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UNITED STATES
NUCLEAR REGULATORY COMMISSION
+ + + + +
BRIEFING ON OFFICE OF NUCLEAR REACTOR REGULATION --
PROGRAMS, PERFORMANCE, AND FUTURE PLANS
+ + + + +
TUESDAY
JANUARY 26, 2010
+ + + + +

The Commission convened at 9:30 a.m., the
Honorable Gregory B. Jaczko, Chairman, presiding.

- NUCLEAR REGULATORY COMMISSION:
- GREGORY B. JACZKO, CHAIRMAN
- DALE E. KLEIN, COMMISSIONER
- KRISTINE L. SVINICKI, COMMISSIONER

1 NRC PANEL:

2 MARTIN VIRGILIO, DEPUTY EXECUTIVE DIRECTOR

3 ERIC LEEDS, DIRECTOR, OFFICE OF NUCLEAR

4 REACTOR REGULATION

5 BRUCE BOGER, DEPUTY DIRECTOR FOR REACTOR

6 SAFETY PROGRAMS

7 ROY CANIANO, DIRECTOR, DIVISION OF REACTOR

8 SAFETY, REGION IV

9 JACK GROBE, DEPUTY DIRECTOR FOR ENGINEERING

10 AND CORPORATE SUPPORT

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

2 CHAIRMAN JACZKO: Good morning.

3 Today the Commission meets to get its
4 annual program briefing from the Office of Nuclear
5 Reactor Regulation.

6 One of our statutory offices and one of the
7 longest standing offices of this agency.

8 In their presentations today, the staff
9 will review the status of NRR's licensing process,
10 the reactor oversight program, its rulemaking, its
11 incident response efforts, and a large number of
12 more specific issues that fall within the office's
13 area of responsibilities.

14 Our very full agenda this morning reflects
15 the myriad of ways in which the NRR staff
16 contributes to the safety and security of the
17 reactor fleet.

18 Their responsibilities have both short-term
19 and long-term components.

20 The staff conducts long-term strategic
21 planning and rulemaking to address potential
22 issues, but also works actively on a day-to-day level

1 to identify, assess, and resolve existing safety
2 issues and probably one of the most important
3 things they do.

4 But even as the agency considers new
5 licensing applications the NRC must stay focused on
6 its core mission of ensuring the safety and
7 security of existing reactors.

8 I'd like to say that there is no damage
9 that can be done by a plant that's just in design,
10 but it's those plants that are actually out there
11 operating where we have to be diligent and be
12 responsive to concerns so that we continue to not
13 get ourselves lulled into a sense of complacency.

14 It was precisely this reason that led the
15 Commission to create a separate office for new
16 reactors.

17 So that this office would be able to
18 maintain its focus and effectiveness, and
19 single-minded focus on the safety of the current
20 operating fleet.

21 We have a lot of work ahead of us, there
22 are still long-standing challenges and some very

1 interesting issues that are starting to develop and
2 some that have been with us for some time.

3 Things like buried piping, submerged
4 cables, the containment sump performance, and of
5 course fire protection.

6 I think these issues won't be resolved
7 overnight, they will require our continued focus
8 and continued attention, and I think this meeting
9 will provide us with an opportunity to really work
10 towards bringing to closure a lot of these issues
11 and dealing with some of the new ones that we see.

12 With that I would ask if any of my fellow
13 Commissioners would like to make opening comments.

14 Marty, I will turn it over to you.

15 Bill is not with us this morning, because
16 he is on jury duty.

17 He is serving the country in another way.

18 MR. VIRGILIO: Thank you and good morning Chairman
19 and Commissioners, and while Bill is on jury duty I was
20 asked to step in.

21 And I look back at my career the NRC and
22 the first 20 years that I worked for the NRC and I

1 worked in the Office of Nuclear Reactor
2 Regulations.

3 Maybe I'm somewhat qualified to be here
4 with you today.

5 I will rely on this team to answer the
6 difficult questions.

7 NRR is the lead for the agency for its
8 oversight of operating reactors.

9 However, this important program would not
10 be successful in ensuring the safety of the
11 operating fleet without the support of many of the
12 other offices, the corporate offices, and the
13 regions as well.

14 I want to make sure that we start off by
15 acknowledging their support.

16 We have a lot of information to discuss
17 today, there are some elements of the program that
18 we are not focused on in our presentation because
19 we've got upcoming Commission meetings.

20 For example, we've got the regional program
21 review coming up in February we have the
22 decommissioning funding meeting coming up in

1 February, as well. We've got the joint meeting with
2 the Federal Energy Regulatory Commission in March,
3 Pressurized Water Reactor sump strainers in April,
4 and the Agency Action Review Committee meeting is
5 in May.

6 So, there are a number of things that we
7 are not including in our prepared remarks, but we
8 are ready to respond to any question that you might
9 have on any of the topics.

10 With that, I will turn it over to Eric who
11 will introduce the other participants here with us
12 today at the table.

13 MR. LEEDS: Thank you, Marty.

14 Good morning, Commissioners, Mr. Chairman.

15 As you mentioned, Mr. Chairman, we have a
16 myriad of issues, we have a lot to cover this
17 morning.

18 I'm going to provide an overview of the
19 Operating Reactor Program.

20 Once I'm complete, I going to turn it over
21 to Bruce Boger, Bruce is the new NRR Deputy
22 Director for Safety Programs.

1 He will provide a discussion of selected
2 programmatic topics.

3 After Bruce we are going to go to Roy
4 Caniano, Roy is the Director for the Division of
5 Reactor Safety in Region IV.

6 He is going to discuss the Operator
7 Licensing Program.

8 Then we will go over to Jack Grobe, Jack is
9 the new NRR Deputy Director for Engineering and
10 Corporate Support.

11 Jack will talk about a number of technical
12 topics.

13 When Jack is done, he will turn back to
14 Marty for closing remarks.

15 If we can go to the agenda -- the next
16 slide, please.

17 To begin with we will talk about licensing.

18 We had a number of accomplishments this
19 past year, we completed over 1500 licensing
20 actions.

21 In doing so we met all of our timeline
22 goals, while maintaining our focus on public health

1 and safety.

2 1500 of anything is a lot.

3 To put a little context on it, I want to

4 talk about those types of things that we

5 accomplished.

6 Some of those items were, what we would

7 consider, routine, very straightforward.

8 An example might be a licensee requesting a

9 code relief request, where they want an extension

10 for a month or two months to perform something as

11 basic as a visual examination.

12 Some of the items are very complex.

13 This past year we approved use of field

14 programmable gate arrays to measure process fluid;

15 main steam flow, main feed flow, at the Wolf Creek

16 station.

17 This is very significant because we

18 approved technology that went from the old analog

19 technology to digital instrumentation and control.

20 What makes these reviews so complex and so

21 important to the staff is that in improving the use

22 of this technology, we always focus on maintaining

1 that the technology provide the redundancy, the
2 diversity, and the defense in depth that our
3 regulations require.

4 Another example of the significant
5 licensing activity was the work that the staff
6 completed to define the safety and regulatory
7 envelope that the Tennessee Valley Authority will
8 need to meet to complete the licensing of
9 the Watts Bar Unit 2 Reactor.

10 As I'm sure you will recall, TVA stopped
11 work on that reactor back in the late 1980's.

12 They have come back to us, they want to
13 complete that plant and bring it online in the year
14 2012.

15 In order to do that the staff had to go
16 back to the archives, we literally reviewed
17 thousands of documents in order to establish what
18 had already been completed and approved for that
19 plant, what's outstanding and remains to be done,
20 and also what needs to be upgraded to bring that
21 license and that plant into compliance with today's
22 standards.

1 We have a number of challenges going
2 forward in the licensing arena.

3 The first one I want to talk about is
4 defining the amount of credit we'll allow licensees
5 to take in using containment pressure to provide
6 net positive suction head for emergency core
7 cooling pumps.

8 Jack will talk about this subject in more
9 detail later.

10 The other specific topic that I wanted to
11 mention for challenge going forward, has to do with
12 spent fuel management.

13 With our current national posture, with
14 regard to spent nuclear fuel, licensees are finding
15 that they are needing to reconfigure their spent
16 fuel pools to put more and more fuel into the
17 pools.

18 This complicates our review.

19 It makes it much more challenging from the
20 standpoint of the more fuel that you put in there,
21 the more sophistication we need in our review to
22 maintain those critical safety margins.

1 We work with Oak Ridge and we are going
2 back and looking at our codes and standards, and
3 making sure that in reviewing these we maintain
4 that adequate level of safety.

5 If I could go to the next slide, please.

6 I will talk a little bit about the Reactor
7 Oversight Program.

8 While this area will be discussed in more
9 detail at the Agency Action Review Meeting that
10 Marty mentioned, I would like to mention a couple
11 specific accomplishments today.

12 First and foremost, the baseline inspection
13 program continues to prove effective, ensuring the
14 safety of the 104 operating reactors.

15 Another significant success of the reactor
16 oversight program is the feedback loop that
17 operating experience provides.

18 This is an area that we don't often talk
19 about with the Commission, and I want to make sure
20 that we mention it today.

21 We consistently feedback lessons learned
22 from operating experience to the industry in the

1 form of regulatory information summaries and
2 information notices.

3 We also feedback operating experience into
4 our inspection program through the use of smart samples,
5 where we focus inspectors on areas to concentrate
6 based on what we learned from operating experience.

7 We also fold back operating experience into
8 our inspection procedures.

9 We are constantly upgrading our procedures
10 so that they reflect what we have learned from the
11 program.

12 Lessons learned from operating experience
13 also inform our licensing program to further
14 improve plant technical specifications and license
15 requirements.

16 We also learn from operating experience and
17 we feed it back into our license renewal program,
18 such that plants can be operated safely for the
19 duration of the renewal period.

20 Finally, we consistently share our
21 operating experience with the international
22 community.

1 We are very active in providing others our
2 system for learning from operating experience.

3 We are active with the IAEA, and certainly
4 with the European NEA, we were recently invited to
5 give a presentation on our operating experience
6 clearinghouse process to the European Commission
7 this upcoming April.

8 Now, our challenge in evaluating and
9 assessing operating experience is one of continued
10 vigilance.

11 Our staff evaluated over 3000 reports and
12 events last year, both domestic and international
13 experience.

14 While most of these events are mundane or
15 even routine, simple pump trips, our staff combs
16 through every one of them to find that nugget of
17 information that would be useful to feed back to the
18 industry, to feed back into our programs.

19 They're constantly looking for trends,
20 seeing if we can determine how things are
21 operating.

22 We continually feed back information into

1 our processes and the focus of all of it is just to
2 make sure that these plants continue to operate
3 safely.

4 If I could go to the next slide, please.

5 I'll talk a little bit about rulemaking.

6 Obviously, the Code of Federal Regulations
7 define the safety envelope for the operating
8 plants.

9 We continually upgrade the regulations to
10 reflect advances in technology, advances in our
11 knowledge, and also to reflect the changing world
12 conditions around us.

13 While we accomplished much this past year,
14 I want to focus your attention on two
15 specific rulemaking actions.

16 This past year we issued the final rule
17 that upgraded the nuclear power plant physical
18 security requirements.

19 This rulemaking codified the changes that
20 the Commission ordered licensees to take since the
21 terrorist attack on September 11, 2001.

22 In addition, we issued a proposed rule for

1 public comment that enhances the emergency
2 preparedness requirements for the operating fleet.

3 This rulemaking also incorporated changes
4 since September 11, but also incorporated feedback
5 that we had received from our state and local
6 stakeholders, from the non-governmental
7 organizations, and even from the public.

8 I've listed two challenges going forward.

9 The first challenge is that the Commission
10 requested that the staff examine how we consider
11 the aggregate impact of rulemaking activities on
12 our licensees.

13 We've just begun working this issue and we
14 are going to seek feedback from our stakeholders,
15 from the licensees, and the public.

16 Our second challenge is in processing
17 petitions for rulemaking.

18 This past year the staff did a terrific
19 job, we worked off our backlog of petitions.

20 Unfortunately, they don't stop coming.

21 This first quarter we've already received
22 four new petitions for rulemaking, which is how

1 much we typically receive in a year that we
2 budget for.

3 Our challenge going forward is going to be
4 to disposition these positions in a timely matter
5 and do it within budgeted resources.

6 Next slide, please.

7 The last issue that I want to talk about
8 before turning it over to Bruce is incident
9 response.

10 The Office of Nuclear Safety and Incident
11 Response runs the agency's incident response
12 program, which is quite a challenge when you
13 consider they have to coordinate with all four
14 regions, all the program offices -- headquarter
15 program offices, the Office of Public Affairs, the
16 Office of Congressional Affairs, and they
17 coordinate obviously with our licensees, state and
18 local responders, and the Federal Emergency
19 Management Agency, FEMA.

20 When the bell rings, when an event occurs
21 at a plant, this agency responds quickly and
22 effectively, it becomes our number one priority.

1 The event becomes the agency's focus.

2 We become the Federal agency's eyes and
3 ears for what is occurring at that plant, and we
4 shift from our roll of regulator into a role of an
5 emergency response organization.

6 For whatever is happening at the plant,
7 obviously the regions have the lead.

8 They take the lead, they are the vanguard
9 of our response.

10 The headquarters program offices provide
11 the communications, both to the region, for the
12 rest of the Federal family, and we also provide
13 technical assistance -- technical assistance to the
14 regions and also, if needed, technical assistance
15 to our licensees.

16 Last year our headquarters operations
17 officers responded to over 400 calls.

18 Our regions and headquarters responded to
19 17 unusual events.

20 Our Incident Response Center participated
21 in four full exercises this last year, these are
22 the exercises that involve the specific licensee,

1 the applicable region, our headquarter responders,
2 from almost every program office, as well as the
3 state and local responders, and FEMA.

4 In addition to those four full exercises,
5 each region participates in a number of exercises
6 with their plants in their region and with the
7 applicable states.

8 For example, Region II participated in six
9 exercises last year.

10 I shouldn't have to tell you because as the
11 Commission knows from personal participation, these
12 exercises exemplify the teamwork that our qualified
13 responders carry over into their day-to-day work
14 for the agency.

15 The challenge here is one of maintaining
16 our readiness for response.

17 As you are aware, 50% of the agency has
18 been with us for less than five years.

19 The Office of Nuclear Security and Incident
20 Response is continuously training new team members
21 and ensuring that we remain qualified and capable
22 of responding when that bell rings.

1 That ends my part of the agenda I will turn
2 it over to Bruce Boger to discuss some of the
3 significant programmatic activities that we are
4 currently involved with.

5 MR. BOGER: Thanks, Eric.

6 Good morning.

7 My first topic this morning I would like to
8 address implementation of Part 26 Subpart I, which
9 has to do with managing fatigue.

10 The rule is published in March of 2008 with
11 an implementation required by October of 2009.

12 It was intended to address both the
13 short-term effects of fatigue, which would be long
14 working hours for short periods of time, but also
15 cumulative effects of fatigue over working long
16 hours over weeks and months.

17 The 18 month implementation period allowed
18 the staff to engage with industry in many meetings,
19 conferences, symposium on managing fatigue, we were
20 able to answer a lot of questions.

21 We feel that the rule has been implemented
22 successfully by licensees in view of the minor

1 nature of violations that have been observed to
2 date.

3 Issues have come up, as you might expect in
4 new rules, issues have come up that we didn't
5 particularly anticipate.

6 One example would be the response to
7 hurricanes.

8 Although the rule anticipated emergency
9 situations, it did not anticipate the need to
10 preposition people on-site before a hurricane struck.

11 We addressed that, we worked with the regions
12 and the Office of Enforcement to issue an
13 enforcement guidance memorandum which has addressed
14 this issue.

15 Next slide, please.

16 As we have done in many new rules in the
17 past, we have established a review panel to ensure
18 consistency in our handling of potential
19 violations.

20 This way we get the regions, Office of
21 Enforcement, and NRR together to make sure we are
22 all on the same page.

1 We are also pursuing rulemaking activities,
2 the Commission had asked us to address in a Staff
3 Requirements Memorandum the addition of quality
4 control and quality verification personnel to the
5 rule.

6 We also need to disposition the recent
7 petition for rulemaking.

8 Eric eluded to having some of these -- we
9 have one from the Professional Reactor Operator
10 Society that deals with the rule, and two aspects
11 of the rule in particular that we'll be addressing
12 in the future.

13 And there are other issues that we will
14 continue to address as they come up and we continue
15 to engage with licensees and the industry.

16 Next slide, please.

17 Next, I would like to provide a brief
18 status of the license renewal program.

19 To date we have 59 licenses renewed and 12
20 applications that comprise 18 additional units
21 under review.

22 I would like to point out that last week we

1 received an application from Columbia Generating
2 Station, so that is undergoing its acceptance
3 review at this point.

4 Eric mentioned how we use operating
5 experience and factor it into our programs.

6 I think the license renewal program has a
7 good example with that, where we identify something
8 either in inspection activities for an operating
9 plant or through the inspection activities for
10 license renewal.

11 We have to make sure that the issue is
12 handled in operating reactor space for operability
13 concerns, we also have to address it in license
14 renewal space for long-term safety considerations.

15 A good example is the underground cables,
16 which we found to be submerged, in many cases, in
17 our inspections.

18 We need to make sure that they are safe now
19 and we need to make sure that our license renewal
20 programs have aging management programs that will
21 address long-term safety operations.

22 I would point out that four plants have

1 entered their renewed period.

2 So, we have four plants out there that are
3 now operating after 40 years of initial
4 operation.

5 The regions have begun their inspections of
6 the licensee commitments that were made in the
7 license renewal process.

8 They are also verifying that aging managing
9 programs are in place.

10 CHAIRMAN JACZKO: Which are those four plants?

11 MR. BOGER: It's Ginna, Oyster Creek,
12 Nine Mile Point 1, and Dresden Unit 2.

13 Next slide, please.

14 As we go forward, the staff continued to
15 work with the Office of General Counsel to support
16 hearings associated with the license renewal
17 applications.

18 We are also updating license renewal
19 guidance documents.

20 The principal ones would be the generic
21 environmental impact statement, which is out for
22 public comment now, the final rule is expected to

1 be published in mid-2011.

2 Another important document in the license
3 renewal space is the generic aging lessons learned
4 document, which categorizes aging management
5 programs.

6 We are expected to go out in the near
7 future for public comments and then issue it in the
8 final form by the end of this year.

9 Finally in this area, although our focus is
10 really on the safety reviews of plants in their
11 first round of license renewal applications,
12 industry has expressed an interest in renewing
13 licenses beyond that, that's life beyond 60 years.

14 We are working with the Office of Research
15 to make sure that we have information that will
16 help us understand what other aging degradation
17 mechanisms may be out there, and also what
18 strategies we may have to address that.

19 Next slide, please.

20 My final topic deals with medical isotope
21 production.

22 At the current time the United States is

1 experiencing a shortage of the Molybdenum 99, or
2 Moly-99 is easier to say, in the United States.

3 We have no production facilities here, and
4 our foreign sources are limited due to the extended
5 shutdown of the National Research Universal Reactor
6 in Canada, which was providing about 50% of the
7 United States' Moly-99.

8 In addition, the high flux reactor in the
9 Netherlands is scheduled for a plant shutdown in
10 the near future, and they were another 50% of our
11 supplies.

12 So, that has an impact on us.

13 There has been an interest in domestic
14 production of Moly-99.

15 We received letters of intent from two
16 facilities, both are reactors, both make use of
17 low enriched uranium; one in a solution and one is
18 low enriched uranium targets.

19 In view of the national priority -- the
20 natural interest in this area, we've established a
21 working group to facilitate the interactions, not
22 only internally, but also externally with various

1 stakeholders.

2 Mary Jane Ross-Lee is the lead for
3 that, one of our SESCDP graduates.

4 Next slide, please.

5 As we move forward, we will continue to
6 coordinate with other government agencies such as
7 the Department of Energy, Department of
8 Transportation, Department of Health and Human
9 Services.

10 We will also continue to work with the
11 Office of International Programs to make sure that
12 we stay linked with our foreign counterparts,
13 particularly Canadian counterparts.

14 We are also -- we also recognize that we
15 need to be prepared for our licensing actions, or
16 licensing activities.

17 I mentioned the two that we already have
18 letters of intent on, but we also have expectations
19 that there may be use of an accelerator to produce
20 Moly-99.

21 That poses a different series of perhaps legal and
22 technical questions that we will have to address.

1 That completes my portion and I'll turn it over
2 to Roy Caniano.

3 MR. CANIANO: Okay, thanks Bruce.

4 Chairman, Commissioners thank you for the
5 opportunity this morning to chat with you a little
6 bit on the regional operator licensing programs.

7 The regional operator licensing program, if
8 I could have the first slide please, is very
9 effective with ensuring that qualified operators
10 receive and maintain their licenses to safely
11 operate nuclear power plants.

12 In the year 2009, examiners administered
13 exams to over 480 applicants.

14 I would like to note over here that while
15 90% of those exams were prepared by the licensee,
16 in accordance with the regulations, the licensing
17 reviewers still, and the examiners, are responsible
18 for the review and approval of those exams.

19 In addition to being responsible for the
20 initial exam, licensing reviewers are also
21 responsible for the biannual requalification
22 inspection program that we conduct at the

1 licensee's facilities.

2 In addition to that, we also get involved
3 with INPO accreditation, observations of those
4 activities.

5 Each region is actually tasked to provide
6 one individual per year to participate in that
7 activity.

8 I would like to point out that the
9 examiners in the regions are very highly
10 qualified.

11 In fact, the majority of them actually have
12 certifications in multiple technical disciplines.

13 Some of them up to four reactor
14 technologies.

15 In addition, they are also, majority of
16 them, are responsible for enhanced certifications
17 as regional inspectors -- Reactor inspector.

18 This adds a significant amount of value, to
19 be overall ROP.

20 For example, routinely they are tapped to
21 maybe fill in for a resident inspector.

22 They also participate in baseline

1 activities.

2 In addition to that, they also get tapped
3 periodically to go ahead and lead or participate in
4 special inspections.

5 Many of them come into the agency with a
6 vast amount of experience.

7 We have examiners that are reactor
8 operators, former senior reactor operators, as well
9 as supervisors of training programs at utilities.

10 Based upon their level of expertise, they
11 are a valuable resource that we, again, tap them
12 periodically to review and assess operational
13 events that occur in our facilities.

14 It facilitates our efforts, truly, in
15 evaluating the event and in us determining what is
16 the appropriate level of response with regard to
17 follow-up activities.

18 If I could have the next slide, please.

19 While NRR is primarily responsible for
20 coordinating and interacting with our external
21 stakeholders, the regional staff routinely are
22 provided the opportunity to facilitate some of

1 those efforts.

2 I would like to point out that this last
3 year our regional staff, along with NRR, did get
4 involved in the revision of two ANSI standards.

5 One was completed and one is ongoing.

6 Those were associated with medical
7 qualifications as well as simulator issues.

8 The regions already have been requested to
9 participate in the generation and establishment of
10 one new Regulatory Guide associated with simulator
11 issues, and we are prepared to support NRR with
12 regard to that.

13 What are we looking forward to as time goes
14 on?

15 Well, first wave of new reactors.

16 The regions work closely with NRR, with
17 NRO, as well as the Technical Training Center.

18 I would also like to point out at this time that
19 the examiners are not limited to just the regional
20 offices of qualified examiners.

21 In addition to the regional offices NRR and
22 their program has several staff that are qualified

1 as reactor examiners as well as the TTC.

2 Again, I think from the standpoint of
3 adding value to the ROP and being able to tap those
4 individuals I find it very, very useful.

5 Many of our examiners actually, if they move
6 on outside of the operator licensing program, they
7 still maintain their exam qualifications.

8 They are required to do one exam a year and
9 a majority do maintain that qualification.

10 With regard to new reactors, right now the
11 regions, Region II in particular, was provided
12 additional FTE for 2010 and the other regions are
13 going to be provided additional in the year 2011 to support
14 that initial wave of new reactors, and what it will
15 take in the licensing program and in the process.

16 TTC has already established one or two
17 training courses.

18 Several of them are still under development
19 and again, for the benefit it is just for us to get
20 ready for that new wave and make sure that the
21 training courses are available for our examiners.

22 Routine assessments.

1 The programs in the regional office are
2 assessed every other year, a very detailed
3 assessment on the part of NRR.

4 They come out and typically there will be
5 four or five individuals that come out, included in
6 there is a representative from another region.

7 A very detailed assessment is done.

8 On that off year, the regions are also
9 responsible for doing a self-assessment of their
10 performance.

11 The results of that self-assessment as well
12 as the assessment that's conducted by NRR, are
13 shared with the other regions.

14 Again, to look at issues such as
15 consistency, how are we doing business, and to
16 share best practices.

17 I would also like to point out, too, that
18 with regard to examiners in the operator licensing
19 program it is routine business that an examine in one
20 particular region will have at least one individual
21 from another region that is on that activity.

22 Again, I think from the standpoint of

1 looking at consistency and again, of providing best
2 practices, I believe that is an added value to our
3 program.

4 That concludes my presentation I would like
5 to turn it over to Jack.

6 MR. GROBE: Okay, thanks Roy.

7 I guess I am batting cleanup.

8 Good morning.

9 I am going to cover just a sampling of the
10 myriad of technical issues that our staff is
11 involved in evaluating and dealing with all the
12 time.

13 The first issue I will address is
14 inaccessible, sometimes referred to underground,
15 and occasionally submerged cables.

16 Slide 15, please.

17 In 2006, as part of our operating
18 experience program, the staff performed a review of
19 inaccessible, or underground, cable performance
20 following several cable insulation failures which
21 involved moisture.

22 The concern was a potential common cause

1 failure of redundant safety equipment, and an
2 increased probability of failure of individual
3 cables, due to moisture effects on insulation.

4 In 2007, the staff issued a generic letter
5 to collect information on both cable failures and
6 testing methodologies that licensees were using.

7 In response to that generic letter it was
8 identified over 250 cable failures and moisture
9 appeared to be a significant contributor to the
10 insulation degradation.

11 The staff revised the baseline inspection
12 program to include additional focus on
13 inaccessible, or underground, cables.

14 Our inspectors identified examples of
15 inappropriate environments in cable vaults and
16 manholes, which contained cabling that was safety
17 related.

18 Our enhanced inspection focus for
19 underground cables will continue.

20 In addition, we are interacting with the
21 industry to address this issue holistically.

22 Slide 16, please.

1 The staff is preparing a NUREG document
2 which will be a compendium of testing methodologies
3 for cable degradation, and also the staff is
4 preparing a Regulatory Guide regarding one
5 acceptable method for cable monitoring.

6 Both of these documents are expected to be
7 issued the first part of this year.

8 The staff will also continue to monitor
9 operating experience and industry performance to
10 ensure that the corrective actions taken in
11 response to this issue are effective.

12 Slide 17, please.

13 The next topic I would like to touch on is
14 digital instrumentation and control.

15 The staff has completed very significant
16 licensing actions this year, permitting safe
17 retrofit of operating reactors with digital
18 controls.

19 At Oconee, the staff has concluded that the
20 licensee can safely install a complete retrofit of
21 the safety control systems with the digital
22 platform.

1 That application -- the approval of that
2 application is expected to be issued this week.

3 At Wolf Creek, the staff has concluded that
4 the licensee can safely use a digital device, which
5 Eric mentioned earlier, a field programmable
6 gate array to retrofit one safety control system.

7 Use of that device can be replicated in a
8 variety of other safety control systems.

9 Two completely different approaches to
10 retrofitting digital control systems at operating
11 plants.

12 The staff has completed six technical
13 interim guidance documents.

14 Those documents are now being folded into
15 our regulatory infrastructure, but the guides are
16 being used by licensees to enhance the consistency
17 and predictability of our safety reviews and their
18 licensing applications.

19 The staff has completed incorporation of
20 the lessons learned from Oconee and the Wolf Creek
21 reviews into a licensing process guidance document.

22 That document is now in draft and is

1 anticipated to be issued for public comment

2 shortly.

3 Even though it's in draft, licensees are
4 using that guidance document today in preparation
5 of future licensing applications for retrofitting
6 digital control systems.

7 The next two facilities we anticipate
8 receiving applications from are Watts Bar Unit 2
9 and Diablo Canyon, and we already engaged with both
10 licensees for pre-application meetings on the topic
11 of digital control systems.

12 Slide 18, please.

13 I would like to touch briefly on our vendor
14 inspection program.

15 The level of NRR's vendor activities is
16 directly related to the level of procurement
17 activities at the operating fleet.

18 By definition, the procurement activities
19 at new reactors is substantially greater than what
20 you would expect to see at operating reactors.

21 A few regulations apply directly to
22 vendors.

1 One example of a regulation that does apply
2 is of 10 CFR Part 21 regarding reporting of
3 defects.

4 Vendors are accountable to follow quality
5 assurance requirements, but that accountability is
6 under the umbrella of licensees' QA programs.

7 There is not a direct requirement from the
8 NRC for vendors to have quality assurance programs.

9 The nuclear utilities audit their vendors
10 to ensure that the quality assurance programs are
11 being effectively implemented.

12 These are either done by individual
13 utilities or an organization referred to as NUPIC,
14 which is the Nuclear Procurement Issues Committee,
15 one of our many acronyms.

16 NRR and NRO staff observe a number of these
17 audits that are performed by licensees each year.

18 NRR also performs reactive inspections of
19 vendors.

20 Those reactive inspections could be
21 initiated as a result of an allegation regarding a
22 specific vendor, or as a result of inspection

1 findings -- inspections completed under the ROP
2 where our field inspectors identify some vendor
3 weakness as a result of our field inspections.

4 We focused our reactive inspections both on
5 allegations and specific inspection findings.

6 There've been limited occurrences over the
7 years at nuclear plants with counterfeit, or
8 fraudulent materials and parts.

9 The NRC has issued a number of generic
10 communications over the years in this area, and
11 EPRI just provided training to the industry, it was
12 actually this month, they trained 160 industry
13 procurement engineers on techniques to prevent and
14 detect fraudulent materials.

15 We had staff observe that training and
16 found it to be very beneficial.

17 NRR will continue to work collaboratively
18 evaluating operating experience with NRO on vendors
19 and vendor inspection materials, and we look
20 forward to this continuing to not being a source of
21 safety concern.

22 The next topic I would like to touch on is

1 credit for containment pressure.

2 The staff has determined that there is
3 adequate safety margin to credit containment
4 pressure for the operability of core and
5 containment cooling pumps at 30 operating units.

6 Applications have now been submitted with
7 reduced safety margins, precipitating and engaging
8 dialogue with the Advisory Committee on Reactor
9 Safeguards.

10 We worked long and hard to come up with the
11 word engaging.

12 CHAIRMAN JACZKO: I think I had hair when this
13 issue first started.

14 MR. GROBE: We currently have two extended power
15 uprate applications that both include credit for
16 containment accident pressure, and that aspect of those
17 reviews has been put on hold pending resolution of these
18 issues.

19 Slide 20, please.

20 To fully address the questions which the
21 Advisory Committee on Reactor Safeguards raised,
22 the staff has been collecting information and

1 performing a variety of analyses.

2 We have contracted with some pump experts
3 and collected a variety of information on
4 uncertainty in pump performance characteristics.

5 We've also performed Monte Carlo
6 calculations and sensitivity studies to bring
7 additional clarity and characterization to other
8 uncertainties in the analyses that support use of
9 containment pressure.

10 Finally, we are doing a probabilistic risk
11 analysis with support from our office of research
12 on the use of containment pressure.

13 The staff is revising its white paper on
14 credit for containment pressure, specifically
15 considering the refined uncertainties and
16 clarifying the safety margins.

17 We anticipate this draft white paper being
18 publicly available shortly and we will meet with
19 the BWR owners group in a public meeting in the
20 February/March time frame on the white paper, and
21 also with the Advisory Committee on Reactor
22 Safeguards Thermal Hydraulic Subcommittee in the

1 March/April time frame.

2 We anticipate providing a Commission paper
3 describing the resolution of this matter in April
4 of this year.

5 Slide 21, please.

6 The next topic I would like to talk about
7 is gas accumulation in emergency core cooling
8 systems.

9 It is not practical at a nuclear power
10 plant to design gas tight fluid systems.

11 Consequently, gases can accumulate
12 affecting the operability of safety systems.

13 Staff identified a negative trend in
14 operating experience where accumulated gases were
15 rendering safety systems inoperable.

16 In some cases, these accumulated gases
17 represented a common mode failure of redundant
18 safety systems.

19 In 2008, the staff issued a generic letter,
20 the focus of this letter was to collect information
21 on how licensees were assuring that accumulated gases
22 were not affecting the operability of their safety

1 systems.

2 All licensees responded in late 2008 and
3 the staff's review of those responses is over 70%
4 complete.

5 Over 50 additional instances of gas
6 accumulation have been reported since we issued
7 that generic letter in 2008.

8 The staff has issued a temporary inspection
9 instruction to the regional offices to follow up on
10 this issue, and those inspections have begun.

11 NRR staff is supporting those inspections
12 with the regions.

13 Final resolution of this issue will include
14 completion of the reviews of the generic letter
15 responses and documenting those reviews, completion
16 of the site specific inspections, and incorporation
17 of new generic technical specifications in each
18 operating license that properly addresses the
19 accumulation of gases on the fluid system
20 operability.

21 Slide 22, please.

22 The last topic I would like to address is

1 buried piping.

2 Leaks in underground piping at nuclear
3 facilities have resulted in occasions of unplanned
4 release of radioactive materials and operational
5 challenges.

6 In no cases have these leaks in buried
7 piping resulted in a safety concern either from
8 the standpoint of operability of a safety system
9 or from the standpoint of challenging our
10 radioactive release requirements.

11 Notwithstanding, unplanned releases of
12 radioactive materials can affect public confidence
13 in the safety of the facilities and the
14 effectiveness of the NRC programs.

15 In response to a tasking memorandum from
16 the Chairman, the staff has completed an evaluation
17 of the adequacy of our current regulations of the
18 codes and standards that are in use in the
19 industry, the NRC inspection programs, as well as
20 industry practices.

21 The staff provided the results of this
22 review to the Commission in a Commission paper.

1 The staff concluded that current
2 regulations are adequate for operating plants,
3 plants undergoing license renewal, and new plants
4 to assure that the public is adequately protected
5 from nuclear plant operational and from the release
6 of radioactive materials, that the
7 current codes and standards are
8 adequate to assure the safety systems
9 remain operable, but that
10 underground corrosion control
11 standards could be enhanced to provide more
12 consistency in the protection of underground piping
13 and tanks.

14 There is a variety of codes and standards
15 that are used in other industries that have
16 different challenges with underground tanks and
17 pipes.

18 Certainly, there is a wealth of knowledge
19 and experience out there in protecting underground
20 metals from corrosion.

21 The staff also concluded that NRC
22 inspection programs are sufficient to address this

1 issue.

2 The industry proposed a buried piping
3 initiative to further enhance industry focus in
4 this area, particularly on preventing leaking
5 underground pipes.

6 There was a groundwater protection
7 initiative the industry proposed a number of years
8 ago that the NRC staff inspected, and that was
9 focused on responding to leaks that contained
10 radioactive materials.

11 So, this initiative is focused on
12 preventing leaks.

13 The staff will continue to work with
14 industry groups on corrosion control standards for
15 the nuclear industry.

16 We will meet with the industry to further
17 understand the initiative they are proposing, and
18 we will develop inspection guidance for our field
19 inspectors to confirm that this industry initiative
20 is adequately implemented.

21 That completes my presentation I would like
22 to turn it back to Marty.

1 MR. VIRGILIO: Thank you, Jack.

2 I can recall conversations looking back
3 over the last decade as we were getting into the
4 nuclear renaissance and talking about new reactors,
5 where we talked about the need to maintain our
6 focus on the operating fleet.

7 I hope today's presentation reinforced the
8 fact that we are -- that safety and security of the
9 operating fleet is our priority, and we do face
10 some challenges and we look forward to working with
11 you as we address those challenges.

12 That is all for our presentation today and
13 we are ready to accept any questions that you might
14 have.

15 Thank you.

16 CHAIRMAN JACZKO: Well, thanks Marty and I think
17 that was well summarized.

18 It does show that we continue to place a
19 high importance on the safety and security of the
20 existing fleet.

21 As we go through I'm sure the Commissioners
22 will have questions on some of those areas of

1 challenge and perhaps areas that you didn't touch
2 on.

3 So, we will begin with Commissioner
4 Svinicki.

5 COMMISSIONER SVINICKI: Thank you.

6 Good morning.

7 Thank you all for your presentations.

8 I have a number of different topics here,

9 so I apologize for skipping around a little bit.

10 Maybe this one is kind of quick and simple,
11 but you mentioned as a rulemaking that's been
12 completed is the Part 73 rulemaking, and primary
13 focus there was obviously on codifying the
14 orders -- the security orders that were issued
15 post-9/11.

16 I am wondering if there is much planning of
17 an activity that needs to follow on after the
18 rulemaking is complete and that is re-looking at those
19 orders and then either, I don't know if I have the
20 precise terminology, but a kind of a sunseting and
21 rescinding again if we have codified into the rules
22 which is where we are going with all the post-9/11

1 orders. At some point, the orders themselves are then
2 somewhat irrelevant because the rules should include all of
3 the relevant requirements.

4 The reason I think it's a little bit more
5 than just a housekeeping exercise is that in the
6 rulemaking process we often enhanced the
7 requirements of the orders with our experiences
8 post-9/11 so we took that knowledge.

9 I don't know that things were codified in
10 exactly the same terms, so what we have for
11 licensees is a set of orders and then regulations
12 that might not describe things in exactly the same
13 way.

14 Could you tell me if there is a
15 forward-looking plan that would go through the
16 orders, make certain that everything was codified,
17 and then therefore could go about an orderly process
18 of somehow addressing the orders and making them no
19 longer in force?

20 MR. LEEDS: I will take that Commissioner.

21 Yes, we are working with NSIR, with the
22 Office of Nuclear Security and Incident Response, its

1 joint responsibility between NSIR and NRR.

2 As the Director of NRR, I was the one who
3 issued those.

4 Well, actually, my predecessor, Jim Dyer,
5 but we will be the ones that will have to rescind
6 those orders so we have a process going forward.

7 Right now we are still focused on the
8 implementation of Part 73.

9 Once we are comfortable with where they are
10 on Part 73 then we can start rescinding those
11 orders in a very careful manner to make sure that
12 there aren't any unintended consequences, to make
13 sure that the full impact of those orders have been
14 implemented and enhanced as you mentioned.

15 COMMISSIONER SVINICKI: Okay, I appreciate that
16 and I know that it isn't the highest priority item, but I do
17 think it's a part of having an orderly process here, is that
18 you do eventually need to, I'm calling it a housekeeping
19 exercise, it is going to take a little bit more care and
20 thoroughness than that.

21 But I think at some point, and
22 unfortunately when things aren't your highest

1 priority they tend to get displaced for higher
2 priority work.

3 I do think over the longer term it is
4 important that NRC cleanup that process.

5 That won't probably be the last time I ask
6 you about that.

7 Let's turn to license renewal for just a
8 second, we mentioned that four plants have now
9 entered their renewed period, and that there was a
10 discussion about the inspections that we will
11 conduct of both the licensee commitments that were
12 part of the renewals and of their aging management
13 programs.

14 I am pretty sure the answer is 'yes', but I
15 will let you answer it and then tell me how, but as
16 we go about completing that inspection regime for
17 plants that enter their renewal period, if we learn
18 things or have useful knowledge coming out of that
19 that would be good to incorporate either into the
20 license renewals yet to be conducted or to this
21 establishment of lines of research for extended
22 renewed period beyond the current renewals.

1 How are we factoring?

2 Do we have some sort of a knowledge capture
3 process that would allow us to feed that
4 information back into our regulatory framework?

5 MR. BOGER: I don't know how formal it is right
6 now, but we do factor our operating experience back into the
7 various programs.

8 With respect to some of the longer term
9 issues associated with inspection of the renewed
10 plants, we have incorporated some of that into our
11 baseline inspection program, so we will continually
12 touch it in that regard.

13 I'm struggling to find a database
14 that might touch on your question, Commissioner.

15 COMMISSIONER SVINICKI: Well, it might only be --
16 if it's four plants now, at some point it might be more plants
17 I know that four data points isn't that many, but this may
18 be the point where it will become more and more important to
19 capture it in a more formal way.

20 MR. HOLIAN: Brian Holian, Director of License
21 Renewal, just to add what Bruce said.

22 On the operating experience reviews, in

1 particular, as a matter of fact at the Regulatory Information
2 Conference coming up in a couple of months, the
3 regions have taken an initiative working with the
4 Division of License Renewal to already modify the
5 71003 inspection; the procedure that gets done for
6 those commitments.

7 So, just looking at those first four plants
8 we have some lessons learned on how well the
9 industry has been doing.

10 So, we will immediately put it into that --
11 modification of the inspection procedure.

12 At the same time, that's an area of focus
13 that the division has had ever since the 2007 IG
14 report that picked up an operating experience.

15 We were doing it pretty well, but not
16 documenting it as well as we can and since that
17 time, even in the safety evaluation report, we've
18 been documenting.

19 One other aspect I will just mention is as
20 you find things on plants, 50th/60th plant, do you
21 go back maybe to the 5th, 10th plant on what you've
22 done then and the staff has the ability to that,

1 one through the inspection program and then once
2 again working through the GALL to update the GALL program to make
3 sure that the minimum program is in for subsequent
4 renewals.

5 COMMISSIONER SVINICKI: Okay, thank you.

6 Yes, I told you I assumed the answer was
7 'yes' and if we just got the right courageous sole
8 to a microphone we would get that, thank you very
9 much.

10 On Part 26 I know, I think there was a
11 mention it was an 18 month implementation period
12 and we had a lot of informational workshops, and
13 other things that were conducted with licensees.

14 There is a lot of complexity to their
15 demonstration of compliance, a lot of the
16 recordkeeping that they have to do there.

17 Is there anything that you would identify
18 and say some key themes or areas that NRC didn't
19 really appreciate in terms of licensee
20 implementation?

21 I know that we've got the petition before
22 us from PROSE and you mentioned some other factors,

1 but just reflecting at a very high-level on Part
2 26, were there
3 overall considerations that NRC
4 was not sensitized to, or do you think that as we
5 move further and further into implementation that
6 NRC pretty much had the right commentary and
7 feedback that we got it right the first time?

8 MR. BOGER: I think what we tried to do when we
9 implemented the rule was to use good science, and in so
10 doing try to take consideration for the effects of long
11 working hours on people's ability to perform their jobs.

12 We were very sensitive to the cumulative
13 affects of fatigue and how long a period we should
14 allow extended working hours.

15 We were sensitive to that and we ended up
16 were we did, but some people would've preferred to
17 have a longer one.

18 The prose petition has extensions on either
19 side of an outage where licensees typically
20 prestage equipment and people.

21 The petition also seeks treating a site,
22 one site -- one unit is in an outage, the entire

1 site is in the outage, that was an issue that we
2 addressed early on.

3 We felt that it was important that the
4 operators that were on the operating plant, not be
5 fatigued.

6 We just came to a different conclusion than
7 others, but we were aware of those two issues.

8 MR. LEEDS: If I could jump in, Bruce.

9 You asked, Commissioner, very specifically
10 whether the staff got it right or not, and I want
11 to respond specifically.

12 I believe, and I think the staff believes,
13 that we did get it right with the fatigue rule and
14 we did end up in the right place.

15 Is it perfect?

16 No.

17 I think that there are things that can be
18 modified going forward to make it better.

19 One of the things that we hadn't
20 considered, which industry brought to our attention
21 afterwards, was the idea that what if a hurricane
22 occurs and you have to keep an organization over,

1 there should be some provisions for that and we
2 agreed.

3 The point I'm trying to make is that we are
4 receptive to feedback.

5 We have asked the industry and our
6 stakeholders for feedback, we are planning on a
7 session during the RIC where we ask the industry to
8 come to bring constructive ideas on how we can
9 further improve the rule and where else we need to
10 improve it.

11 But I think overall, I think we got to the
12 right place.

13 COMMISSIONER SVINICKI: Again, the Commission met
14 last week on the changes to the enforcement policy and staff
15 gave the same kind of thematic answer, which is in 18 months
16 they were going try to conduct some workshops and get some
17 additional feedback on how the regulated community, their
18 response and reaction to it.

19 I appreciate that we are continually
20 examining these issues.

21 There is a lot of complexity I've heard about with
22 Part 26, and also in the presentation you had

1 talked about consistency when dispositioning
2 potential violations and I think that will be
3 important going forward, so I appreciate that your
4 focus is on that.

5 On digital I&C, very quickly, I appreciate
6 the update on Oconee pilot, and something I've been
7 hearing about on digital I&C is that the issue of
8 the scope of the staff's review has been something
9 that industry has been looking at closely.

10 Jack, do you think that the Oconee pilot is
11 enough to kind of tell us that the scope of the
12 review question is somewhat settled, or is it going
13 to be something that will arise depending on the
14 scope of the digital I&C amendment that is put
15 forward?

16 Do you feel more confident about that, that
17 seems like that's been a real open question and
18 that staff has been one place and applicants have
19 been another.

20 MR. GROBE: There's two aspects to the answer.

21 One is that the scope of the review is
22 related to the scope of the modification.

1 The Wolf Creek review was still complex
2 because the device had never been reviewed to
3 nuclear grade standards before, but it was much
4 simpler than the Oconee review.

5 If we're just going to focus on full
6 platform, full control system retrofits, there was
7 a tremendous amount of anxieties.

8 As a matter of fact, over the period of years
9 the Oconee application had been submitted more than
10 once, and the licensee pulled it back based on
11 gaining an appreciation for the complexity of what
12 the application had to include to meet a reasonable
13 set of expectations.

14 The final Oconee application did contain
15 more information than was necessary, and the
16 licensee took that approach to ensure that anything
17 the staff might've needed was in front of us.

18 Through the course of doing both Wolf Creek
19 and Oconee, we have had a number of public meetings
20 with the industry to bring clarity to this exact
21 question.

22 In our licensing process guidance we

1 include three different types of applications that
2 might be submitted.

3 The simplest would be somebody that is
4 going to install an already approved platform where
5 there is a topical report.

6 Unfortunately, they can't get applications
7 for topical reports into us and we can't complete
8 the reviews as fast as the technology changes.

9 So, we don't anticipate getting many of
10 those.

11 Then the most complex would be a completely
12 brand-new digital platform where we have to do the
13 full review, and the licensing process guidance
14 document describes exactly what information is
15 necessary and the process by which the staff will
16 go through the review and it will include site
17 audits to resolve questions.

18 In the case of the Oconee review, we even
19 went to the manufacture in Germany for a number of
20 weeks to resolve questions.

21 I think we are coming to closure on this
22 question.

1 COMMISSIONER SVINICKI: Thank you.

2 CHAIRMAN JACZKO: Eric, you touched on one of the
3 issues we have certainly heard feedback from licensees on
4 and that is the aggregate impact of our rulemaking
5 activities.

6 One of the things that, obviously our
7 rulemakings play an important part in helping to
8 define what are those issues that are important for
9 safety and the focus for safety.

10 As we go through and engage in this effort
11 to take a look, how is the staff going to ensure
12 that what we're talking about doesn't have a
13 negative impact on safety and in addition, maybe
14 you can touch a little bit on what role can
15 licensees really play in helping to minimize and
16 manage this kind of impact as we develop our
17 rulemaking?

18 MR. LEEDS: Thank you, Chairman.

19 The aggregate impact of rulemaking
20 activities and how it affects our licensees and how
21 is the staff going to go forward, it is
22 interesting, it is a little bit premature, our

1 thinking is just starting to evolve.

2 Obviously, if there is a safety issue, an
3 immediate safety issue, that trumps anything else.

4 The staff is going to go forward, we are
5 going to maintain the public health and safety, we
6 are going to maintain the safety of the operating
7 fleet.

8 That is our bottom line.

9 When you're talking about safety
10 enhancements and things that will improve plants
11 down the road.

12 The staff is going to have to consider that
13 and certainly we are going have to consider
14 feedback from our licensees, and we'll ask the
15 licensees for feedback.

16 The second thing you mentioned, how can
17 licensees help the process, rulemakings, as you are
18 all very aware, the whole rulemaking process is
19 time-consuming and very deliberate.

20 Typically, a rule takes two years from
21 start to finish.

22 Licensees can be aware of that and they can

1 start their preps early.

2 When the staff begins considering a rule,
3 the licensees can start considering that in their
4 processes, in their budgeting, in their planning.

5 There is a limit to what they can do, but
6 certainly they can get ahead of this.

7 CHAIRMAN JACZKO: In your sense, are they doing
8 enough of that right now, or is that somewhere where as we
9 communicate with licensees, is that an area where we can
10 have them try and focus a little bit more on that
11 preplanning?

12 MR. LEEDS: I think that's one of the issues we
13 should address with them and ask for their feedback, so that
14 we fully understand what is their limitations, what is
15 preventing them from getting out ahead of it, and sometimes
16 there are legitimate items until a rule is finalized they
17 haven't got an answer but they is still planning that can be
18 done ahead of time.

19 There is also -- we also ask our
20 stakeholders for feedback on implementation dates.

21 So, they get a chance to address the issue.

22 I think this is something that requires a

1 bit of thought and a bit of work on the staff's
2 part, and we need to engage the industry on that.

3 CHAIRMAN JACZKO: Good.

4 Bruce, I think you touched on the license
5 renewal, we have those four plants that are
6 currently in their renewed license period which
7 means, of course, that they are probably the four
8 closest to getting into the period where they could
9 apply for a second license extension.

10 While I think in many ways the regulatory
11 framework is probably in good shape to handle that
12 second round, what may not necessarily be in good
13 shape is the technical basis, if you will, for our
14 regulatory reviews for our actual safety reviews.

15 As you look forward to potentially seeing
16 some applications, potentially over the next five
17 years I think for renewed licenses, what do you
18 think our expectations need to be for applicants as
19 they start to prepare?

20 What kinds of things should we be telling
21 them now that they need to look for and focus on,
22 or do we know at this point?

1 MR. BOGER: We've engaged with them quite a bit in
2 this area and our general approach is this should not be an
3 individual licensee having to do this, industry should come
4 forward with an approach.

5 They need to confirm studies, or perform
6 studies that tell how equipment might degrade over
7 time.

8 Right now we've already identified that
9 concrete would be one, cables would be another,
10 maybe long-term piping issues.

11 We would feel more comfortable with a
12 firmer technical basis, and we would look to
13 industry to do that.

14 Our efforts back with the Office of
15 Research are more intended to confirm that things
16 are in place.

17 We weren't intending to conduct our own
18 research, we want to make sure that the industry is
19 actually performing that work.

20 CHAIRMAN JACZKO: In those three areas on concrete
21 cables and long-term piping, do you think right now that
22 work is happening to the extent that you think it should be

1 at this point?

2 MR. BOGER: I know that EPRI is working on that,
3 the Department of Energy has some efforts ongoing, and other
4 countries are also exploring in that area so we are trying
5 to work our programs through that to leverage those pieces
6 of information.

7 CHAIRMAN JACZKO: I certainly think as we go
8 forward it is going to be important to be looking at a new
9 set of long-term issues and I think as you said, I think the
10 model works best when licensees are out doing the early
11 research, we then have an opportunity to do the confirmatory
12 research that is necessary and hopefully those activities
13 are ongoing as we start to look at preparing for the
14 potential of some of these submittals in potentially the next five years
15 or so for those plants.

16 Jack, I think you touched on this issue at
17 the end, the issues with submerged electrical
18 cables.

19 We have put out a series of communications
20 on this, we had an information in 2002, we had a
21 generic letter that was issued in 2007.

22 Really taking a look at these issues and I

1 think recently we just had some problems at Hope
2 Creek and I had a bunch of pictures somebody showed
3 me at some point with some of these cables and
4 submerged areas, or in vaults that were submerged
5 in water.

6 What do you think we need to be doing, if
7 anything right now, or anything more than we're
8 doing right now to address this issue or do you
9 think at this point licensees understand what they
10 need to do to address this issue at this point, or
11 is there additional regulatory work you think we
12 need to be doing?

13 We do seem to continue -- our inspectors
14 seem to continue finding these things, which is a
15 good thing it shows that we're doing our job, but
16 in the end I think we would prefer not to find them
17 when we look.

18 MR. GROBE: It is always good to have inspection
19 findings to demonstrate that the we are looking hard, but
20 the best thing is for the industry to always be ahead of us
21 and to find the problems before we find them.

22 It is somewhat disappointing that we

1 continue to identify occasional examples where
2 vaults and manholes have not been open for an
3 extended period of time and when they are open
4 there is water accumulated in those manholes.

5 Right now, I don't see any additional
6 regulatory action that we are taking, we are
7 engaging with the industry through a pilot process
8 called the regulatory issue resolution protocol.

9 That is intended to leverage both the
10 industry and the NRC together early on to try to
11 get response to an issue generically that is
12 emerging.

13 That process has not gone as smoothly as we
14 would like, it's a pilot, and part of doing pilots
15 is you struggle sometimes and we are struggling a
16 bit with that.

17 And we actually -- Bruce and I are meeting
18 this afternoon with the Pressurized Water Reactor
19 Owner's Group, and one of the issues on the agenda
20 for that meeting is the inaccessible cables issue.

21 So, we are working through our process of
22 engaging with the industry, but I don't see any

1 regulatory tools right now that we would be
2 employing like an order or generic letter at this
3 point.

4 CHAIRMAN JACZKO: Is there a consensus standard
5 the governs, or an IEEE standard that talks about inspection
6 frequencies in this area?

7 MR. GROBE: The -- complex question, and maybe our
8 Division of Engineering might want to help out a little bit
9 but --

10 CHAIRMAN JACZKO: I think it was a resounding
11 'no'.

12 MR. GROBE: The difficulty here -- there is clear
13 regulatory requirements that safety related equipment be
14 designed to operate in the environment that it's going to be
15 expected to operate.

16 If you have a bearing that is designed to
17 use 30 weight oil, you use 30 weight oil, not a
18 lighter oil.

19 Similarly, these cables were not designed
20 to be in wet environments and consequently, that is
21 a violation of our requirements.

22 So, these issues have to be addressed.

1 Cable monitoring -- the types of failures,
2 and I will let Pat get in to more details of the
3 cable monitoring, the types of failures that we are
4 talking about is commonly referred to as water
5 treeing.

6 I believe, I'm not an organic chemist, but
7 I believe it's an organic process in the insulation
8 that is facilitated by moisture and the methods to
9 detect that are evolving and fairly complex.

10 So, there you go Pat.

11 MR. HILAND: I will just add a little bit of
12 clarity.

13 I am Pat Hiland, I'm the Director of
14 Engineering.

15 This issue has been on my plate the three
16 years I've been in this position.

17 Just a little clarity, the issue with
18 cables and the submerged cables in particular, when
19 we discussed that with industry they
20 acknowledged that the cables are not in an
21 environment that they were intended.

22 That is different than they need to be

1 environmentally qualified in accordance with our
2 rules.

3 So we are using the appropriate tools when
4 we find things to assure they take corrective
5 actions, there are some standards that require some
6 form of testing of these cables to maintain their
7 intended environment.

8 As Jack indicated, we are discussing with
9 our stakeholders and industry in several public
10 meetings in our pilot program to try to encourage
11 them, to take the bull by the horns and address
12 this issue.

13 We think we are close, we think we are
14 close to getting a consensus from industry that
15 they see the need.

16 Some utilities have done that, they have
17 gone out, they've opened the inaccessible cables,
18 they've installed sump pumps, there's a lot of
19 fixes that on the surface appear simple.

20 But the more you dig into them, some of the
21 fixes may be more difficult.

22 CHAIRMAN JACZKO: Just to close this out, then we will

1 turn to Dr. Klein, are the challenges we are finding that we are
2 getting some of these cables submerged, they are not
3 rated or designed to be in submerged environments; is the
4 challenge that we are getting water in areas where there
5 wasn't anticipated to be water, or is it that cables -- I'm
6 not sure if I'm asking this right.

7 Is this more of a design issue, or do we
8 have an implementation issue?

9 MR. HILAND: Specific cases I'm familiar with, the
10 intent was not ever to have water fall into these concrete
11 cable trays etc. Most of the drainage pathways have been
12 identified to fail over 20 years, over 30 years, they fill
13 up with debris and the passageway is no longer there.

14 That is why we are seeing them in most
15 cases late in life, late in the operating -- the 40
16 year operating like.

17 CHAIRMAN JACZKO: So, in many ways, perhaps the
18 solution is on addressing the moisture.

19 MR. HILAND: The original design details of the
20 construction; you go back, where does this water go?

21 It has to be a drain, the drain has to have
22 a flow path, and in the cases I've looked at

1 specifically, that flow path is lost.

2 CHAIRMAN JACZKO: Okay, thanks.

3 Dr. Klein?

4 COMMISSIONER KLEIN: Thank you for a good

5 presentation.

6 Obviously we have said before, if there are

7 problems with our existing operating fleet it will

8 make the new ones even more challenging.

9 I think what you will do is certainly very

10 important for not only our agency, but for the

11 nation in general.

12 So, thanks for all of your hard work.

13 My first question and comment probably will

14 not surprise you, Eric, given my background.

15 I listened very carefully to the areas that

16 Marty said was not covered, because of future

17 activities.

18 One of them I noticed there was not a

19 single slide or a single mention of RTR's, why?

20 And it was not one of the items that is

21 upcoming.

22 MR. LEEDS: That is a great question Dr. Klein,

1 you just caught me flat-footed.

2 I'm going back over my mind over the
3 evolution of the topics that we selected to present
4 to the Commission today, and at one time I think we
5 talked about RTR's and I don't know why we took it
6 off come to think of it.

7 Maybe because -- I'm sorry Chairman.

8 CHAIRMAN JACZKO: I was just going to say, the
9 Commission actually approved the agenda, so certainly that
10 was an issue that the Commissioners had more than ample
11 opportunity to provide guidance to the staff when presenting
12 it, but we did recently have an RTR meeting dedicated
13 specifically to that topic.

14 You touched on some issues that are coming,
15 specifically that was an issue that we had as a
16 Commission recently that we looked at.

17 COMMISSIONER KLEIN: While we normally do look at the agenda, we
18 also don't look at the slides until a little bit more
19 close.

20 While typically the Commissioners may look
21 at general topics, we don't get into the details
22 and as I recall the RTR is apart of the operating

1 fleet.

2 MR. LEEDS: Yes sir.

3 Rather than give you a terrible excuse, why
4 don't we address it now?

5 At least talk about it in terms going
6 forward.

7 Maybe one of the reasons why we didn't
8 include it is because we feel like it started to
9 become routine that we have a path forward and we
10 are making a lot of progress and it is very well
11 defined.

12 I think I will turn it over to Bruce,
13 because I think we have a very good story on RTRs.

14 MR. BOGER: And we are providing status updates to
15 the Commissions through various papers and in particular,
16 the effort that we have undertaken to increase our ability
17 to review the renewal applications more promptly is having
18 effects.

19 It's kind of -- it's taken us a while to
20 get momentum, we had so many in the queue and in
21 order to get some of the new process implemented is
22 taking us a while, and then trying to get the

1 lessons learned from those is now paying off in the
2 next ones that we do.

3 But we are continuing to show progress, we
4 have instituted a tracking system that lets us know
5 where we are in the various reviews that is using
6 EPM, the project management tool, enterprise
7 project management, we have a much better handle on
8 it.

9 Unfortunately, as we've expressed in some
10 of our presentations, we are losing people.

11 NIST has taken away one of our better guys.

12 We continue to be facing the problems of
13 staff, we have recruited a lot of people, we are
14 qualifying them and it is getting a lot of
15 attention.

16 I'm sorry we didn't have it as a particular
17 topic.

18 MR. MCGINTY: Tim McGinty from the Division of
19 Policy and Rulemaking, I'm the Division Director.

20 As the Chairman mentioned, there has been a
21 significant amount of recent activity and interest
22 by the Commission in the RTR arena.

1 Things are going well, we have laid out a
2 clear process as well as schedule for completing
3 the licensing backlog that developed over the
4 course of many years.

5 That is by and large on target, there has
6 been a slip of a month or two in a couple of the
7 scheduled applications, the streamlining and the
8 focusing on the safety aspects of our review is
9 also yielding benefit, it is making the application
10 process -- the interactions with our licensees more
11 efficient and effective, we are focusing on the
12 issues that are important.

13 Then, in the out years, in coming years
14 you'll be hearing about us quite a bit more on this
15 topic, because we need to take a look at our
16 long-term infrastructure and the regulatory
17 underlying regulatory -- the rulemaking associated with
18 improving the process.

19 It was primarily a matter of we've had a
20 lot of significant interactions and there are a lot
21 of things NRR does in a small period of time.

22 COMMISSIONER KLEIN: Thanks.

1 What I had done, I did notice in the
2 book -- the briefing book there was a mention about
3 the license renewal aspect, but again I was
4 surprised that there was no mention of the RTR in
5 general.

6 I think just like oftentimes we concentrate
7 so much on reactors that we sometimes forget about
8 FSME and NMSS and others, so the same is true in
9 research reactors.

10 They are a part of your fleet that I think
11 deserves appropriate attention.

12 Bruce, I had a question for you following
13 up a little bit on Commissioner Svinicki's Part 26
14 question.

15 I liked Eric's comment about the fact that
16 you are listening to feedback and so forth.

17 One of the concerns we had was when we did
18 the Part 26 that the documentation and the
19 paperwork was going to be so cumbersome, both for
20 us and the industry; could you comment a little bit
21 about the documentation on the Part 26?

22 MR. BOGER: I know it is an issue, I know that

1 licensees were trying to get makings of computer programs to
2 help them schedule and manage that activity, but the
3 documentation can be an issue.

4 What we have asked the industry to do is
5 for the first six months of actual implementation
6 to gather data and gather information for us, and
7 not tell us that it is going to be hard or it will
8 be hard, but to actually show us what their issues
9 are.

10 Based upon those facts then we will be able
11 to go back and consider changes.

12 We want to base it on real facts.

13 COMMISSIONER KLEIN: Thanks.

14 You had also, Bruce, talked about the
15 isotope, the Moly-99 issue, obviously it's a very
16 important issue for the nation.

17 It's ironic that the regulator is one that has
18 been involved in this one a lot when it typically is
19 not an issue other than the fact it'll come back to
20 us at some point in time, not us as much as
21 regulators, but those in other countries that have
22 these old production reactors.

1 You said you had two applications for

2 Moly-99.

3 MR. BOGER: Yes, sir.

4 Two intents, we have no applications in house.

5 COMMISSIONER KLEIN: Who are the two intents from?

6 MR. BOGER: One is Babcock and Wilcox, that was

7 the solution reactor, and the other is the University of

8 Missouri at Columbia.

9 COMMISSIONER KLEIN: In terms of the B&W

10 solution reactor, how long do you think it will take to

11 license that concept?

12 MR. BOGER: That is a great question.

13 If we look back in time those reactors have

14 been licensed by the AEC, and whether we have

15 documentation to go back and take a look at the

16 safety reviews that were performed and take

17 advantage of that, I don't know.

18 It will be a challenge for us, but it is

19 one that we are trying to prepare for.

20 COMMISSIONER KLEIN: Do you think we have

21 framework today, since we have done it in the past, do you

22 think you understand the framework for that licensing pretty

1 well?

2 MR. BOGER: I think right now we are looking at
3 the same generic approach that we would take through a
4 normal licensing process.

5 This poses the unique challenges of having
6 a fluid core.

7 That we have to deal with and we haven't
8 dealt with that, it's a homogeneous reactor that
9 will cause us to scratch our heads.

10 We are looking for a high-quality
11 application, though.

12 COMMISSIONER KLEIN: But it would probably be good
13 if you gave them some idea of what that kind of high-quality
14 application should contain.

15 MR. LEEDS: Sir, if I can just add to that, we do
16 have a team that we assemble led by Mary Jane Ross-Lee, but
17 with representatives from NMSS, from FSME, folks that are
18 very familiar with the regulatory parts of the Code of
19 Federal Regulations.

20 So we can look across all the different
21 offices, bring these folks together, and come up
22 with a scheme that we think will work and that will

1 attack those technical issues that need to be
2 identified.

3 We are spending the next year preparing for
4 those applications to come in and we have some real
5 good minds thinking about what are the technical
6 issues that we need to address, where is it in 10
7 CFR, who is going to do what to make that happen.

8 We have gotten out ahead of it, I feel good
9 where we are right now, sir.

10 COMMISSIONER KLEIN: Roy, you talked a lot about
11 reactor licenses and examiners and so forth, obviously the
12 NRC needs to be ready for the examiners for the new
13 reactors; do you think we have a plan pretty well in place
14 for simulator time and so forth, so that we get our people
15 trained and ready?

16 MR. CANIANO: I believe that we do, like I
17 mentioned in my presentation, the TTC already established
18 two training classes and in fact recently at the Region IV
19 DRSDRP counterpart meeting we actually a representative from
20 TTC come down to chat with the staff on where they are at
21 with regard to that.

22 I also understand that the TTC is in the

1 process of getting a bid out for actually
2 construction of a simulator.

3 I believe that is in the plans around the
4 2011, 2012 timeframe.

5 COMMISSIONER KLEIN: Thanks.

6 CHAIRMAN JACZKO: Commissioner Svinicki.

7 COMMISSIONER SVINICKI: Thank you.

8 We have been talking a little bit about
9 some of our generic issues this morning and I, if
10 Bill Borchardt had been here I wouldn't be quoting
11 him in his absence, but one of the things he had
12 told me under his tenure as EDO is he wanted to
13 look at generic issues and look at issue
14 resolution, and I think Jack talked about an issue
15 resolution protocol and that we are looking at
16 that, but Bill had a nice succinct way of putting
17 it, Bill Borchardt did, he said, "what does success look like on some of
18 these issues," meaning when they are resolved what
19 are we aiming for and I guess that is typical
20 management training of beginning with the end in
21 mind.

22 It is not a new philosophy.

1 In this context I might mention that
2 seismic hazard estimates and we haven't talked
3 about it this morning it is something obviously
4 that goes -- has implications beyond power reactors
5 so it is beyond this morning's meeting, but that
6 would be one, my sense is that the nuclear safety
7 regulator is always going to be tapping into the
8 state of the knowledge on seismic issues.

9 We are not the USGS and I don't think it is
10 likely that NRC would embark upon some vast
11 characterization of seismic hazards in the United
12 States, we are going to be tapping into to the
13 frontiers of knowledge of other institutions,
14 other Federal partners who may be working more on
15 this.

16 Can you give me a sense though, it is one
17 of our generic issues that we have, what is our
18 path forward and what does success look like to us
19 in terms of closing the generic issue on seismic
20 hazards?

21 MR. GROBE: Sure, I will take a shot at that.

22 We get an update on seismic hazards once

1 every five years from the USGS.

2 One of the challenges is that the way in
3 which our reactors are expected to be designed from
4 the seismic perspective is more complex than
5 standard building codes and standards.

6 Oftentimes, the USGS data raises questions,
7 doesn't give us answers.

8 There was an issue that came out of the
9 data that was provided four years ago I believe it
10 was regarding continental Eastern United States
11 seismicity, and we are still working that issue.

12 The path forward -- the industry has
13 agreed -- we've identified a number of sites where
14 we need some additional information and the
15 industry has agreed to provide that information and
16 Pat Hiland is working this issue with the industry.

17 Our Office of Research has the principal
18 responsibility and most of the technical capability
19 to move forward in these issues, and we are trying
20 to make sure that when we get the next round of
21 USGS data, which will be next year, that we are
22 ready to move forward sprightly and address any

1 issues that are contained in that data on a more
2 timely basis.

3 COMMISSIONER SVINICKI: I appreciate that answer,
4 obviously we always need to be assessing the state of
5 knowledge on this.

6 I think though, in a way, your answer
7 validates that there is some frustration in terms
8 of criticisms that our generic issues remain open
9 for a very long time and it may be that in some
10 cases, perhaps in this one, that it is reasonable
11 to say we are always going to be reassessing this.

12 And maybe in terms of tracking it as a
13 generic issue, I don't know if it is meaningful,
14 you're mentioning some very discrete pieces of
15 analysis that are going on, but now I think maybe
16 this is an example of why Mr. Borchardt might've
17 looked at -- wanted to look at issue closure is to
18 say if some of these are just perennial things we
19 are always going to be reassessing we need to look
20 at whether, I guess in our most basic terms,
21 messing up our stats.

22 We're going to have our time to closure on

1 generic issues might really be prolonged if some of
2 them are going to be like this under a constant
3 reevaluation.

4 That might take me to spent fuel pool
5 criticality.

6 You talked a little bit about the
7 complexity of spent fuel management strategies at
8 sites for reasons of economy and efficiency look to
9 store more and more things in their pools, it
10 becomes very complex technically, but I think
11 moreover administratively in terms of the controls,
12 the potential for some sort of error, the more
13 complexity you have in the racking of your fuel,
14 you're going to have the danger of administrative
15 errors or mistakes and moving things around.

16 What can we be doing about that issue as
17 the regulator; is there additional clarity that we
18 can provide, or is it more that there are technical
19 issues regarding criticality control materials and
20 other things that licensees are suggesting?

21 What are the actions we can take in that
22 area, because I agree with the assessment you

1 presented in the beginning of the presentation,
2 which is there is going to be no relief in this
3 area for some time.

4 MR. GROBE: I just love technical issues.

5 This one is a very interesting and complex
6 issue because there is a number of things going on.

7 One is that the fuel that is being burned
8 today, they burn to a higher megawatt-days per ton,
9 so you have hotter fuel coming out of the vessel.

10 Secondly, there's been some degradation in
11 the neutron absorbers that is integral to the
12 racks, so you have a situation where your analysis
13 is showing less margin and you've got greater
14 uncertainty and those always become much more
15 difficult.

16 These issues, the thing to keep in mind
17 similar to the generic safety issue discussion we
18 had, is we always screen these issues for safety
19 and that is the first thing we do and with respect
20 to the seismic issue there is no immediate safety
21 concern.

22 It gives us some time to deal with the

1 issue, not that we are as efficient as we should
2 be, but it gives us some time.

3 Similar to this issue, the neutron absorber
4 that's in the water as well as the neutron absorber
5 that's in the racks are redundant to each other.

6 There is no immediate safety concern, the
7 complexity is refining the tools that we used to do
8 the analysis, which are a decade or two
9 decades-old, to meet the challenges of today's more
10 sophisticated technical environment with less
11 margin, and we are in the process of working with
12 NMSS and the Office of Research to refine those
13 tools and the industry., to refine those tools,
14 to make sure that we have a common
15 understanding of how to do the analyses, what
16 assumptions go into those analyses and we can move
17 forward with the industry in a predictable way.

18 COMMISSIONER SVINICKI: Okay, thank you.

19 It is not surprising that it comes back to
20 some of our tools being outdated.

21 I think that is something that industry
22 struggles with and certainly the regulator, we are

1 all dependent on some of these codes and things the
2 same toolset, so that is the importance of our
3 research program to complement research done by
4 other Federal agencies in the industry as well.

5 Marty, since you are here today and subbing
6 a bit, I would direct a question to you about the
7 IRRS, and I forgotten again what -- the Integrated
8 Regulatory Review Service.

9 As I understand it we are completing our
10 self-assessment and I think that that is the second
11 round on our self-assessment, if I have that right,
12 because that the IAEA modules have been dynamic so
13 now we went through it again and it made a lot of
14 sense to me to say, I want to do a self-assessment
15 mapping much more closely to what it is when the
16 review team's here, what they are going to be
17 using.

18 The IAEA guidance as I understand it is
19 still dynamic, could you give me a few sentences on
20 our overall readiness, and then did we expect the
21 self-assessment outcomes to be able to have time to
22 make some -- to strengthen some areas or do

1 whatever our self assessment findings were and are
2 we going to time enough to do any of that?

3 Mr. Virgilio: Yes.

4 Let me start and I will turn to Bruce for
5 some support.

6 The IRRS team will be here in October of
7 2010, so that is sort of the target to have all of
8 our preps completed by that point in time.

9 Where we are right now -- the critical
10 issues we're dealing with today is the completion
11 of the team selection.

12 As you know we had a team leader selected,
13 there was a medical issues and so now we had to go
14 back and work with IAEA, we now a new team leader
15 selected, Jukka Laaksonen from Finland who we
16 have a lot of experience working with Jukka and
17 I think he has the capacity necessary to lead the
18 large team.

19 The program starts with a self-assessment
20 against a set of questions that IAEA has asked us
21 and we are completing our review of our programs
22 against those questions.

1 That process is wrapping up now.

2 Our intent is to wrap up our
3 self-assessment and to send a policy paper to the
4 Commission in the March timeframe.

5 That sort of lays out what we found and
6 what corrective actions that we intend to
7 implement.

8 It is a little bit too soon to tell whether
9 we can implement all the corrective actions before
10 the October timeframe when the team arrives, but
11 certainly we can get started.

12 I think it is very important that we
13 identify those early, and March timeframe is where
14 we are looking at for the Commission paper.

15 That coincides very nicely with for when we
16 expect to have Jukka and some of the folks from IAEA
17 here.

18 They will be here for the RIC and on the
19 margins of the RIC on that Friday, the March 12th I
20 believe it is, we are going to spend the day with
21 Jukka and the IAEA explaining where we are in terms
22 of the results of the self-assessment, try to get

1 all logistical issues that we need to get resolved,
2 resolved at that point in time including which
3 reactor facilities they're going to visit, which
4 days they are going to visit the reactor
5 facilities, and how we are going to manage the fact
6 that we will have 15 or so people here working with
7 us and out in the regions for a period of two
8 weeks conducting this assessment.

9 I don't know if I've left anything out.

10 MR. BOGER: Just a couple of thoughts.

11 Our original self-assessment did not do as
12 comprehensive a job in looking at how we
13 differed -- deviated from international standards,
14 so the current one is looking for gaps and it's
15 those gaps that we will have to figure out how to
16 address and how long it will take us to do that.

17 That will be a challenge, but my experience
18 with being on an IRRS team, the team tends to look
19 at whether you have identified issues and have a
20 corrective action in place.

21 I think we will be in good shape to show
22 that we have done a tough look at ourselves and

1 have programs in place to correct any gaps.

2 COMMISSIONER SVINICKI: Thank you.

3 I did have one more question, but I can --

4 CHAIRMAN JACZKO: If you want to just do it

5 briefly.

6 COMMISSIONER SVINICKI: Just quickly, Roy, on

7 operating licensing, if I recall the history, it was 1995

8 was the staff's recommendation from NRC preparing written

9 exams, I think it was contracted out to giving licensees the

10 opportunity to do that, you mentioned the statistic now that

11 80% or 90% of them are prepared by licensees.

12 Is there any point at which we would

13 undertake an evaluation to say, when that policy

14 decision was made, it has resulted in the following

15 outcomes which might be positive or negative in

16 terms of uniformity or driving the written exam?

17 I try to spend time with operators when I

18 go to reactor sites, is it really testing the

19 knowledge that is -- the important applied

20 knowledge, obviously we want these folks to be

21 extremely well-qualified, would we ever take a look

22 at that?

1 MR. BOGER: That sounds like a programmatic
2 question.

3 MR. CANIANO: If I can just briefly just talk
4 about that.

5 We get the same feedback as well.

6 Going to the plant, some of our local
7 meetings or the utilities will come in and brief us
8 on issues, and periodically they will bring that
9 up.

10 What really are we testing, and also they
11 brought up a couple of concerns associated with the
12 higher rejection rate, maybe on the initial exam,
13 because we do have specific criteria where we feel
14 that 30% or greater of the exam questions that are
15 coming in are not meeting our standard that we can
16 reject the entire exam and I know for a fact
17 recently we actually benchmark and submitted an
18 exam from one region to the other regions to have
19 them take a look at that.

20 Are we consistent with the policy and is
21 there a validity to the concern?

22 MR. BOGER: And we monitor exam results.

1 We have exam results going back for years
2 and there are peaks and valleys and sometimes a
3 region will have a bad set of exams causing a
4 higher failure rate, but overall it is about the
5 same for the last 20 years.

6 COMMISSIONER SVINICKI: Okay, and did you want to
7 add a comment?

8 MR. BROWN: Fred Brown, Division of Inspection and
9 Regional Support, and I fully support Bruce and Roy's
10 comments about the ongoing check to make sure that we are
11 doing what is necessary to make sure highly qualified and
12 capable people are at the controls of operators.

13 I would also add that we have a new branch
14 chief in the operator licensing branch in
15 headquarters, and his long-term task is to look out
16 and make sure that we are taking advantage of 21st
17 century learning and testing methodologies and
18 techniques and that we don't let the status quo get
19 in the way of improvements where we can find
20 demonstrated ways to achieve desirable safety
21 outcomes.

22 COMMISSIONER SVINICKI: Okay, thank you.

1 Thank you for the additional time.

2 CHAIRMAN JACZKO: I think it was a good use of
3 additional time.

4 I think this is certainly an important
5 issue and I think Fred, as you said, it is
6 something that I think we should look towards
7 doing, providing some sort of comprehensive
8 assessment of the program.

9 It certainly is a very important program
10 and in particular given where we stand right now
11 with the potential for lots of new technologies,
12 lots of new ways to test people, to train people
13 that it may be worth examining some of the
14 assumptions in the program and suggest we look at a
15 paper to give the Commission some options to look
16 at in that regard.

17 I think it is an issue we certainly -- I
18 hear from operators as I go to plants, they certainly
19 have one view of the exams, when I talk to
20 licensees they have a very different view of the
21 exams.

22 I think we are in a very different era and

1 think even things like the SATs are now done
2 differently, so there may be an opportunity to take
3 advantage of new technologies and look at these
4 issues from a fresh perspective.

5 I think it is certainly a good issue for
6 the Commission to take a look at.

7 A couple of things just as I was going
8 through some of background material those things where the
9 Commission is anticipating potential votes and
10 potential issues coming up, one
11 of them is on the 50.46 (b) ECCS
12 performance criteria that is on the performance
13 based rule for the cladding and the cladding
14 design.

15 The staff is anticipating that that would
16 come up in September, do you anticipate at this
17 time that the issues associated with this rule, the
18 policy levels are likely to be contentious or do
19 think that this is where we are able to coalesce
20 around a set performance criteria that are
21 relatively straightforward?

22 MR. GROBE: It has already been somewhat

1 contentious between the NRC and the industry with respect to
2 the technical basis.

3 What I would like to -- Sher, do you want
4 to take a shot at this?

5 Dr. Sher Bahadur is the Deputy Director of
6 the Division of Safety Systems and the technical
7 issues are in his area.

8 DR. BAHADUR: Sher Bahadur, acting Division
9 Director for the Safety Systems.

10 The rulemaking that, Chairman, you are
11 mentioning about is out there for public comment.

12 We have had increased interactions with the
13 industry before and even now, and the issues are
14 not very simple, not very straightforward and at
15 this time the staff is in the process of gelling
16 its approach to the rulemaking and once that's done
17 then we will come back to the Commission.

18 CHAIRMAN JACZKO: And do have other stakeholders
19 who have been involved, I guess we did an ANPR, kind of
20 pre-proposed rule stage that I think.

21 DR. BAHADUR: That is correct.

22 CHAIRMAN JACZKO: Did we get other stakeholders

1 besides industry that had weighed in with issues?

2 MR. GROBE: Certainly the fuel vendors have engaged aggressively
3 in this, so you have the operators and the fuel vendors.

4 I'm not aware of any public stakeholders,
5 it's a very complex technical issue.

6 DR. BAHADUR: So far the action has been
7 mostly with the vendors and also the licensees.

8 CHAIRMAN JACZKO: I think it will be an
9 interesting discussion for the Commission as you get closer
10 to working through what is a very technical issue.

11 The last issue that I did want to raise is
12 in a more general level, in many ways our
13 regulatory programs in NRR are relatively stable.

14 We saw over the last several years some
15 fairly significant rulemakings and updates to
16 our regulations, many of which had been really
17 long-standing, the Part 26 certainly was a very
18 significant and really one of the more monumental
19 rulemaking regulation changes that we have done
20 as an agency.

21 Clearly there will be some things that we
22 need to fix perhaps, and certainly my preference

1 will be that we address the hurricane issue with
2 rule language eventually as we make modifications
3 and changes that is probably the preferable way to
4 do it.

5 As I look out there I don't see
6 tremendously large rulemakings of that kind of
7 scope that we would think we would need to do.

8 Perhaps the only one being, perhaps 50.46(a)
9 which who knows what will ever happen with
10 that.

11 I guess I would throw that back to you all,
12 do you see out there really substantial, really
13 significant changes in the way we regulate or
14 changes to our regulations that would make those
15 kind of real milestone kind of changes?

16 MR. LEEDS: I will take that, that's an
17 interesting question that you raise, Chairman.

18 That is part of the strategic planning that
19 we need to do for this office is continually
20 looking outward.

21 I'm certain if you'd asked this question in
22 year 2000 nobody would've anticipated the terrorist

1 attack that occurred on 9/11.

2 Obviously, that resulted in two of the
3 biggest rulemakings, one that we completed one that
4 we are currently active with.

5 When we look forward, we look forward at a
6 very maturing industry and NRR and its processes
7 are very mature.

8 So, what is going to change?

9 We have extended power uprates that we
10 expect to continue, but there's only so far that
11 those can go.

12 We have license renewals that are going to
13 continue.

14 Is there going to be life after 60?

15 Certainly that is something that we need to
16 look at.

17 I think that when you look forward in our
18 crystal ball we have to be taking a look at the
19 aging of the fleet.

20 What kind of issues need to be addressed
21 for the aging of the fleet, and I think that's
22 where we are going to find the future changes.

1 Is there anything that's going to be as big
2 as the changes that we've had to do for Part 73 or
3 Part 26, or Appendix C?

4 That is hard to say at this point, but we
5 will have to be continually vigilant and watch the
6 landscape for what comes next.

7 CHAIRMAN JACZKO: I appreciate that and as I said
8 I think those are lots of issues, and I am hopeful that our
9 regulatory infrastructure that we have developed over these
10 many decades is nimble enough to hopefully handle many of
11 those issues as they come up and they appear more in inspection
12 and enforcement space than they do necessarily in regulatory
13 space, but as issues come up I think your point is well
14 taken, we will address them as we need to.

15 Dr. Klein?

16 COMMISSIONER KLEIN: Jack, you had two of those
17 noncontroversial issues, buried pipes and buried cables, I
18 guess the question is do we have a pretty good research
19 program underway to address those issues?

20 MR. GROBE: We have user need requests in both
21 areas, and both the Regulatory Guide with respect to the
22 inaccessible cables, both the Regulatory Guide and the

1 NUREG. will be products of the Office of Research, in
2 very close collaboration with the technical staff in NRR.

3 We also have a continuous spectrum of
4 materials issues that the Office of Research is
5 helping us with.

6 The Office of Research will be -- is our
7 standards organization, they serve as the agency's
8 I can remember the name, but there's an official
9 name for the lead for the standards -- consensus
10 standards for the agency and they will be closely
11 involved in the corrosion standards work that we
12 are engaging with the industry along with our
13 technical staff.

14 Michelle Evans is our Director of Division
15 of Component Integrity, do you have anything you
16 wanted to add to that, Michelle?

17 Okay.

18 COMMISSIONER KLEIN: In terms of both of those
19 issues the pipes and the cables, how do you feedback into
20 design changes for the new reactors on what you find in the
21 existing fleet, how do you get those issues back?

22 MR. GROBE: First off, on all operating experience

1 we have very close connectivity between the Office of New
2 Reactors and the office -- the operating reactors
3 activities.

4 Regardless of what operating experience it
5 is, there is a continuous feedback loop going;
6 specifically, in this area.

7 Any piping that is below ground level for
8 new reactors, any safety related piping, is going
9 to be in vaults it's not going to be buried in
10 earth.

11 So there will be the capability to do
12 direct inspection as well as the lack of an
13 environment that requires intact coatings on the
14 outside surface of the pipe to prevent corrosion.

15 So, the piping issue is going to be
16 addressed for the safety related piping.

17 With respect to cables, it's a whole new
18 ballgame.

19 Its fiber-optic cables, so it's a
20 completely different genre of issues that they
21 are going to be facing for control systems, for
22 power cables.

1 The initiative that the industry is
2 undertaking for the operating fleet is a risk
3 focused reevaluation of how they are ensuring that
4 cables are properly designed for the environment
5 that they are in, and those lessons are being transferred
6 over to new reactor construction also.

7 COMMISSIONER KLEIN: In terms of the vendor
8 inspection program, you talked that you have good dialogue
9 between NRR and NRO, how about in the international arena?

10 How do you communicate and find
11 information?

12 MR. GROBE: To a large extent we allow our new
13 reactor compatriots to work the MDEP program as well as the
14 international vendor inspection program.

15 There hasn't been as much activity
16 internationally for the operating fleet, as there
17 will be for the new reactor fleet, so the vendor
18 staff in the Division of Engineering works very
19 closely with the new reactor vendor staff, but we
20 don't engage as much internationally.

21 Most of the inspections and audits that we
22 find ourselves having to do, are domestic because

1 whether it's a 41.60 volt breaker, those are
2 typically produced and refurbished domestically.

3 Now, from an operating experience
4 perspective we are always getting operating
5 experience, both nationally and internationally on
6 components which factors into the vendor inspection
7 program.

8 COMMISSIONER KLEIN: The final question for Eric,
9 is when -- if a new reactor becomes operational, when is the
10 transition from NRO to NRR; when will that occur?

11 MR. LEEDS: We are working that issue, Dr. Klein,
12 right now.

13 In fact we just had a meeting, Mike
14 Johnson, Bill Borchardt, and myself, and looking at
15 different options for when that transition takes
16 place, and how that transition takes place
17 because the folks that are going to do the actual
18 licensing and will be most familiar with that
19 technology, will be in NRO and the idea that they
20 will be in NRO, the inspection program will be out
21 in the region, and how do you divide that up and
22 maintain the expertise?

1 There are a number of alternatives we
2 looked at, is there a change where you make a move
3 at a certain timeframe, perhaps you are going to
4 change the oversight process earlier than the plant
5 actually starts operating, but for the licensing
6 process what is the timeframe for that and who is
7 going to do the licensing.

8 You want to keep the expertise on that, for
9 that particular design.

10 We also talked about the idea that keeping
11 that design expertise together for that particular
12 fleet of reactors, AP 1000, there is supposed to be
13 some consistency between these plants, not have 104
14 design specific plants.

15 Do you keep that together and do you keep
16 it in NRO or do bring that group over to NRR, and
17 how is that going to work?

18 So, we are in the preliminary stages of
19 looking at that transition and we have a number of
20 different options that we're exploring, we're going
21 to do some more work, but eventually we are going
22 to come to the Commission with a paper that will lay

1 out those different options with pros and cons for
2 each one of them.

3 It is quite an effort right now.

4 COMMISSIONER KLEIN: Thanks.

5 CHAIRMAN JACZKO: Well Marty, Eric, Bruce, Roy, and Jack
6 I think it was a very good presentation.

7 Again, I think there is certainly a large
8 number of issues on this aspect of what we do in
9 our work and I think, as Dr. Klein said, it is very
10 easy for the reactor side to over shadow so much of
11 the work that we do as an agency, but I think
12 it is for reality sake it is one that is
13 probably the most visible and high profile of all
14 the things that we do and your continued dedication to ensure
15 that very visible fleet of reactors continues to operate safely
16 is one of our most important priorities.

17 So, I appreciate hearing about the work you
18 are doing and we will continue to ensure that we
19 maintain a safe and secure fleet going forward.

20 Thank you.

21 (Whereupon the briefing was concluded at 11:22 a.m.)

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