteinian mechanics.

6 My view is that you guys are going well along relativistic
7 mechanics. You're trying to come up with a grand unified theory of all
8 things without having figured out how you actually regulate metal-cooled
9 reactors or gas-cooled reactors, on which our recent record is
10 unblemished by success, as I said.

11 But, that all said, my view I think is clear. Section 202 of
12 the Energy Policy Act of 1974 would require NRC regulation of a
13 demonstration burner reactor, which is part of GNEP. And it's going to be
14 metal-cooled.

15 How prepared are you to work on the DOE schedule to
16 regulate the demonstration burner reactor that could be coming along --
17 as Commissioner Merrifield pointed out, we have got a lot of things
18 coming along -- could be coming along at the same time as the tidal wave
19 of applications for Gen 3-plus reactors?

20 MR. HOLAHAN: That is a very challenging question.
21 And I don't think even risk-informed regulation is going to solve it for us.

22 COMMISSIONER McGAFFIGAN: It ain't going to solve
23 it for you, no.

1 (Laughter.)

2 MR. HOLAHAN: You know, we have not licensed a
3 liquid metal reactor in --

4 COMMISSIONER McGAFFIGAN: Since almost
5 licensing censure.

6 MR. HOLAHAN: Yes.

7 COMMISSIONER McGAFFIGAN: Right, right.

8 MR. HOLAHAN: There are --

9 COMMISSIONER McGAFFIGAN: You've got resources
10 going into the grand unified theory. Should we be taking those resources
11 and putting them, instead, into something that may be a high priority for
12 the Secretary of Energy, namely the burner reactor component of GNEP?

13 MR. HOLAHAN: I'm not sure we can address that issue
14 today. I think the '08 budget is the mechanism for the Commission to
15 instruct the staff as to what priority and what future reactors in support of
16 which technologies the Commission wants us to follow.

17 MR. REYES: We are on schedule. You are going to
18 have a nice summer.

19 COMMISSIONER McGAFFIGAN: Yes. Thank you very
20 much. I'm sure.

21 (Laughter.)

22 COMMISSIONER McGAFFIGAN: You are going to
23 leave all of the hard choices to us, right?

1 MR. REYES: That's why you get the big bucks.

2 COMMISSIONER McGAFFIGAN: You don't want to go
3 there, --

4 CHAIRMAN DIAZ: You don't want to go there.

5 COMMISSIONER McGAFFIGAN: -- not after the
6 publication this week in "Inside NRC."

7 CHAIRMAN DIAZ: Commissioner Merrifield, would you
8 please take it from there?

9 COMMISSIONER MERRIFIELD: In terms of being
10 risk-informed, the EDO would be well-disposed not to engage the
11 Commission on pay, as he knows full well my view about how we are
12 outpaid by the entirety of our SES staff. So, anyway, we'll leave that one.

13 Bouncing around change management, one of the
14 things I talked about with the utilities was all the things that are on our
15 plate. And one of the things that we all do is we invest our time. And one
16 of the things that strikes me, we have had some issues where we have
17 gotten ourselves at various points wrapped around the axle with some of
18 these risk-informed initiatives.

19 And it makes me wonder, with all the other challenges
20 there, whether perhaps having some of our senior managers sit in on a
21 few more of those meetings would have helped clarify areas where there
22 was a conflict between ourselves and NEI.

1 NEI may have the same problem. You know, it's very
2 frequent that folks at a certain level get hyper focused on an issue when,
3 whether it's the Commission, whether it's our senior managers can come
4 in and say, "Hey, listen, guys, let's get up to 20,000 feet." And you realize
5 this particular subissue isn't such a big question.

6 Have we invested the right manager time in these
7 issues?

8 MR. HOLAHAN: We were invited to the last
9 risk-informed working group meeting that NEI hosted. Jim and I and his
10 deputy went to the meeting. And I think we had a useful discussion.

11 So I think yes, we're open to such activities. I think, sure,
12 it's a good forum for discussion. We have no objection to it. And when
13 we're invited, we go to those meetings. I'm not sure we were invited
14 before, but --

15 COMMISSIONER MERRIFIELD: Well, it may well be
16 nothing wrong with you, Gary. It may well be further people up the chain.

17 MR. HOLAHAN: No. I --

18 COMMISSIONER MERRIFIELD: And we have got the
19 industry coming to us across the table and a letter coming in saying, "We
20 really need the Commission to focus on these." Well, that's a recognition
21 that something has happened below the Commission.

22 And so it's not just the people who report to Gary, and it's
23 not just Gary. It's between Gary and you.

1 MR. REYES: I think that's a fair request I'm willing to
2 take back. I think in the past we have seen where active participation by
3 senior managers on both sides, the industry and the regulator, have
4 made the issues move forward. So I think that's a fair request.

5 COMMISSIONER MERRIFIELD: Let me go back to the
6 look that you take on this, Gary. You come in. And you are able to take
7 a fresher look at this because you've come in. If you had to sort of point
8 out some of the lessons we've learned from where we are with 50.69 and
9 50.46a, do you think you might be able to tally some of those and moving
10 forward we might be able to avoid them?

11 You talked a little bit about better communications and
12 whatnot.

13 MR. HOLAHAN: I'll speak to it. I would like Jim to give
14 his insights as well.

15 The hard spots on 50.69 within the staff and within the
16 industry were issues that needed to be floated up and discussed. There
17 are problem areas where the Commission's policy or the rule itself calls
18 for something and then we write a guidance document which says how to
19 do that.

20 We need to implement the Commission's direction and
21 the regulations. There is no flexibility there. The flexibility is with how
22 much do you have to do to meet the regulation and how many
23 opportunities are there to do that guidance document in a different way.

1 So we heard the example this morning that the industry doesn't like the
2 idea of doing a risk assessment every time it makes a change.

3 What the staff is thinking is 50.46a opens up a range of
4 possibilities of changes to plants that was never available before. You
5 can make substantial changes to plants. And although we hope and
6 expect those to be safety enhancements, we have a responsibility to
7 make sure that they don't get out of control.

8 50.59 probably doesn't cover very well the scope of
9 those kinds of changes. So the staff is looking for a way to address that
10 issue. So we propose that risk assessments be done.

11 Well, there could be a number of different ways of doing
12 that. Maybe they could develop some screening criteria. Maybe you
13 could just check and say, "Well, if it's not in my PRA, probably making
14 this change isn't going to make the risks go up."

15 So I think in a lot of these cases, it's a matter of
16 understanding what is the objective. What you heard here is that the
17 industry and the staff and the Commission have a fairly consistent view of
18 what is a good idea, that risk-informed regulation is good.

19 The difficulties are at the detail stage of how do you
20 implement it and how does it affect me. It's both the reviewer, "How does
21 this affect me?" and it's the utility "How does this affect me?"

22 And it's until we start to figure out what are those hard
23 spots, how can we do this in a way that achieves the goals but isn't more

1 burdensome than is necessary, until we get to that point, we don't
2 actually get these things resolved.

3 So I think on both sides, we need to first understand
4 what the objectives are, have some shared understanding. When the
5 industry comes to us and says they want to change something in the
6 guidance document and we say it's not consistent with the way the rule
7 is, we're not going to change it. I mean, that's the wrong story. Okay?

8 So if they're looking for the staff to be more receptive to
9 things, they need to understand what we're trying to achieve. We need to
10 understand what they are trying to achieve and sort of work out how can
11 those meet.

12 I think it is possible because in almost every case,
13 ultimately we come to some workable range, workable version of
14 risk-informed regulation. It just seems to take too long to get there.

15 COMMISSIONER MERRIFIELD: I think you put your
16 finger on it. I mean, you talked earlier about communication and whether
17 it's a workshop or other means, to sit down and flesh that out.

18 When you have a circumstance where the Commission
19 is yes, we want to do risk-informed regulation and both sides agree, "Yes,
20 we really want to do this," but, nonetheless, it takes us all this time, it
21 really causes for a fundamental reassessment. Do we have the right
22 process in place to get us to the endpoint?

1 It seems to me you have got to build in some way, a way
2 of demonstrating, "Okay. Where are the areas where the staff can come
3 to resolution?"

4 MR. HOLAHAN: Yes.

5 COMMISSIONER MERRIFIELD: "Where are the areas
6 where they cannot come to resolution?"; having a process so that it is
7 kicked up upstairs, wherever upstairs, to make a decision so that we can
8 come to resolution, rather than continuing, "Well, we can't resolve it. So
9 let's just keep talking about it" until we keep talking about it and five years
10 go by.

11 MR. HOLAHAN: Hopefully the dialogue will also
12 contribute to less of the suspicion. It's clear that there is suspicion on
13 both sides. All right? The industry thinks the staff just wants to do more,
14 more, more. And the staff thinks the industry wants to save money and
15 isn't really interested in safety.

16 And so if you look at the IG survey, you'll see that as you
17 go deeper into the organization, the level of support for risk-informed
18 regulation diminishes.

19 And so the management is strongly supportive, and the
20 middle management is supportive. And then when you go down to the
21 staff, well, they're more than 50 percent supportive, but it's not the 80-90
22 percent that you saw higher. So these suspicions exist.

23 COMMISSIONER MERRIFIELD: That's why you need

1 both. You need good communications in the front end so that people
2 understand the buyin. And at the end, you need the managers and the
3 Commission to make the decisions.

4 COMMISSIONER MERRIFIELD: Thank you, Mr.
5 Chairman.

6 CHAIRMAN DIAZ: Thank you.

7 Commissioner Jaczko?

8 COMMISSIONER JACZKO: Thank you.

9 I'll follow up a little bit on what Commissioner Merrifield
10 was saying, not just on the issue of communication, but I think one of the
11 challenges that we have going forward with the risk-informed and
12 performance-based and perhaps even if we get into a technology-neutral
13 framework is transparency, and ensuring transparency.

14 Right now if you look at 50.48c versus more
15 deterministic 50.48, certainly the deterministic 50.48 is a little bit
16 convoluted. It's clear in there what you need to do to have compliance.

17 50.48c, it's not quite so clear. There are references to
18 more risk-informed performance-based modeling. There's references to
19 NFP-805, all those kinds of things.

20 Another example that I think is pretty obvious to
21 everyone is the change to the new MSPI performance indicator in the
22 reactor oversight process and that there you have gone to something

1 which is based on a very complicated algorithm and in terms of making
2 determinations about the findings in that performance indicator.

3 So you have got an issue here of trying to ensure
4 transparency and trying to ensure that people have access and
5 understanding for the regulatory process.

6 So I'm wondering if maybe you could comment a little bit
7 specifically on some of the issues like the performance indicators in the
8 ROP, which has a transparency goal, and then just in a broader context
9 in the regulations as we get into more performance-based or
10 risk-informed kinds of regulations. How do we ensure that that is
11 transparent and clear to people what the agency is really asking?

12 MR. HOLAHAN: I'd like to have Randy address the
13 MSPI and how well-understood it is by various stakeholders.

14 MR. BLOUGH: You're right. There is a balance
15 between effectiveness and transparency here and that with the MSPI, it's
16 much harder to understand than previous performance indicators. But it's
17 correcting problems with the previous one.

18 So we'll have an outreach issue to work through with
19 internal and external stakeholders with that. Up until now, we have had a
20 small cadre from the regional perspective, a small cadre of people
21 working closely with headquarters offices in the MSPI. And they're very
22 familiar with it. And they understand it, and they're bought into it.

1 The rest of the staff will be involved in inspecting the
2 initial implementation. There is some training they will get in advance,
3 have gotten or will get. We'll be working through that with case studies
4 as we do the temporary instruction, which will inspect the additional data.

5 Likewise, externally we'll use our outreach mechanisms
6 to the states, our annual assessment meetings with the public, and
7 whatnot, to try to explain the MSPI. And at least you get a level of
8 understanding of what it is designed to do and why we made the change.
9 A lot of that outreach still lies before us.

10 MR. REYES: But I just think there has to be a
11 recognition that as we go into the risk-informed, it is more complicated
12 and deterministic. And, in fact, that's part of the changed management
13 issue internally through the organization.

14 And there is going to be a changed management issue
15 with the public because when you throw in the MSPI equation to a
16 member of the public, you are going to have a little bit of a bridge there to
17 try to convey. They won't understand it. And you have to say, "Trust me.
18 This is better." And so we are going to have to explain it.

19 MR. LYONS: I think the answer, to maybe take you
20 back to 50.48 and 50.48c, 50.48 does give you some very clear
21 statements about what should be protected. But the interpretation of how
22 those are going to be protected, there are varying interpretations. And

1 that has really been the basis of the problems that we have had over the
2 years implementing the fire protection rules.

3 In 50.48c, we try to set the performance levels that we
4 want and then, you know, from our standpoint review the program that
5 they're having in their fire PRA, which is going to be really the only way
6 that they are going to be able to address it, and then be able to address
7 those complicated issues, such as circuit analysis through a way that
8 focuses you in on the most risk-significant ones.

9 And so, as Luis said, it is more complicated. And it
10 maybe is not quite as transparent. But I think in the long run, it gets us to
11 focusing our efforts and the industry's efforts on those things that are truly
12 significant.

13 COMMISSIONER JACZKO: And perhaps 50.48 wasn't
14 the best example, but I think, you know, as I was saying, the issue still
15 really comes down to we need to make sure that we are able to
16 communicate and able to communicate successfully why we're making
17 the decisions we're making and why in one case somebody is in
18 compliance or not in compliance. And that gets much more challenging, I
19 think., as Luis said, when you're dealing or talking about risk models and
20 things like that that are not necessarily immediately accessible to the
21 public. So I hope that that will continue to be something that is part of
22 this effort to do these things.

23 CHAIRMAN DIAZ: Commissioner Lyons?

1 COMMISSIONER LYONS: I very much appreciate the
2 discussion with this panel. And I particularly appreciate the aspect of the
3 discussion, particularly with Gary, Luis, and the Commission, on different
4 approaches trying to enhance the rulemaking process, more rapidly inject
5 a greater emphasis on risk-informed approaches. So to me that has all
6 been very, very useful.

7 As I began with the industry panel, I noted the different
8 perceptions from the industry panel's perspective and staff perspective
9 on the performance and the advances that we have made in
10 risk-informing. I said I would ask that same question here. So I think I
11 should, even though I tend to think that your discussion has covered it
12 very, very well.

13 Are there other points along that line that you want to
14 make about the difference in the point of view between industry and staff
15 or do you tend to agree that we have covered it?

16 MR. HOLAHAN: I'm tempted to let it lie.

17 COMMISSIONER LYONS: I'm happy with that, but I
18 thought that I would ask it.

19 MR. HOLAHAN: I think one of the things is useful. And
20 that's one thing the staff does. The industry is not really monolithic. I
21 mean, there are people with various views.

22 I find it useful to talk to the PRA manager at various
23 plants -- I won't name it so they don't get in trouble -- and to see where,

1 frankly, NEI represents the industry as a whole and is a lobbyist. And
2 they're defending them against the NRC being perceived to be
3 over-regulating. And so you tend to get one view.

4 There are a lot of people in the industry who are using
5 risk information every day who are very supportive of it, who are looking
6 for opportunities, who are innovative about it. And we try to listen to
7 them, too. So it's not all bad news.

8 COMMISSIONER LYONS: Let's go to a different
9 direction entirely. I have been very, very interested since I joined the
10 Commission in trying to understand to what extent our codes, particularly
11 our more complex codes (inaudible) were well-validated.

12 I know what it means to validate a code with that
13 provides a deterministic answer, if you will. I'm far less clear in my own
14 mind about what it means to validate a PRA based code.

15 I was just curious if any of you could speak to the
16 different challenges that you face in terms of validating a PRA code.

17 MR. HOLAHAN: I'm glad you asked Dr. Eltawila this
18 question.

19 (Laughter.)

20 MR. REYES: Farouk will answer that.

21 MR. ELTAWILA: I will try that, and then maybe Mary
22 can help me.

1 When it comes to -- for example, our SPAR model is
2 being benchmarked against industry PRA. And so we are continuously
3 updating these SPAR models. That's from the PRA point of view. And
4 we are reviewing it and assessing it and try to continuously update it.

5 For the tools that are needed to, for example, calculate
6 the success criteria and things like that, they are assessed in the same
7 way, like we assess any code, like the thermal hydraulic code or the field
8 codes or something like that. But it's mainly for the PRA is benchmarking
9 against the actual PRA of the licensee walk down through the plant to
10 ensure that the model that represents the actual configuration of the plant
11 and so on.

12 So I wonder. I did not answer your question somehow.

13 MR. HOLAHAN: And I think that research also has the
14 accident sequence precursor program, which can be used to benchmark
15 the PRA models to identify which sequences are actually included in the
16 models are the sequences that you would expect to show up once in a
17 while actually reasonably consistent with those expectations. So that's
18 helpful also.

19 MR. REYES: I think once you do the basic review for
20 the PRA, if you look at what happens every day in the region and with the
21 licensees, you end up checking against each other because every time
22 there is an issue and we calculate what comes out of that process, you

1 end up checking two individuals with two different PRA models against
2 the same scenario.

3 And you do a cross-check. And that happens every day.
4 Every day we do that out in the field. You have always a continuing
5 validation of the model.

6 COMMISSIONER LYONS: But as you are describing it,
7 it is a code-to-code comparison.

8 MR. REYES: Right.

9 COMMISSIONER LYONS: It's not a code-to-hard data
10 comparison. And I guess that is what I tend to struggle with. I probably
11 shouldn't delay this meeting, but I would be interested offline in the future
12 to better understand how validation works in the PRA model.

13 MR. REYES: There is validation.

14 CHAIRMAN DIAZ: There is the model validation.

15 MR. REYES: You know, it's a very good point that
16 needs to come up because unless you have been involved, obviously you
17 don't see those validation points against data.

18 PARTICIPANT: I won't go into detail. We'll do it more
19 offline. But there is validation of the actual codes and software beyond
20 just the thermal hydraulic codes that are used. They're not validated by
21 code to code, but they're actually benchmarked against real data.

22 COMMISSIONER LYONS: Sure.

23 PARTICIPANT: And we can talk more about that offline.

1 COMMISSIONER LYONS: Yes, yes.

2 CHAIRMAN DIAZ: Like when we did the beginning of
3 the 50.46, there is a significant amount of data that was actually
4 compared with the codes we saw. So that is going on systematically.
5 Every time we get data points, whether they're failures or whatever, you
6 know, each event, it is put in a database. And one of the problems we
7 had was putting databases that were international, for example, putting
8 them together.

9 It's a very good question that needs to get a good
10 answer.

11 COMMISSIONER LYONS: If I respond, it will take quite
12 a while --

13 CHAIRMAN DIAZ: All right. Well --

14 COMMISSIONER LYONS: -- get into expert elucidation,
15 which continues to bother me.

16 CHAIRMAN DIAZ: Well, not being an expert, I get
17 bothered by expert elucidations, too.

18 I don't have any further questions. If my fellow
19 Commissioners want to have some quick --

20 COMMISSIONER McGAFFIGAN: Very quickly. Are our
21 SPAR models proprietary?

22 MR. ELTAWILA: They are not proprietary, but they are
23 designated sensitive unclassified. So they are not publicly available.

1 COMMISSIONER McGAFFIGAN: They are not publicly
2 available? They're sensitive because of insights that a terrorist might get
3 playing with the model?

4 MR. ELTAWILA: That's correct. They're just to give you
5 all the --

6 COMMISSIONER McGAFFIGAN: It strikes me that at
7 some point we may need to bring in some trusted folks, Dave Lochbaum
8 or whatever, and let him play with the SPAR models, knowing it's
9 sensitive. We've got to find some way to -- and I think it's connected to
10 the MSPI question that Commissioner Jaczko raised.

11 The second very brief thing that I would ask is, does the
12 staff agree that the focus needs to be on initiating internal initiating events
13 and fire for the next several years or -- Farouk's presentation talked about
14 how close you think you are barring the small minority presumably of
15 industry folks who are delaying the low-power shutdown and external
16 events PRAs. Should we be trying to broaden to that front as well? I
17 mean, are other resources saturated, as was suggested, for the next
18 several years by trying to get fire and internal initiating events right?

19 MR. HOLAHAN: I would say we know fire is important
20 from a number of points of view. It is important because it will enable
21 50.48c. Probably more important, fire PRAs are important because fires
22 are important.

23 COMMISSIONER McGAFFIGAN: Right.

1 MR. HOLAHAN: And I think what we'll see is that fires
2 are dominant risk initiators and they need to be well-understood.

3 COMMISSIONER McGAFFIGAN: So is this a saturation
4 issue, Gary?

5 MR. HOLAHAN: No.

6 COMMISSIONER McGAFFIGAN: The first two saturate
7 resources to such an extent that we can't make progress in the latter two.

8 MR. HOLAHAN: I would like Farouk to -- personally I
9 don't think so. We were following the Commission's direction on the
10 phased approach to PRA quality. We think we can succeed on that.

11 Within that framework, we understand that there are
12 some that need more priority attention than others. And clearly level I
13 internal events and fire have to be at the top of the list.

14 But I don't think we're at saturation, and I don't think we
15 ought to slow down on them or --

16 CHAIRMAN DIAZ: If you have some more specific
17 answer you can provide us to the Commission in writing on this particular
18 issue?

19 Commissioner Merrifield?

20 COMMISSIONER MERRIFIELD: Mr. Chairman, I would
21 only say I look forward to our next meeting, where the staff can tell us
22 about more progress that they have made.

23 CHAIRMAN DIAZ: Excellent.

1 Commissioner Jaczko?

2 COMMISSIONER JACZKO: I don't have any more
3 comments.

4 COMMISSIONER LYONS: I just have one question I
5 wanted to ask Randy, if I could. I was just curious, Randy, if from your
6 perspective you see that the SRAs have sufficient time to work with
7 inspectors in the field to try to emphasize risk-informed approaches?

8 MR. BLOUGH: I think so. I think we have been on a
9 reasonable path with that and we're getting better. One thing we have
10 seen is that in the SRA position, there has been progression through
11 those positions.

12 So, whereas, we start with two per region, we weren't
13 able to keep two certified SRAs per region. The regions that have had --
14 and it's healthy to have this movement. The regions that have
15 experienced that have now gone to staffing of three SRAs.

16 And we're expanding the amount of time, particularly
17 with team inspections and also in their coaching of inspectors on
18 individual inspections, to use risk insights better for picking the samples,
19 to use now the risk-informed notebooks in the planning of an inspection.
20 So you're focusing on the most important areas.

21 MR. REYES: Yes. Let me just emphasize in my view
22 the most contributing activity is that the senior reactor analyst in part of
23 the preparation for the inspection -- we used to go to the inspections.

1 And we read the FSAR, we read a few things. And we went and did the
2 inspection.

3 Now the risk analyst is a part, integral part, of the
4 inspection preparation. I'm going to give you an example. The utilities do
5 an outage. We get the outage activity. And the inspectors meet with the
6 risk analyst.

7 And it turns out that they are doing maintenance on both
8 trains of safety-related breakers, same people, same procedures, same
9 grease. Right away the risk analyst will highlight that to be one of the key
10 activities to observe.

11 So big insight up front in preparation for the inspection
12 leveraging our resources to look at the risk-important activities, whether
13 there is an outage or whether it is something else.

14 COMMISSIONER LYONS: Thank you.

15 CHAIRMAN DIAZ: Well, I think with that note, I think it
16 highlights the underlying theme of this meeting is that risk-informed and
17 performance-based regulation is part of the fabric of the NRC.

18 It is not going to go away. I think it is for every one of us
19 to make it better because, you know, I think each has contributed and
20 can continue to contribute to the safety of nuclear power generation in
21 this country. And for the NRC, it ensures that we can ensure adequate
22 protection of our people.

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I think we can do more. I think that sometimes we are risk-averse ourselves and in many ways, you know, try to go to too many levels. That provides a safe regulatory path. But if we really are risk-informed, we should at times take those small risks that will put us on the right path to be able to do the kind of things that we need to do.

And, with that, I want to thank my fellow Commissioners for an excellent meeting. I want to thank the staff for being well-prepared. And we are adjourned.

(Whereupon, the foregoing matter was concluded.)

1