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THE 24TH ANNUAL REGULATORY INFORMATION
CONFERENCE

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TRANSCRIPT OF PROCEEDINGS

APPEARANCES

NRC Staff:

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Director, Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission

Gregory B. Jaczko
Chairman
U.S. Nuclear Regulatory Commission

1 PROCEEDINGS

2 ERIC LEEDS: Good morning. Welcome to the 24th annual
3 Regulatory Information Conference. My name is Eric Leads, and I'm the director
4 of the Office for Nuclear Reactor Regulation here at the NRC. It's a great honor
5 to be here today, and have this opportunity to welcome everyone on behalf of the
6 U.S. Nuclear Regulatory Commission. My office, along with the office of Nuclear
7 Regulatory Research, led by Mr. Brian Sheron, are co-sponsors of this event.
8 We work closely with all the other NRC offices to bring you a comprehensive and
9 dynamic program over the course of the next three days. Before we begin, I
10 want to thank the Joint Armed Forces Color Guard from the Military District of
11 Washington for joining this morning, and again, I'd like to thank Twana Ellis, one
12 of the NRC's own, for that moving rendition of the National Anthem.

13 [applause]

14 Thank you all for being here. I'd also like to take a moment and
15 acknowledge the events that occurred one year ago in Japan. The day after last
16 year's RIC ended. On behalf of the NRC, and I think I can say this for the
17 international nuclear community, we share our deep sense of empathy and
18 shared loss for Japan, the courageous operators who fought for the safety of
19 their plant, and the Japanese people impacted by the tragedy. Our prayers are
20 still with you.

21 The RIC continues to be the largest conference the NRC sponsors,
22 with more than 3,000 participants representing 34 countries. The RIC provides
23 an opportunity for government, industry, the public and our international
24 colleagues to meet and discuss a wide range of topics and the latest information
25 on safety initiatives and regulatory developments. I hope everyone had the

1 opportunity to enjoy the meet and greet sessions that we had this morning that
2 was new to the program this year. I hope it provided a worthwhile networking
3 opportunity, and time to explore the technical poster, and tabletop displays, and
4 to speak with some of the poster presenters.

5 This year's conference provides a wealth of information, and
6 features several distinguished speakers. To open the RIC, we will hear a
7 keynote address from the NRC chairman, Dr. Gregory Jaczko, followed by
8 remarks from NRC's executive director for operations, Mr. Bill Borchardt. Later
9 today, we'll also have an opportunity to have an opportunity to hear from
10 Commissioner Kristine Svinicki, and Commissioner George Apostolakis.
11 Additionally, Wednesday morning, plenary sessions will include Commissioner
12 Bill Magwood, and Commissioner Bill Ostendorff.

13 Following the commissions sessions on Wednesday, we'll have a
14 special plenary session that's schedule, that's focused on operating in new
15 reactors. The panel includes Marty Virgilio, the NRC deputy executive director
16 for Reactor and Preparedness programs, Tony Pietrangelo, the senior vice
17 president and chief nuclear officer for the Nuclear Energy Institute, and Dennis
18 Koehl, the senior vice president and chief nuclear officer for Xcel Energy.

19 This year's conference offers a technical program with 36 technical
20 sessions. Major topics include the Fukushima Daiichi accident, and the NRC's
21 response. We'll be evaluating issues such as seismic flooding, station blackout,
22 emergency preparedness, and incident response. Other technical programs will
23 address significant domestic and international issues associated with operating
24 reactors, new and advanced reactors, fuel cycle facilities, nuclear security, safety
25 research and safety culture policies. Technical sessions bring together speakers

1 and panelists from various organizations offering diverse perspectives on the
2 subject matters being discussed.

3 For those interested in attending the regional breakout session, that
4 session will be held tomorrow, Wednesday afternoon at a joint session featuring
5 a discussion of contemporary issues by the administrators of each of the four
6 NRC regions, and Senior Nuclear Industry Representatives. Speakers will
7 include Marty Virgilio, Bill Dean, regional administrator of Region I, Vic McCree,
8 regional administrator for Region II, Cindy Peterson, the deputy regional
9 administrator of Region III, and Elmo Collins, regional administrator for Region
10 IV, Dave Heacock, president and chief nuclear officer for Dominion Electric
11 Power Company, and Ed Halpin, president and chief executive officer for the
12 South Texas Project Nuclear operating company.

13 There are five sessions this year that focus on international
14 cooperative activities. In addition, there are a number of sessions that include
15 our colleagues from other companies that share their perspective on issues of
16 common interest. A number of sessions are at maximum capacity for seating.
17 Some of these would include the discussion on seismic hazard evaluation, and
18 the regulatory response to recent seismic events, flooding lessons learned in
19 near term regulatory actions, the session on small module reactors, and the post
20 Fukushima international research. We encourage you to make your way to those
21 session rooms early, as those sessions are likely to be filled up, and will allow
22 folks to come in on a first come first served basis. Once the rooms are filled to
23 capacity, participants will be directed to other sessions.

24 For your convenience, all plenary sessions are webcasted, video
25 teleconferenced and audio recorded. In addition, all technical sessions will be

1 audio recorded. All recordings will be made available on the NRC website
2 following the conclusion of the conference. Our full agenda this year also offers
3 a broad variety of technical poster and table top presentations, including a
4 tabletop providing an overview of NRC's Lessons Learned from Fukushima, and
5 the agencies response to last year's nuclear accident in Japan.

6 Throughout the conference, the course of the conference, the
7 attendees will have the opportunity to participate in tours of our incident response
8 center across the street at NRC headquarters. It showcases the agencies
9 operational center, where attendees will see firsthand the facility in which the
10 NRC emergency preparedness staff will work during an incident response.

11 This year, we're incorporating several new social media tools to
12 enhance communication during the conference. We have established a RIC
13 specific twitter account, which we will use to tweet throughout the conference. I
14 got it in, Elliot.

15 [laughter]

16 For those of you who twitter and tweet, you can follow the RIC on
17 Twitter at NRCGOV_RIC. Last year, the NRC launched an agency blog and
18 YouTube account, and we have featured several blogs leading up to this year's
19 conference in February, we posted a video on YouTube entitled Three Minutes at
20 the RIC. We're also featuring and introducing a continuous cycling of interesting
21 factual and fun facts about the NRC and what we do. This slideshow will run
22 during the breaks and any of the downtime between sessions, we hope you learn
23 something new about the NRC from these factoids.

24 If you take a look inside your pocket guide, you'll find a barcode at
25 the back of this map that's called a quick response code, or a QR code. This is a

1 new feature introduced by NRC's Region III staff, as part of a pilot they're
2 conducting. The QR code is located inside your pocket guide. You'll also see it
3 on large posters in the grand foyer, and on miscellaneous signage throughout the
4 conference. There are three different QR codes, and you can scan those using a
5 handheld device, such as an iPhone, or an iPad, and that will give you access to
6 the daily program at a glance, the program agenda, and the technical posters
7 and tabletops.

8 As always, though, your participation plays an important role in
9 making the RIC a success. We encourage you to participate in the question and
10 answer portion of the sessions, and to complete the evaluation forms distributed
11 during the conference. We want to hear from you, and we'll use the feedback to
12 continually improve the conference.

13 Now, before we begin, I'd like to -- just a few housekeeping
14 reminders. Please remember to visibly display your name badges throughout the
15 duration of the conference. Please turnoff or silence all electronic devices. Any
16 items that were left behind in any of the conference areas will be given to the
17 hotel bell staff, located in the hotel lobby. Please be aware of your fire exits,
18 which are located on the sides and the back of these rooms, also of note, all
19 presentation materials that are not currently on the website will be posted
20 following the conclusion of the conference. During the question and answer
21 portion of the sessions, please feel free to write your questions on the cards
22 provided, and the NRC's staff will collect them to be read up here on stage.

23 Finally, I'd like to take a moment to thank the NRC conference
24 planning committee for their unwavering commitment and efforts in planning the
25 RIC, I also want to thank the NRC staff that have volunteered their time to

1 support the conference. Thank you for all that you've done.

2 [applause]

3 Now I'd like to introduce you to our keynote speaker, the NRC
4 chairman, Dr. Gregory Jaczko. Dr. Jaczko was designated the Chairman of the
5 U.S. Nuclear Regulatory Commission by President Barack Obama -- Barack
6 Obama, excuse me, on May 13, 2009. He was first sworn in as a commissioner
7 on January 21st, 2005. Dr. Jaczko is focused on the NRC being a strong and
8 decisive safety regulator, and his work to have the agency clearly communicate
9 with the public and its licensees.

10 Throughout his tenure on the Commission, he has been committed
11 to the safety of existing nuclear reactors, and radioactive material sites, and
12 effective and efficient safety review process for license applications, and strong
13 enforcement and accountability. Prior to assuming the post of commissioner, Dr.
14 Jaczko served as the science policy advisor and the appropriations director for
15 U.S. Senator Harry Reid, as well as congressional Science Fellow in the Office of
16 Representative Edward Markey. He's also been an adjunct professor at
17 Georgetown University, teaching in the areas of science and public policy. Dr.
18 Jaczko holds a bachelors degree in physics, and philosophy from Cornell
19 University, and a doctorate in physics from the University of Wisconsin-Madison.
20 Please join me in giving a warm welcome to Chairman Jaczko.

21 [applause]

22 CHAIRMAN JACZKO: Well, good morning everyone.

23 [laughter]

24 Thanks. Try that again. Good morning everyone, and thank you
25 Eric for that assist. I want to welcome everyone to the 24th annual Regulatory

1 Information Conference. It's a tremendous honor to address the RIC for the
2 eighth time, and on behalf of my commission colleagues, I want to thank Eric
3 Leeds, Brian Sheron, and their staffs, and the office of Nuclear Reactor
4 Regulation, and the Office of Nuclear Regulatory Research for making this event
5 possible. Believe it or not, the people who are planning next year's RIC are
6 already somewhere in the hallway planning next year's event, so this is a -- an
7 effort that takes the entire year, and the dedication of tremendous number of
8 people, and we certainly appreciate your efforts in that regard.

9 As you can see by the room, our attendance at this year's event is
10 at record levels, and we have more than 30 countries that have sent
11 representatives to this event. The RIC continues to be an invaluable form for us
12 to share information, and exchange views about recent developments, and
13 emerging issues central to nuclear safety and security, but beyond the
14 Commission and the staff directly involved in the planning of this event, the RIC
15 would not be successful without the collaboration and hard work of the staff
16 across the agency. But of course, this event is just one of the many issues and
17 challenges that face the NRC staff, and the nuclear industry, whether here in
18 Rockville, in one of the regions, at our technical training center, or in a
19 telecommute location, sometimes, somewhere in the world, whether you're a
20 technical reviewer, an inspector, a manger, an administrative professional, or an
21 individual representing one of the many disciplines, our staff works each day to
22 protect public health and safety in the environment, and to carry out the NRC'
23 very important public health and safety mission.

24 I, of course, would like to just take a moment to talk about the year
25 that we've had. It is certainly been a year of significant challenge, but what I've

1 seen throughout is a dedication of focus to the mission. We have dealt with
2 challenges both external and internal and throughout, the staff has shown a
3 dedication to the mission and the Commission has shown a dedication to the
4 mission.

5 My longest serving colleague, Commissioner Kristine Svinicki,
6 continues her focus on the details that make us an effective regulator.
7 Commissioner Apostolakis, in addition to all the work that we have all done, has
8 spent the last year working on ways to enhance and improve our use of
9 probabilistic risk assessment, and I'll believe he'll talk about the results of that
10 work today. Commissioner Magwood brings to this Commission his extensive
11 experience with the Department of Energy, and he has used his considerable
12 knowledge to advance our regulatory mission, as well as our outreach to
13 stakeholders, and I think an interesting point he made is that a few days ago, he
14 has over 13 years of experience as a political appointee in the Federal
15 Government, and that's a tremendous amount of experience that brings to bear
16 on the work that we do.

17 Commissioner Ostendorff's broad background, including his long
18 service to the Nuclear Navy, and assignments in the House, armed services
19 committee, and the National Nuclear Security Administration, has brought
20 important perspectives that have helped us challenge -- tackle important
21 challenges like issues of cyber security and many others.

22 Looking back on this year, I think very few of us at this time at last
23 year's RIC were prepared for the events that were going to unfold in the nuclear
24 community that affected the entire world. It is certainly been a challenging year
25 for all of us. We met here at the RIC just over a year ago, and looked ahead with

1 one view of the future. Five days later, that image changed completely. The
2 nuclear industry phased a string of natural disasters in the past year, both here
3 and abroad that effected it in unique and in profound ways. If there is certainly a
4 silver lining in all of this that occurred last year, I think one of the most telling
5 moments is the way that the international community pulled together to help our
6 friends and colleagues in Japan during an enormously difficult time.

7 And here in the U.S. within two weeks of the events in Japan, they
8 NRC launched a near term task force, at the request of President Obama, to
9 evaluated the lessons learned from Fukushima, and that has set us on a path to
10 address the major issues facing the nuclear power industry, and it's a piece of
11 the work that's going on internationally, and many times, I've talked about these
12 issues, and I've stressed the importance of not looking to follow business as
13 usual.

14 So today, I want to talk a little bit about that, and looking back at
15 some of the challenges we've faced through the lens of two very important
16 concepts, and the first, and most important, I think is the notion of pre-active,
17 reactive, and proactive approaches to solving safety challenges, and that on the
18 onset, I would say that as an agency, as an industry, we're very good at dealing
19 in a reactive mode, where there is a clear issue and a clear challenge, we come
20 to solutions and come to resolution very quickly, and in a time in a way in the
21 best interest of nuclear safety. Where I think our challenges remain is in the
22 proactive work. In continuing to address proactively safety concerns that may
23 not have the same burning platforms, so to speak, or the same immediate
24 incident that drives the need for resolution and solution, but I want to be clear, I
25 think this agency, and the nuclear industry, and the United States, continues to

1 be a world leader for the magnitude of its strengths, and for the limitations of its
2 weaknesses.

3 So if I could begin by looking back a bit on some of those incidents
4 that drove the work that we do, I want to talk first with some of the incidents in the
5 United States, and a very good example of the challenges versus the reactive
6 approach, versus the proactive approach can best be seen in some of the issues
7 we dealt with in flooding in the Midwestern United States. Of course, many of
8 you are familiar with the iconic images of Fort Calhoun Nuclear Power Station
9 surrounded by flood waters, almost appearing as a shrew nuclear island in the
10 middle of these floodwaters. I think this is both an example of the strength of the
11 reactive approach to nuclear safety, as well as the proactive work of our
12 inspectors and our oversight.

13 Prior to the flooding events, the NRC inspectors had identified
14 significant challenges with the flood protection program at Fort Calhoun. And it
15 was through their work and their diligence and their proactive efforts that
16 enhancements and improvements were made to Fort Calhoun. Those
17 enhancements and improvements proved vital in dealing with the flooding levels
18 that we were to see later that year.

19 I think an important contrast to Fort Calhoun is Cooper Nuclear
20 Station, which is just down river from Fort Calhoun. Now, when I went out to visit
21 Fort Calhoun I also visited Cooper. There were no television shows, no images of
22 Cooper at the time because Cooper had been built in a slightly different location,
23 in an area in which they were well above the likely flood levels that we were
24 seeing in that year, of record in historic flooding.

25 So I think there's a lesson in there. And it's -- I think emblematic of

1 some of the efforts we've made in the past in proactive design ideas and where
2 we have been successful, and in areas in which we have been not as successful.
3 And I think if you compare Fort Calhoun to Cooper you'll see clear examples of a
4 better approach of the design basis when it comes to flooding than the other.
5 And that's not to say that one was wrong and one was right, but I think there's
6 important lessons for us there as we look forward.

7 We continue to be challenged in the area of natural hazards and
8 how best to design plants to deal with natural hazards. But I think if you look
9 back from the same perspective -- and I'll talk about this in a moment --
10 proactively we have done a very good job of building in conservatisms. And it is
11 those conservatisms in the margin that has been so beneficial and has been
12 tested so much in the last year. No sooner did the flood waters begin to recede,
13 then hurricane season started up in the East Coast, resulting in Hurricane Irene,
14 making landfall and affecting several nuclear stations near the coast. We also
15 saw tornados impacting the Browns Ferry and Surry facilities, fortunately without
16 causing extensive damage. These incidents represented a recognition of the
17 conservatisms in the design of nuclear plants around our country and the strong
18 program developed in this country preparing for emergencies at nuclear facilities;
19 I think yet another example of the successes of our proactive efforts to deal with
20 nuclear incidents and to deal with nuclear design.

21 I want to turn to one last incident that was driven by external
22 factors, and that was the earthquake that registered 5.8 on the Richter Scale that
23 occurred in the neighboring state of Virginia. Now, compared to the other
24 earthquake that we dealt with in the last year this seasons insignificant. But
25 certainly for those of you who were here in Rockville -- I was up on the 18th floor,

1 having actually a video conference with Vic McCree, and he'll probably forever
2 have that image of me looking around somewhat shocked and surprised by what
3 was going on and just getting up and leaving the room to figure out what was
4 going on. I think I came back a few minutes later and told Vic, "I think we're
5 having an earthquake, I'll call you later." So while this was not a significant event
6 in terms of the magnitude of the earthquake relative to other earthquakes, it
7 certainly was significant relative to the design basis for North Anna.

8 And I think this is a very good example of the strengths of the
9 agency and the industry when it comes to our reactive approach to dealing with
10 issues. In the case of North Anna, it was a very challenging situation because
11 we had never dealt with an operating unit that had experienced an earthquake
12 that exceeded its safe shutdown earthquake or its design basis earthquake that
13 required us to use guidance that had been developed many years earlier. It
14 required us to develop a new approach to determining whether or not it was
15 appropriate for the plant to restart, whether its safety systems for guidance and
16 regulations could meet their functional requirements. And I think the work that
17 the staff did, working with the licensee, demonstrated our ability, given a specific
18 challenge at a specific facility, in that reactive mode, to make very good progress
19 in a timely way.

20 Now, I think if you contrast that with the more generic issue of
21 seismic redesign and seismic-basis analysis, that will affect almost all the nuclear
22 power plants on the central and eastern part of the United States, eventually also
23 the plants on the West Coast, we see a much different story. This is an issue
24 that will require many years to develop, that has now been rolled into our efforts
25 to deal with post-Fukushima responses, and will be a challenge I think for us to

1 approach. And I think the fundamental difference there is that we don't have an
2 immediate precursor, we don't have an immediate event driving the need for
3 change. And then I think represents one of the challenges that we then have in
4 these areas of proactive planning and proactive approaches to dealing with
5 security.

6 So while I think the staff and the industry and the federal
7 government was on the right track, recognizing that there were updated and
8 enhanced ways to look at earthquakes on the central and eastern part of the
9 United States, we had not made that much progress prior to the North Anna
10 earthquake. But again, it was the margin that was built into the plants, from the
11 original design work, the original licensing work that was done, that allowed North
12 Anna to deal with the earthquake with minimal to no damage despite the fact that
13 the magnitude in some frequencies, in some accelerations exceeded the design
14 of that facility.

15 So looking back on those events, those external events, I think we
16 have a good sense of where there's reactive work that was done. And again, I
17 think it's some of the best work that's done in the regulatory arena, is the reactive
18 work that's done by this agency by this industry. And again, I think if you look at
19 these incidents you see challenges in the proactive and the need to continue to
20 find ways for us to solve problems in a proactive way and move the work forward.

21 So the last year was not only driven by natural disasters, there
22 were also tremendous successes for the agency. Most notably, the agency
23 conducted its first mandatory hearings as required by Part 52 on the Vogtle Units
24 3 and 4 and the V.C. Summer Units 2 and 3. This was a tremendous effort by
25 the Commission and the staff to prepare for those many-day hearings. And I

1 would note that all of this work was done several months after Fukushima. While
2 there was a tremendous amount of other work going on the agency was able to
3 continue to focus on the other activities and the other work that was so important
4 for us.

5 And this effort, I think, was a culmination of the proactive efforts of
6 the Commission going back to the late '80s and early '90s, to develop an
7 enhanced regulatory framework that would allow us to look at both licensing and
8 construction and operation at the same time. And I think the hearing was a
9 culmination of a tremendous amount of work by the staff, by the applicant to the
10 review the applications, to do a thorough analysis, and ultimately to make good
11 regulatory decisions.

12 And of course, just last month, the Commission culminated the
13 work on Vogtle -- on the licensing work on Vogtle I should say -- by issuing the
14 first combined license for Vogtle Units 3 and 4 using the AP1000 design. This is
15 the first new reactor license issued in the United States in a long time. The
16 challenge of course now, for the new reactors, will turn to the proactive work of
17 preparing for construction. And there will be challenges, there will be issues that
18 arise that we are not prepared for, and I'm confident that with our skills and
19 reacting to incidents and reacting to challenges in the licensing and construction
20 arena, that we will deal with those, but it certainly will require a concerted effort
21 from the NRC, from the licensees, and also members of the public.

22 So as we look forward we continue to need to be focused on the
23 proactive work to ensure that our construction oversight process is effective, that
24 the implementation of the ITAAC will be successful, and ultimately that the plant
25 as constructed will be safe and in conformance with the license as approved by

1 the Commission this year.

2 Now, one area that I want to turn to, and which I think was a
3 tremendous proactive effort on the part of the agency -- and perhaps there's a
4 lesson in here for us -- that was the work on the safety culture policy statement.
5 In early in 2011, the Commission published a safety culture policy statement.
6 And I think this policy statement is a testament to the common ground and the
7 strength of the nuclear community's shared commitment to safety. And that
8 involves the NRC, licensees, and the many stakeholders who were involved in
9 developing that policy statement. And I can tell you personally that when the
10 Commission began the process to develop the policy statement, I did not
11 anticipate the broad spectrum of stakeholders. From our licensees, who are
12 often some of our biggest critics, to public interest groups, who are also some of
13 our sometimes biggest critics. And to see all of those stakeholders and the staff
14 come together and agree on a common framework and a common language for
15 the safety culture policy statement is, I think, one of the most important
16 successes for proactive safety oversight and regulation that we have done since I
17 have been here on the Commission.

18 We also, in the last year, completed a rulemaking that enhances
19 the emergency preparedness of our nation's nuclear power plants. This rule
20 drafted in cooperation with the Federal Emergency Management Agency
21 strengthens nuclear power plants' preparations and defenses against hostile
22 action events. It also ensures more protection for employees at these stations,
23 as well as the communities that surround them, by improving the reliability of
24 public notification systems and enhancing other emergency planning elements.

25 And again, I want to just go back and remind you all that we

1 finalized this rule in the middle of our Fukushima response, but because of the
2 work that we have done to develop this rule -- and in many ways it was a reaction
3 to September 11, it was a way to enhance and improve our emergency response
4 and emergency preparedness programs following the events of September 11.
5 We had in place a good rule that in fact has some advantages and some
6 assistance in dealing with Fukushima challenges. And I think a key for both of
7 these efforts and both of these initiatives was the intense degree of stakeholder
8 outreach that we did. The EP rule involved a variety of different stakeholders
9 from state and local governments, the Federal Emergency Management Agency,
10 the Organization for Agreement States, other -- or the agreement -- or the reactor
11 programs in many different states. It was a tremendously diverse stakeholder
12 community that we had to get some consensus from in order to be able to move
13 forward with this rule. In many ways it was the same theme that I think led to the
14 success with the safety culture policy statement.

15 So as we look at these issues I think a thread emerges that in the
16 proactive areas the more we can strive for consensus, the more that we can
17 achieve agreement and consensus among the many stakeholders that are
18 involved in our process, the easier time we have in bringing these issues to
19 conclusion.

20 Now, I want to touch on an area where I think we have a
21 tremendous opportunity for these proactive efforts, and that of course is in our
22 continued oversight of the nuclear power fleet. Now, while I've spoken of our
23 many unique challenges and successes this past year and their strengths and
24 weaknesses, I must always reiterate that safety and security of the existing
25 reactors, and of course the other facilities that we regulate and materials that we

1 regulate will always be the number one priority. The commitment of the
2 Commission, the staff, and our many stakeholders to this important principle is
3 one of, if not the greatest strengths of our regulatory system. In words, it is
4 without question, in deeds there will of course always be challenges in satisfying
5 it. But we must always ensure that safety is our number one priority. And this
6 year has certainly tested that principle. The Fukushima events had the ability or
7 the potential to distract us from our oversight of the fleet of reactors in this
8 country. But I'm pleased to say that the staff did not lose their focus and
9 attention on any of these issues.

10 In 2000, we ended the year with three plants in Column III of the
11 Reactor Oversight Program, one plant in Column IV, and one plant in extend
12 shutdown and subject to manual Chapter 0350; the first time that we've used that
13 in many, many years. What this demonstrates to me is that the staff did not lose
14 their focus and their attention on the number one priority, which is the safety and
15 security of our nuclear power reactors.

16 But the challenge that we will always continue to have with our
17 oversight program, and one for which there are simply questions and at this point
18 really no answers, is how we take our reactor oversight process, which is an
19 excellent tool for reactive oversight, and make it an even stronger tool for
20 proactive oversight. I'm reminded of a Commission meeting we had this year at
21 Fort -- on -- touching on Fort Calhoun, and Commissioner Apostolakis asked a
22 question about performance indicators, and whether we could find a leading
23 indicator of plant performance. And I almost chuckled when he said that
24 because I can remember meeting many years before, dealing with Palo Verde,
25 when I asked almost exactly the same question. It is an obvious weakness in our

1 reactor oversight program and it's one that has no easy answers. But ideally
2 what we would love is a reactor oversight program that can predict declining
3 performance and not just measure declining performance. And that is a
4 challenge that we will continue to work on and continue to struggle with. But it's
5 not to say that the reactor oversight program -- process is not an incredibly
6 effective tool for oversight; I believe it is. But I think that we all agree that if we
7 could find a way to identify leading indicators it would make us all have a better
8 system for regulation.

9 Now, as we look going forward in the area of proactive thinking, we
10 also have to continue to address the challenges with human performance that
11 are of significant concern. For example, in this last year, we had special
12 inspections related to operative performance, during either startup or test
13 conditions, that reflected poor control over plant reactivity. These are
14 performance issues which we should not -- which should not occur in such a
15 mature industry. And we must be careful that we properly heed these data
16 points. While they may not yet form a true signal of problems or an indication of
17 a true declining performance, they are indicative of issues that bear watching.

18 And I want to take a moment at this point to recognize I think one of
19 the true proactive strengths of the nuclear power industry in this country, and that
20 is the work of the Institute for Nuclear Power Operations. In the response to the
21 crisis in Fukushima INPO once again demonstrated its strengths and its
22 effectiveness as an organization for excellence in nuclear safety. And of course,
23 this is a time of change, and at INPO we will see it transition, as Jim Ellis moves
24 on and a new leader takes over. But I know throughout, there will be continuity
25 and there will be the continued focus on excellence that is the hallmark of INPO and

1 their role in their work in the nuclear power industry.

2 Now, as we look at these human performance issues, I think it's
3 extremely important to keep our focus on proactively identifying those. And I had
4 an opportunity this year to visit a nuclear power plant, the South Texas Project,
5 and talk to them at their invitation about knowledge management. Knowledge
6 management is a key proactive element in ensuring that we continue to maintain
7 the knowledge base that has been accumulated over many, many decades
8 nuclear safety, and that we pass that on to the new generation of works that is
9 coming into the nuclear industry, to ensure that we have learned the lessons of
10 the past and that we continue to address new challenges in a proactive way.

11 Now, this leads me to my next point, and perhaps one of the most
12 significant issues that we will have to deal with from a proactive perspective, and
13 that is dealing with the response to the Fukushima accident. The one year
14 anniversary of the tragic earthquake, tsunami, and nuclear accident in Japan is a
15 poignant reminder of the importance of our work for nuclear safety in the United
16 States. Our incident response staff had thought through and drilled many times
17 on communication, facilitation, and logistics for postulating a nuclear emergency.
18 So when the Fukushima crisis occurred we were prepared to address the issues.
19 That freed up our staff to analyze the technical data, to make recommendations
20 to the ambassador in Japan as well as to the Japanese government and our
21 colleagues in Japan, as they needed it. It allowed us to dispatch for than a
22 dozen staff members to Japan in the days and weeks after the event. And I was
23 extremely impressed by their efforts and dedications in the days and weeks after
24 March 11, and I cannot thank them enough for all the work that they did to
25 address that issue.

1 But I also have to say a thank you to all the other staff who
2 maintained their focus on the number one priority of safety and security; whether
3 they were administrative professionals helping out with travel arrangements or
4 technical staff working extra time, working overnight, addressing the Fukushima
5 or other licensing oversight challenges that came in front of us.

6 Within two weeks of the earthquake, tsunami, and the resulting
7 nuclear accident the Commission established a senior-level agency task force to
8 address and review lessons learned from the Fukushima event. I want to thank
9 that task force for the work that they did in setting us on a course to address the
10 lessons learned and begin the process. And in the spirit of March, I would say, at
11 this point, in the spirit of March Madness, the basketball tournament that will
12 begin earlier this year than normal, we are somewhere in those early rounds of
13 the tournament. And our goal is the Final Four and to make sure that we can
14 accomplish the work that we need to do in a timely and effective way.

15 I want to applaud the level of participation from all interested
16 stakeholders, their valuable contributions and perspectives, and their willingness
17 to accommodate tight timeline -- tight timelines. Since all of the task force
18 recommendations could not be pursued simultaneously the staff developed and
19 the Commission approved a three-tiered prioritization system for the
20 recommendations. Work is progressing actively on the Tier 1 recommendations,
21 which are ultimately those actions that the staff and the Commission considered
22 could be taken without delay. Orders implementing the first of these
23 recommendations were just issued by the agency, and I congratulate the staff
24 and Commission on this important milestone. But while it is one year after the
25 events at Fukushima , as I said, we are now only implementing the first series of

1 orders on matters that the staff recommended we implemented without delay. It
2 is crucial that we continue to move forward in a timely and a proactive manner on
3 these events.

4 While the initiating events are of a very low likelihood, the events at
5 Fukushima reinforced that any nuclear accident with public health and safety or
6 environmental consequences of that magnitude is inherently unacceptable.

7 While we focused on the radiological consequences of this event, I believe we
8 cannot ignore the large social and economic consequences such an event poses
9 to any country with a nuclear facility that deals with such a crisis.

10 In Japan, more than 90,000 people remain displaced from their
11 homes and land, with some having little prospect for a return to their previous
12 lifestyle in the foreseeable future. While not easy to characterize, these are
13 significant hardships on these people and they are inherently unacceptable. So
14 as we look to the future, and we look in a proactive way, we ultimately will have
15 to address the issue of how we deal with nuclear events that lead to significant
16 land contamination and displacement, perhaps permanently, of people from their
17 homes and their livelihoods and their communities.

18 These are difficult questions that do not have simple answers, but
19 they are ultimately issues that we have to address now while these issues are
20 fresh in our mind. Any nuclear accident that happens like Fukushima in this
21 country will be unacceptable despite the conservatisms in the margins that
22 ultimately protected people from receiving radiation doses that will likely, if ever,
23 or nearly unlikely or never lead to any type of immediate health impact.

24 We must ask ourselves a very fundamental question: Is it
25 acceptable to have significant releases of radioactive material even if there are

1 only very minor latent health effects? This is, as I said, a very difficult question. I
2 think the answer, if asked today, based on our safety goals, would be yes, that it
3 is acceptable. But based on the concern, focus, and effort of the industry, the
4 agency, and the public after the Fukushima accident, I believe that is telling us
5 quite clearly that the true answer to this question is no. And that means a
6 significant reevaluation of our regulatory philosophy, and this is a challenge that
7 will take many, many years to address if we do not put the appropriate focus and
8 attention to it. And I remind you that all of this will happen on top of all of the
9 other immediate reactive work that we have to do to deal with Fukushima.

10 So, as I said, the final four for Fukushima is still many years in front
11 of us. We have made significant progress, and again I want to thank the staff,
12 the industry, and stakeholders for their efforts to make the progress we have
13 made to this date, and of course the Commission for their ability to act promptly
14 on these very significant matters. So while the items we directed were to be
15 taken without delay, it remains important not to lose sight of the tier two and the
16 tier three items. These items were recommendations not necessarily of lower
17 priority, but which required competing resources, or additional research, or
18 previous regulatory decisions to be made in order to be able to be addressed.
19 But I want to be very clear; they were not necessarily lower priority. So we can't
20 lose focus on our efforts to complete those actions in a timely way. And I have
21 stressed very much the importance of completing all these actions within five
22 years.

23 And at this point, with some of the 50.54(f) letters we've issued, we
24 are a little bit behind that schedule. And I think one of the things we need to
25 focus on is ways that we can accelerate that and complete that work in a more

1 timely way, because five years from now the challenges we face may be very
2 different and may require our immediate attention to address new issues that we
3 have not yet identified. We will need, in the long term, to ultimately tackle issues
4 of use of probabilistic risk assessment, issues that will require tremendous
5 infrastructure investment, and it's important that we have the resources and the
6 ability to deal with those issues while not dealing simultaneously with the
7 challenges from Fukushima.

8 So, to that end, I look forward to the staff's continued work on the
9 Fukushima items, and I encourage everyone to continue to look for ways that we
10 can make progress on these issues in a proactive way and within a five-year
11 timeframe.

12 Now, as I have said, due to events largely beyond our control,
13 we've spent much of the past year in a reactive mode. And that is not ultimately
14 where we want to be going on an ongoing basis. And I wanted to give some
15 examples of where I think we've done a very good job of being proactive.

16 One of the most important areas, and an area that often doesn't get
17 as much attention, is in the area of cyber security. This is an area in which
18 proactive and reactive are almost simultaneous because things change so
19 quickly, but the work that we have done to implement a cyber security rule to
20 acquire plants to submit their cyber security plans has put us in a good position
21 to deal with this evolving and emerging security concern. All plants now have
22 submitted their plans, and it is our job to review those and ultimately for changes
23 and improvements to be made. But this is an area in which we have to continue
24 to be forward-looking because the nature of the threat changes on such a short
25 timeframe.

1 I'd also say that at the same time that we are dealing with these
2 specific challenges, I think we are doing a very good job continuing to maintain
3 and enhance our infrastructure. And here at the NRC, that means the people
4 that we have, ultimately, and that means making sure that they have the right
5 resources, whether it's physical infrastructure, whether it's training opportunities
6 to ensure that they can continue to perform at a high level. And of course we're
7 doing all of this in an era in which the budgets are not as full as they used to be,
8 but our safety mission has not changed one bit.

9 With the construction of our third headquarters building at 3 White
10 Flint North, we are making visible, concrete progress on the change that will
11 ultimately bring us back together as an organization, and we all plan on moving
12 into this facility later this year. So by next year's RIC, perhaps instead of tours of
13 the operation center in 2 White Flint, you'll be seeing tours of the operation center
14 in 3 White Flint.

15 This is also a time for proactive work and effort in the area of spent
16 nuclear fuel. The Blue Ribbon Commission established by the secretary of
17 Energy has given us a clear path on which to finally tackle the issues of a
18 geologic repository. It detailed its recommendations for creating a safe, long-
19 term solution for managing and disposing of the nation's spent nuclear fuel and
20 high-level radioactive waste. But I would stress this is an area in which the
21 proactive efforts of the NRC to ensure that we have a framework to maintain
22 spent fuel safely and securely is extremely important, and the work that the
23 Commission did several years ago to embark us on an enhanced research
24 program for extended spent fuel storage and transportation is only paying
25 dividends now as we deal with the uncertainty of no definite long-term geologic

1 repository.

2 Now, finally, I of course can't give a speech at the RIC without
3 talking about some of the longstanding generic safety issues that continue to be
4 a challenge for us. Fire protection and the generic safety issue 191 on PWR
5 sump design have been before this agency quite some time. And in the last year
6 we have seen new issues brought forward: 50.54(f) letters on spent fuel issues,
7 on fuel issues I should say, on fuel analysis issues. So the issues that are out
8 there continue to come before us and continue to need resolution, which is why it
9 is imperative that we bring to resolution issues like fire protection and the sump
10 performance.

11 I think the last year has been a year of significant progress on
12 NFPA 805. We have seen the completion of the pilot plants, Shearon Harris,
13 Oconee, and we have seen a number of new applications for transition to NFPA
14 805. We must maintain this momentum and work through these applications and
15 ultimately bring this issue to closure.

16 Of course, on the issue of GSI-191, I think the progress has been
17 less obvious. We continue to have new experimental information that raises
18 concerns about the performance of all of our systems in the event of a regulatory
19 or a loss of coolant accident that leads to significant generation of debris. While
20 licensees have made considerable modifications to their facilities already, this
21 recent industry testing shows that challenges remain, and it is my hope that a
22 path to finally close out this issue will be reached this year. This has been a case
23 where we have been moving two steps back and one step forward for too many
24 years. We need to finally cross the finish line.

25 By definitively resolving issues such as these, we will be in a

1 stronger position to move forward on other existing priorities and proactively plan
2 for the emerging issues that will come before us, and for proactively bringing our
3 regulatory infrastructure changes that will be necessary in the future.

4 In the area of licensing, I think it has been a year of tremendous
5 success. The agency approved two amendments to design certifications for the
6 AP1000 and the ABWR, and issued the first ever combined operating licenses.
7 In addition, the staff issued the proposed rule for the ESBWR design certification,
8 completed the ITAAC maintenance rulemaking, and made significant progress on
9 several policy issues related to advanced reactors. And of course, these actions
10 were done first and foremost with safety in mind.

11 With the issuance of the first COLs and subsequent start of safety-
12 related construction of Vogtle, the NRC is fully prepared to implement its
13 construction inspection program. But in the spirit of proactive planning and
14 thinking, there will be challenges, there will be weaknesses and problems with
15 the ITAAC process, so we all need to be flexible and adaptable as these issues
16 come up and resolve them in the most timely way possible.

17 This is also a time in which we're looking to potentially a new
18 generation and new type of nuclear reactors, with small module reactors in this
19 country. And again, I think the work that we have done to prepare the agency to
20 receive those applications is work that has put us in a good position when those
21 applications are finally delivered, to review them with a strong focus on nuclear
22 safety and security.

23 So in summary, I hope my remarks have made clear, the NRC has
24 had a very challenging but productive year in 2011. We certainly have a full
25 agenda for the year ahead of us, even without the Fukushima events. There will

1 be significant technical and policy decisions the agency will have to work
2 through, most particularly those related to the Fukushima lessons learned, and
3 I'm sure these issues will elicit a broad range of views both inside and outside the
4 agency. And that type of debate is healthy and productive, and it helps to ensure
5 that we reach the best decisions for nuclear safety.

6 But in the midst of these debates, it is important that we not lose
7 sight of the common ground that we do share and of our ability to bridge
8 whatever differences there are through ultimately our shared commitment to
9 safety. So thank you, and I wish you a very good 2012 RIC. Thank you.

10 [applause]

11 ERIC LEEDS: All right, Mr. Chairman, we received a number of
12 questions from the audience, and we have some time, so if you will --

13 CHAIRMAN JACZKO: Sure.

14 ERIC LEEDS: -- I'll start going through them. The first question:
15 What do you see as the challenges for the NRC given the current budget
16 environment and the projected increased work from the near-term task force
17 recommendations?

18 CHAIRMAN JACZKO: Well, I think the agency has been very
19 fortunate to grow when we needed to grow, and I think we're in a period in which
20 we have a relatively stable and right-sized work force, if I could say that. So I
21 think the challenges for us won't necessarily be in the areas of actual dollar
22 resources, but I think they will be in the areas of skill set, and ensuring that we
23 have the ability when on program or a period in which we're doing a large
24 number of hiring to be able to recruit and attract the specific skills that we need
25 and the skilled people that we need to deal with specific tasks, of course, the

1 most obvious being additional resources and expertise in the area of probabilistic
2 risk assessment.

3 I know that's a challenge for everyone, but I think it's one -- those
4 are the kinds of challenges we will face in more of a restricted budget
5 environment. But I think the size of the agency is appropriate for the work that
6 we have and will allow us to do what we need to do in the coming years.

7 ERIC LEEDS: Okay, thank you. Another question: There remain
8 several license renewal projects significantly over the approximately 30-month
9 duration. One is almost at six years. One is left to think that politics is in play
10 here. Do you have an opinion on the matter?

11 CHAIRMAN JACZKO: Sure. Yeah, I think there's a number -- I
12 mean, clearly, the license renewals that are taking longer are those in which
13 there are contested hearings. You know, that's nothing new for this agency, that
14 the contested hearing process is difficult to predict and a challenge to resolve in
15 a timely way. So I think, I mean, it certainly has nothing to do with politics, but,
16 you know, there are technical issues that are being raised. Those issues are
17 needing to be resolved.

18 But it certainly does raise questions about ways that we can make
19 the process better. No one wants to be doing these things for six years. We
20 need to come to decisions and come to resolution in a timely way. So I think
21 certainly when we're done with a few of these it will be a valuable exercise for us
22 to go back and take a look at some of these longer license renewals, and see
23 what exactly happened in the process and how we can move forward in a way
24 that will ensure that we're able to come decisions in a more timely way.

25 ERIC LEEDS: Thank you. What is the most challenging issue that

1 the NRC faces when dealing with light water aging reactors? Feel free to state
2 more than one issue if...

3 CHAIRMAN JACZKO: Well, I think -- it's hard to say. I know we
4 have a research program with the Department of Energy to look at some of these
5 issues. I tend to think of it in fairly simple terms. The long-term aging issues, if
6 we're looking in particular for beyond-60 operation, are those issues that would
7 involve components in systems that can't easily be replaced. Understanding the
8 degradation mechanisms, understanding how these components and structures
9 will behave over time in the environment in which they're in is probably the
10 biggest challenge.

11 But I think, you know, there are other challenges, perhaps, that will
12 be more significant. You know, I continue to believe that the human performance
13 ones are ones that are sometimes harder to address and harder to identify and
14 harder to deal with, so they, in fact, may be some of the more limiting conditions
15 as we look out to the safety issues that will affect us in the coming decades.

16 ERIC LEEDS: Okay, thank you. The president's Blue Ribbon
17 Commission recently recommended that the NRC and EPA work together to
18 develop a generic siting standard to handle the high-level waste repository site.
19 What do you see taking place on this front in the near term? Has any action
20 been initiated yet?

21 CHAIRMAN JACZKO: Well, the Commission actually has a
22 meeting scheduled with the Blue Ribbon Commission this spring, and I hope that
23 after that we'll have a sense, as a body, of what actions in the Commission we
24 believe are appropriate to move forward on. So at this point, the Commission
25 hasn't made any specific decisions, and we have no specific items budgeted, but

1 I suspect after we have this meeting we'll have a sense from the blue ribbon
2 commission of where they see the most important priorities, and I'm confident
3 that the Commission will be able to lay out a path to address these issues in the
4 future.

5 ERIC LEEDS: Okay. All right, with nuclear safety culture policy
6 issued, what do you see as the next steps for the agency and the industry in this
7 area?

8 CHAIRMAN JACZKO: Well, I think there are a number of initiatives
9 that are ongoing in the power reactor community. Of course, we have our
10 reactor oversight process in the cross-cutting issues, which incorporate elements
11 of safety culture and give us a way to review and analyze plant safety culture
12 performance. The licensees themselves, of course, have embarked on a
13 voluntary program to have a safety culture program within their own facilities.

14 So I think for now it's an opportunity for the power reactors to
15 demonstrate that these two programs, coupled with the policy statement, provide
16 an effective framework. I think in a few years it's worth coming back and
17 reexamining whether or not there are additional changes that we need to make,
18 or whether in fact we need some type of more formal regulatory tool in this area.

19 I think in many ways the safety culture policy statement is going to
20 be most effective in the short term for the non-power reactor licensees. For
21 those facilities that have not been as versed in this topic or in the dialogue or in
22 the words themselves, I think the policy statement provides a tremendous tool
23 there, and we may in fact have more immediate safety benefit from focusing on
24 those areas in the short term.

25 ERIC LEEDS: Okay. Thank you. Please explain if and how the

1 Commission is working together cooperatively to provide an effective governing
2 body for the agency.

3 CHAIRMAN JACZKO: Well, it certainly has been a year of
4 challenge for all of us on the Commission. But I think, as I look back, I look back
5 at a body that, while we may have had disagreements on issues, we worked
6 productively to ultimately carry out the mission of the agency. We didn't always
7 agree on what that meant, but ultimately we came to decisions, we moved
8 forward, and ultimately made sure that we did what we thought was right for
9 nuclear safety.

10 I think you only have to look at significant events like holding the
11 mandatory hearings, moving forward on the Fukushima events, ensuring
12 effective oversight with our meeting with Fort Calhoun. Of course, coming to
13 completion in such an effective and timely way on the first of the orders for
14 Fukushima, it was a tremendous workload for the Commission, and I think if you,
15 in fact, if you look back, think we issued nearly 100 regulatory decisions and
16 actions, which is significantly more than the previous year.

17 So, I think in the end, while we may have disagreements, I continue
18 to be impressed with the professionalism of my colleagues and ultimately our
19 effort to focus and rally around the mission.

20 ERIC LEEDS: Thank you. Ooh, I like this question. Great work --

21 CHAIRMAN JACZKO: You didn't like the other ones?

22 ERIC LEEDS: Huh? What?

23 CHAIRMAN JACZKO: You didn't like the other ones?

24 ERIC LEEDS: No, well, this one says, Great work by the NRC staff
25 on working with SCANA and Southern to prepare all participating bodies for the

1 successful mandatory hearings. What is the Commission status of the V.C.
2 Summer Unit 2 and 3 license?

3 CHAIRMAN JACKZO: We are nearing a decision on V.C. Summer.
4 I probably don't want to say too much more than that.

5 ERIC LEEDS: Okay.

6 [laughter]

7 CHAIRMAN JACZKO: But I would agree with the first part of the
8 question.

9 [laughter]

10 ERIC LEEDS: All right. Dr. Jaczko, there seems to be a mindset
11 that more regulation equals more safety. Is there any realistic considerations of
12 the possibility that some existing regulations are too burdensome or add too little
13 value? If so, why can NRC not be proactive in reducing unnecessary regulatory
14 burdens?

15 CHAIRMAN JACZKO: Well, you know, I think it's a very interesting
16 question. I wouldn't certainly agree that more regulation necessarily means more
17 safety. But I think we've certainly evolved and enhanced our understanding of
18 what is important for safety in a tremendous way. That invariably means
19 changing our regulations. I think if you look, for instance, at NFPA 805 as a good
20 example, this is not necessarily an example of new regulation. But in effect, here
21 would have been a good opportunity for the Commission to completely replace
22 our existing regulatory framework for fire protection with an enhanced regulatory
23 framework. I think that's perhaps one of the mistakes that we made with that
24 program was we made it a voluntary initiative. But there was an opportunity
25 where we knew there was a much better way to look at fire, a much better set of

1 tools to use rather than the existing set of tools, and we didn't take the
2 opportunity to replace our existing regulation with a better and enhanced one.
3 So I think there is, perhaps, a reluctance to take the old ones off the books when
4 we have a newer one that comes along. But ultimately, I think, you know, it's
5 always a challenge. As I said, there will always be these issues that drive what
6 we do. And trying to look forward and rewrite and reformulate our entire body
7 our regulations while, theoretically, an interesting and probably useful thing to do
8 is, in practice, a very challenging thing to do. Regulations take time, and they
9 take time to work through. So what we invariably end up doing is solving
10 problems through regulatory action, specific problems, rather than going back
11 and replacing original regulations.

12 ERIC LEEDS: Okay, thank you. This next question refers to the
13 orders that relate to Fukushima actions that we signed out to the industry
14 yesterday. Could you please explain the practical differences, if any, between
15 back-fit rule exceptions based on insuring adequate protection, and redefining
16 adequate protection? Is it a distinction without a difference?

17 CHAIRMAN JACZKO: Well, I think in this particular case, there -- if
18 we're talking about issuing orders, we're issuing orders. I think the basis is more
19 one for the legal folks to worry about than the technical folks. So I think in this
20 particular case there may not be a significant difference. And again, a lot of it
21 comes down to [unintelligible] licensees, that they intend those that are not done
22 under adequate protection, those -- the one order I believe that is not, the
23 industry has indicated they intend to move forward on it regardless. So I don't
24 know that there is a significant difference in this regard at this point.

25 ERIC LEEDS: Okay. Thank you. The Commission has moved

1 forward on the Fukushima Tier 1 recommendations. What are your thoughts with
2 regard to the near-term task force recommendation number one on creating an
3 extended design basis that balances Defense in Depth, and risk considerations?

4 CHAIRMAN JACZKO: Well, the Commission has agreed to
5 address that issue in a -- well, it was 18 months from our decision, so probably
6 about a year or a little more -- a little over a year from now, and I think that will
7 give us an opportunity, then, to hear from the staff on their recommendations on
8 how to move forward with that. I know -- well, I won't steal Commissioner
9 Apostolakis' thunder. He may touch on that a little bit later. But I think it is --
10 again, I think in terms of generic approach, I think that would -- personally, my
11 view is that would have provided a good framework to deal with future issues.
12 The Fukushima issues we are dealing in a very specific way in a specific basis,
13 so we will tackle that issue one way or another as we address each of the
14 specific recommendations. Where I think that recommendation would have had
15 value is doing it ahead of time, we would not necessarily have discussions on
16 each particular recommendation, about whether it's adequate protection, whether
17 it would go through a cost/benefit analysis. So it would simplify that. We will do
18 that regardless as we tackle each of the individual issues.

19 So, you know, again, I think it's something that while not doing it
20 ahead of time may, in the end, provide more workforce, but it doesn't mean we
21 can't move forward and deal with the recommendations as they come forward.

22 ERIC LEEDS: What is your philosophy on how the NRC should
23 address high-consequence, low-probability events?

24 CHAIRMAN JACZKO: You know, I think this is a very significant
25 question. You know, if you look at Fukushima, that is the perfect example to talk

1 about this. As I said, I think there are very few people in this room who would
2 stand up and say that they think that event was acceptable. It simply wasn't
3 acceptable. Now, we can argue whether that was a low-probability event. There
4 are some who would say, perhaps, it was a high-probability event, we should
5 have known, we should have been prepared and understood the frequency and
6 likelihood of the tsunamis, we should have been prepare for that. But we weren't.
7 So it's always in hindsight. You know, the low-probability, high-consequence
8 events, once they happen, stop being low-probability and they start being events
9 that happened, and you have to deal with them.

10 So I think it will forever be the challenge of, how do we balance and
11 make those good decisions about which of the low-probability, high-consequence
12 things we need, somehow, to address, and the ones that we can reasonably say
13 are just beyond the scope of what we need to address. I don't think there's ever
14 an easy answer, and I don't think we will ever come to a conclusion on that. But
15 it's one that we will continue to dialogue on, and to continue to work through,
16 probably on an issue-by-issue basis.

17 Now again, this issue, number one, of creating this extended
18 design basis concept may, in fact, provide a framework to deal with more of
19 these low-consequence, high-probability events than we've dealt with in the past.

20 The last thing I think that I would say is that I think some of this also
21 involves how we define high-consequence, and it does involve us looking at the
22 ideas of our safety goals. Because to some extent, you can also look at the
23 Fukushima event, and in the framework of our safety goals, it may not have even
24 been a high-consequence event. There were no immediate fatalities, there are
25 very little likelihood of anyone having received a dose that will significantly, or

1 even in a measurable way, increase their risk of any long-term health effects. So
2 from that perspective, it had little to no immediate or long-term health -- physical
3 health effects. So where I think we have to really, actually, in a lot of ways go
4 back and reexamine is, what do we mean by high-consequence? It clearly was a
5 high-consequence event, but not within our regulatory lexicon. Our safety goals
6 are built around safety, personal health, not land contamination, not evacuation
7 impacts. These things are not, in a way, captured in our regulatory system. So
8 the issue may be more about properly characterizing the consequences than
9 really looking at the frequencies.

10 ERIC LEEDS: All right. Mr. Chairman, in reflection, knowing the
11 information you now know concerning the conditions at the Fukushima site,
12 would you now recommend evacuation of U.S. citizens within 50 miles of the
13 site?

14 CHAIRMAN JACZKO: You know, in hindsight, I would have picked
15 the Giants to win the Super Bowl.

16 ERIC LEEDS: Good pick.

17 CHAIRMAN JACZKO: The -- you know, going back and looking at
18 this kind of issue, in hindsight, it's always easy to go back and reexamine. I will
19 say this, I'm very comfortable that we needed to take an action very similar to
20 what we took. I think what we've seen has demonstrated that, in many ways, we
21 were looking at the right type of analysis, we were looking at the right types of
22 consequences. At the time, we had the best available information, we made a
23 recommendation, and I believe that was a very good recommendation at that
24 time, and I stand behind it 100 percent. So I'm not going to tell you who I'll pick
25 for the Super Bowl next year. I'll wait until after the RIC, so...

1 ERIC LEEDS: Thank you. Okay, please compare your no-release
2 goal against the regulatory regime for any other technology in the U.S.

3 CHAIRMAN JACZKO: Well, you know, I think -- you know, again --
4 you know, of course, you know, I'm not sure what the basis of the question is,
5 but, you know, I think, again, if you look realistically at what we're talking about,
6 the reaction of everyone in this community to the Fukushima event was that --
7 that that was unacceptable. What was unacceptable about it? It was
8 unacceptable that people had to be evacuated, that people were displaced, that
9 these assets were lost, that there was attention and focus on this issue for a
10 tremendous period of time. These are simply things that I believe we understand
11 are not acceptable. So somehow we have to take that and we have to
12 incorporate that and understand what that means. As I've talked about it, I think
13 what's telling me is that what the public ultimately is willing to tolerate is incidents
14 and accidents that don't lead to releases that require evacuations, or at least
15 extended evacuations, permanent evacuations, permanent displacements.
16 That's simply what we're seeing. That is the reaction in Japan, and I dare say
17 that in this country the reaction would be very -- would not be much different.
18 That is a reality, and it's the framework in which we have to -- we have to
19 operate.

20 Now, where the challenges are, I think, fundamentally is, well, what are
21 the appropriate safety levels? What are the appropriate exposure levels? What
22 requires evacuation and what doesn't? Those are fair questions where we can
23 bring in science and truly understand what that means. That may be
24 complicated, and as they sometimes had been simplified, we worked towards the
25 goal of zero-release. That simplifies a lot of the discussions and may not

1 materially change when you would evacuate or not evacuate on some lower level
2 types of releases. So there may be utility in coming to a solution on this by
3 looking at a simpler goal that may be easier to implement. So, you know, I think
4 it's a challenge. It's clearly something very different from what we're done, and
5 it's clearly not something that we are going to immediately turn our attention to. I
6 don't think we have the resources and the time to do that. But it's something that
7 I think, as a community, we need to think about and recognize what we're seeing,
8 post-Fukushima. And what I seeing is that the Fukushima accident was not
9 acceptable. And given what happened, that means that it's not acceptable to
10 have a large-scale evacuation. It's not acceptable to have a large release like we
11 saw at Fukushima, even if the immediate health consequences are very close to
12 nothing.

13 ERIC LEEDS: All right. Sir, you've cited some successful
14 outcomes in the face of environmental and weather challenges, such as at the
15 Cooper site, as the products of conservative design. But some would call these
16 near-misses. Should what you've been calling conservative become baseline?

17 CHAIRMAN JACZKO: Well, you know, I don't think it makes -- to
18 some extent, I don't think it makes a difference, you know, to the extent when
19 they were designed, they were baseline. And I think what we've found is that
20 there's more in the designs, that we have better tools to analyze structural
21 behavior and structural components. We understand that there's more structure,
22 there's more strength, there's more rigidity, whatever the features are that we
23 need. We understand that there's more there. So as we look to new regulations,
24 I think the important thing we want to do is not lose that margin, where it matters
25 and where we need it. And that is, I think, our challenge as we go forward, is

1 ways to figure out how to do that. But, you know, I think they are -- the plants are
2 what they are, so effectively, it is baseline, and we do, I think, have a keen sense
3 of not wanting to erode that margin in ways that would diminish the ability of
4 these plants to deal with these natural hazards.

5 ERIC LEEDS: Thank you. All right. Small modular reactor design
6 certifications and license applications will start coming to the NRC in 2013.
7 Could the NRC accelerate its review by applying more resources to the licensing
8 process?

9 CHAIRMAN JACZKO: You know, I'm not sure that we could. I
10 think we have a good amount of resources; we're prepared to review these
11 applications. I suspect that the challenges in meeting everyone's expectations
12 for timeliness will be where they usually are, which is it will be a first-of-a-kind
13 process. We will be dealing with licensing of newer types of designs. While their
14 bases may be simpler, and well-grounded, and particular to the light water
15 reactors in existing technologies, there will be new aspects to the review and new
16 issues that will come up. And I think it will be new not just for us, but of course
17 for the applicant. So I don't think this is a question of resources; I feel like we're
18 well-prepared at this point to address this issues, and in fact, we were prepared
19 in this fiscal year. Our original budget assessments and budget planning was to
20 be prepared to receive applications in this year, but for, I think, perfectly
21 reasonable reasons, those applications have been delayed a bit. And in the end,
22 I think that's fine and I think it will likely lead to a better review and a better
23 process going forward.

24 ERIC LEEDS: Okay. All right, sir, the NRC staff gained great
25 knowledge on the evaluation of the Yucca Mountain repository. In the spirit of

1 proactiveness, how can this knowledge be invested in the review path for new
2 repository efforts?

3 CHAIRMAN JACZKO: Well, I think the agency did a very good job
4 of capturing and recording the information we had collected as part of our review.
5 We issued a number of technical evaluation reports, we did a number of oral
6 history-type efforts to capture the work of staff, we interviewed many staff who
7 worked on the project. So I think there may be lessons for us. The real
8 questions will be as we look for the recommendations of the Blue Ribbon
9 Commission, at potentially generic repository guidelines and regulations, if, in
10 fact, there will be applicable lessons from the Yucca Mountain. It's not clear to
11 me at this point that there will be, but I think those are the issues the Commission
12 will tackle as we look and evaluate the recommendations in the future.

13 ERIC LEEDS: Okay. And sir, we have time for one last question.
14 This question involves EMP. Is the NRC moving fast enough to address damage
15 to the grid from the solar flares?

16 CHAIRMAN JACZKO: Well, the assessment that I'm aware that
17 we've done have shown that there is not a significant challenge to nuclear safety
18 as a result of the potential for EMPs. And it's certainly an issue that we need to
19 make sure we understand appropriately. In fact, we're having a meeting with
20 FERC later this year, and I believe this is an item that we'll talk about at our
21 meeting, about stability of the grid from electrical disturbances like these types of
22 events. So -- but right now, the information we have and the reviews we've done
23 tell us that we don't see an immediate concern with this challenging -- ultimately
24 challenging nuclear safety, which is our primary concern.

25 ERIC LEEDS: Okay.

1 CHAIRMAN JACZKO: Thank you.

2 ERIC LEEDS: Well, thank you so much, Mr. Chairman.

3 [applause]

4 [Whereupon, the session concluded]