

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

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28th ANNUAL REGULATORY INFORMATION CONFERENCE

COMMISSIONER OSTENDORFF PLENARY

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TUESDAY,

MARCH 8, 2016

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ROCKVILLE, MARYLAND

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The Regulatory Information Conference met in the Grand Ballroom at the Bethesda North Marriott Hotel & Conference Center, 5701 Marinelli Road, Rockville, Maryland, at 11:09 a.m., Michael F. Weber, Director of the Office of Nuclear Regulatory Research, facilitating.

PANEL MEMBERS:

WILLIAM C. OSTENDORFF, Commissioner, Nuclear
Regulatory Commission

MICHAEL F. WEBER, Director, Office of Nuclear
Regulatory Research

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P R O C E E D I N G S

11:09 a.m.

1
2
3 MR. WEBER: Well, good morning. Let me
4 add my welcome to this august group. My name is Michael
5 Weber, and I'm the director of NRC's Office of Nuclear
6 Regulatory Research. As Bill alluded to, research
7 co-sponsors this important conference. It's my
8 privilege now to introduce Commissioner William
9 Ostendorff.

10 Commissioner Ostendorff served on the
11 Commission since April 19 -- excuse me, not that
12 long -- since April 2010, and is approaching four
13 decades of dedicated public service. Now you know the
14 relation to the 19. Before coming to the NRC,
15 Commissioner Ostendorff served as the principal deputy
16 administrator for the Department of Energy's National
17 Nuclear Security Administration, as well as holding
18 senior positions at the national academies and the House
19 Armed Services Committee staff.

20 This service was preceded by a
21 distinguished 26-year Naval career, where he notably
22 held command of a nuclear attack submarine, as well as
23 a submarine squadron. On the Commission, he has served
24 as a leader in numerous areas, including matters
25 involving nuclear security and the post-Fukushima

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1 regulatory actions. He earned a degree in systems
2 engineering from the U.S. Naval Academy and law degrees
3 from the University of Texas and Georgetown University.
4 Ladies and gentlemen, please join me in welcoming
5 Commissioner Ostendorff.

6 (Applause.)

7 COMMISSIONER OSTENDORFF: Thanks, Mike,
8 and good morning. It's always a privilege to appear
9 before this group, and I'd like to add my thanks to those
10 of my colleagues to the NRC staff who've arranged the
11 RIC and have worked very hard over the last year to put
12 this together. Mike and Bill, I appreciate your work
13 and that of your staffs and others supporting. I'd like
14 to also personally thank the entire NRC staff for your
15 professionalism and dedication over the past year.

16 It is truly a privilege to work with you
17 all. I'd like to also thank my colleagues here in the
18 front row in the Commission. You've already heard from
19 Chairman Burns, Commissioner Svinicki. Tomorrow we'll
20 hear from Commissioner Baran. We've heard insightful
21 comments and perspectives from two. You'll hear a
22 third set tomorrow from Jeff. I just want to tell you
23 personally it's been such a privilege and a pleasure to
24 work with all of you. I think this Commission is just
25 superb in how we've worked together and have agreed to

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1 disagree at times, but more importantly, we've had
2 respect for each other's views, and I really appreciate
3 that from my colleagues here. Finally, I'd like to
4 welcome Vic McCree to his first RIC as EDO. Vic has
5 demonstrated his engaged, thoughtful leadership from
6 day one. Thank you.

7 Now, preparing remarks for today with my
8 staff, I took a look back at my last five RIC speeches.
9 I need to correct one message from my first RIC speech,
10 delivered March 8, 2011. In that address, I stated that
11 serving on an independent regulatory commission is not
12 like being skipper of a nuclear attack submarine. I was
13 wrong with respect to one central principle. I believe
14 this correction to be important, so let me explain.

15 Please bear with me for a few moments while
16 I lay the foundation for this correction by returning
17 to my experience in Naval service. In 1952 -- and I was
18 not on active duty then, Mike -- the U.S. Navy destroyer
19 Hobson collided with an aircraft carrier during night
20 flight operations. There was extensive damage to the
21 ships involved and heavy loss of life. The Wall Street
22 Journal, in a frequently quoted discussion of the
23 disaster in the following days, concluded the
24 following: "On the sea, there's a tradition older than
25 the traditions of the country, itself. It is the

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1 tradition that with responsibility goes authority, and
2 within both goes accountability. It is cruel, this
3 accountability of good and well-intentioned men, but
4 the choice is this or an end to responsibility, for men
5 will not long trust leaders who feel themselves beyond
6 accountability for what they do."

7 That message was loud and clear to me as an
8 ensign, when I was commissioned in 1976. It was
9 reinforced and amplified as I assumed positions of
10 greater responsibility in the six submarines in which
11 I served. I was privileged to serve as commanding
12 officer to U.S.S. Norfolk, SSM 714, for three years and
13 three days, driving that submarine over 100,000 miles
14 from 1992 to 1995.

15 That principle of accountability was
16 always in the forefront of my mind and actions, as I led
17 my wardroom, chief's quarters, and crew. After that
18 tour, I worked hard as a SUBLANT Prospective Commanding
19 Officer instructor and submarine squadron commander to
20 affirm and assert the vital importance of
21 accountability to my submarine commanding officers.
22 What has this to do with the RIC? What is the correction
23 I need to make to my 2011 RIC speech? It's very simple.
24 That key principle of accountability is not limited to
25 the Navy or the military. Rather, and I say this in all

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1 seriousness, it is alive and well here at the NRC, and
2 that is a good thing, my friends. I see it firsthand
3 every day in the accountability individual
4 commissioners demonstrate in their own decision making.

5 In the Commission, as Commissioner
6 Svinicki noted earlier, we do not always agree, but even
7 in the face of disagreement, it has been my direct
8 observation that all of my colleagues have acted with
9 a sense of accountability for their decision making.
10 That is a very important observation.

11 While my primary experience in the past six
12 years has been with Commission decision making, I would
13 also observe that this principle and sense of
14 accountability is clearly present among the NRC staff
15 and the industry we regulate. So I'm quite pleased to
16 assess the need to correct those 2011 RIC remarks to
17 reflect my updated observations on accountability. To
18 add to Chairman Burns' discussion of maintaining trust,
19 I urge you to remember that, "Men will not trust leaders
20 who do not hold themselves accountable for their
21 actions." Having corrected the record, enough said.
22 Let me move on to my primary remarks. This is my sixth
23 opportunity to address you at the RIC. I use that word
24 opportunity intentionally. To me, the RIC is a unique
25 forum to consider how we can learn from experience with

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1 an eye toward the future. I will jump right into that
2 message.

3 This month, as you all know, marks the fifth
4 anniversary of the earthquake and tsunami that
5 devastated the Fukushima Daiichi Nuclear Power Plant in
6 Japan. I've spoken many times in the past about the
7 Agency's progress as we moved along in a somewhat
8 step-by-step fashion, but now, all of the key regulatory
9 decisions have been made, implementation by the
10 industry is well underway, so I'm going to reflect on
11 our response over the past five years by looking at the
12 big picture.

13 Today's my opportunity to use the NRC's
14 post-Fukushima actions as a case study to highlight the
15 strength of the NRC's decision making framework and our
16 principles of good regulation. Why? Because not only
17 do I think that we've gotten to a good place, but I am
18 proud of how we have gotten here. Let me ask for a show
19 of hands in the audience of all those people, NRC,
20 industry vendors, who had anything to do with
21 post-Fukushima decision making or concerns. I note
22 there's a lot of hands there, quite a lot of hands from
23 people watching on webinar. Thank you. The NRC's
24 decision making on these matters not only affected all
25 of you, it also impacted the lives of every person that

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1 could be affected by an accident at a nuclear power
2 plant.

3 I say that to stress the importance of our
4 getting it right the first time. Along with my good
5 friend and dear colleague, Commissioner Svinicki, I was
6 here in March 2011. We both have been involved in all
7 of the Commission's post-Fukushima decision making.
8 In 2012, I visited Japan and toured Fukushima Daiichi
9 with fellow commissioner and good friend Bill Magwood.
10 Had a follow-up visit to Japan in 2014. I think I have
11 a fairly solid understanding of what took place there
12 and why.

13 We have thoroughly studied the
14 circumstances that led up to the accident, and the
15 lessons we have learned have guided the regulatory
16 actions we, the NRC, have taken. Now, in my opinion,
17 the NRC should use these post-Fukushima decision making
18 lessons as a guide for the future. I'm going to quickly
19 cover three specific areas that are my most significant
20 takeaways from how the NRC has fulfilled its
21 responsibilities as a regulator in the context of
22 Fukushima decision making: first, the importance of
23 establishing clear priorities; second, the importance
24 of integrated decision making under our existing
25 regulatory framework; and third, the importance of

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1 regulating in the open. Let us first turn to the
2 prioritization of post-Fukushima actions.

3 The Tier 1, 2 and 3 risk-informed approach
4 recommended by the staff and approved by the Commission
5 placed those regulatory actions with the greatest
6 potential for safety improvement at the top of the list.
7 Prioritization was absolutely essential. Because as
8 the saying goes, if everything is important, nothing is.
9 The Tier 1 actions, the most significant safety
10 enhancements, are being realized today. I have visited
11 48 reactor sites in the United States, that cover 77 of
12 the 99 currently operating plants.

13 I am struck by the significant plant
14 modifications underway or in place today. This has not
15 just been an exercise on paper. We aren't just writing
16 reports. Each site has invested tens of millions of
17 dollars into post-Fukushima upgrades. These upgrades
18 have clearly resulted in tangible enhancements to plant
19 safety. Licensees have seen significant reductions in
20 the estimated core damage frequency for their plants as
21 a result of these post-Fukushima upgrades. There is an
22 obvious pride in the work that has been done by licensees
23 and the NRC staff and the resulting safety improvements.
24 The regulated industry has played a substantial role in
25 the development of these safety requirements.

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1 At the NRC's celebration of the 25th
2 anniversary of the Principles of Good Regulation in
3 January of this year, former Commissioner Ken Rogers
4 reminded me that while the NRC is the regulator, the
5 industry must retain its sense of accountability for
6 safety. I think that is happening here. We can see the
7 light at the end of the tunnel for less safety
8 significant Tier 2 and Tier 3 recommendations. On
9 February 8th, the Commission approved a plan to close
10 out those actions.

11 I don't mean to imply that we're trying to
12 hurry and close out these things, so we can cross them
13 off a list. Rather, it's important that we
14 systematically work through our processes and
15 disposition these actions professionally. Once we
16 have the information we need, we must be a reliable
17 regulator and promptly and decisively take action. We
18 could have analyzed the Daiichi accident for years
19 before taking any action, but in my view, that would not
20 have been responsible regulation. I am personally
21 gratified to confirm that the NRC captured the key
22 lessons from the accident through our initial
23 assessment by the Near Term Task Force, as supplemented
24 by additional analysis by a Japan Lessons Learned
25 Directorate and Fukushima Steering Committee.

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1 I have not seen information from further
2 studies that calls into question the actions we have
3 taken in the United States. Let us now turn to the
4 second key lesson, the importance of integrated
5 decision making under our existing regulatory
6 framework. I'll offer a few examples to illustrate how
7 we used smart decision making within our existing
8 regulatory framework to disposition post-Fukushima
9 actions.

10 But before I do that, I want to quickly go
11 through and talk about a topic that the chairman
12 discussed, how safe is safe enough, and which standards
13 does the NRC Commission use? That standard comes from
14 the Atomic Energy Act. We're required to ensure that
15 our licensees provide adequate protection of public
16 health and safety. If we determine that something is
17 needed to ensure adequate protection, we'll impose a
18 requirement without regard to cost. On the other hand,
19 if we determine that a requirement is not necessary for
20 adequate protection, but that it would provide a
21 substantial increase in safety, then we only impose that
22 requirement if it passes a cost-benefit analysis. We
23 have codified that requirement in the backfit rule.
24 One example of those concepts is illustrated by the
25 topic of reliable hardened vents.

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1 In 2012, the Commission issued an order for
2 reliable hardened vents at boiling water reactors with
3 Mark I and Mark II containments as a matter of adequate
4 protection. The NRC staff subsequently evaluated
5 whether we should require that such vents also be
6 "severe accident" capable. Accounting for
7 uncertainties regarding the frequency of a severe
8 accident, the staff determined that severe accident
9 capability would provide a substantial safety benefit
10 that was cost justified.

11 The Commission agreed with the staff's
12 assessment, and in 2013 rescinded the original order and
13 issued another, which required reliable and severe
14 accident capable vents. That is one area where a safety
15 improvement passed the cost-benefit backfit test.
16 There have been others that haven't. The fact that some
17 of the proposed improvements did not get adopted should
18 not be viewed as a problem. Another highly visible
19 example is our ongoing mitigation of Beyond Design Basis
20 Event rulemaking. In 2012, within a year of the
21 accident in Japan, we issued our initial orders. We
22 were then able to step back and take a deep breath.

23 We realized that we, the regulator, the
24 industry, and the public would be better served if we
25 integrated a number of task force recommendations into

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1 rulemaking to address the whole spectrum of beyond
2 design basis events. I thank Mike Johnson and his team
3 for their efforts in this area.

4 Because of this integration, we have had a
5 better level of protection because we have brought all
6 these things together into one discussion, one
7 dialogue, one consideration. This rulemaking provides
8 us with that comprehensive, integrated suite of safety
9 enhancements.

10 As Vic McCree showed earlier in the slides
11 today, it integrates six of the Near-Term Task Force
12 recommendations, including enhanced mitigation
13 capability for station blackout events, spent fuel pool
14 instrumentation, on-site emergency response
15 capabilities, and emergency preparedness. This
16 rulemaking, in my opinion, represents a major step
17 forward. The consolidation was an efficient strategy,
18 given the interdependent and interrelated safety issues
19 involved. Initially, a number of the key safety
20 enhancements were realized through licensee
21 implementation of the 2012 NRC orders. The mitigation
22 of beyond design basis events rulemaking now codifies
23 those requirements, makes them generally applicable to
24 future licensees, in addition to current licensees.

25 I approved publication of the proposed rule

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1 with one exception, which I'll now briefly address. I
2 disapproved the staff's proposal to impose requirements
3 for severe accident management guidelines, or SAMGs.
4 The staff's regulatory analysis found that SAMGs would
5 have a small safety benefit. The staff cited what we
6 call defense in depth that would be gained from
7 requiring SAMGs, but was unable to quantify a benefit
8 that would outweigh the cost of requiring SAMGs.

9 The Commission concluded that requiring
10 SAMGs was not cost justified. This rulemaking serves
11 as an example of how the NRC's regulatory framework
12 provided stability and reliability throughout the
13 decision-making process. The concepts of adequate
14 protection of public health and safety, as well as our
15 backfit rule, are vitally important regulatory
16 principles. I'll have one final example to share on our
17 decision making. In keeping in NRC's principle of
18 efficiency, regulatory activities should be consistent
19 with the degree of risk reduction they achieve. This
20 principle goes on to state: "Where several effective
21 alternatives are available, the option that minimizes
22 the use of resources should be adopted."

23 Last summer, the staff asked for Commission
24 approval to publish a draft regulatory basis for
25 containment protection and release reduction

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1 rulemaking. I voted not to approve the staff's
2 proposal. In that case, the proposed rule would have
3 codified orders that are already in place, and the
4 orders have the same legal and enforcement effect as a
5 new rule would. Furthermore, we do not expect any new
6 applicants for Mark I and Mark II containments to come
7 before the Commission, so there'd be no safety benefit
8 to offset the cost of the rulemaking.

9 The Commission had also previously
10 directed outreach with stakeholders when it developed
11 these orders, so rulemaking would not likely have
12 provided new information for the staff and the
13 Commission to consider. I think we made a smart
14 decision. I will now turn to the final significant
15 regulatory lesson learned from post-Fukushima
16 experience, the importance of regulating in the open.
17 This has a direct nexus with my previous discussion of
18 the concept of accountability. Early on in the
19 process, the Commission directed the staff to engage a
20 diversity of stakeholders throughout the development of
21 the technical bases and rulemaking. As such, there's
22 been a high level of stakeholder engagement throughout
23 the staff's process of developing recommendations for
24 the Commission.

25 To date, there have been about 300 public

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1 meetings convened by the NRC on post-Fukushima
2 regulatory actions. We've maintained openness because
3 nuclear regulation is the public's business. It must
4 be conducted openly and candidly. The Commission's
5 decisions have also been open and transparent. I'll
6 spend a brief moment discussing how the Commission,
7 itself, whether a five-person or a four-person
8 Commission, makes decisions.

9 For the Fukushima actions, we relied on the
10 task force and directorate to provide us with
11 recommendations. There have been recommendations for
12 orders, for proposed rules, and recommendations to stop
13 action on some early recommendations after more
14 completely technical analysis by our staff. Those
15 staff recommendations came to the Commission in formal
16 papers that are publicly available. Most of the time,
17 the staff's recommendations are public as soon as they
18 come to the Commission. We don't wait until the
19 Commission has made a decision to release them, so you
20 can see what the staff recommends and, later, whether
21 the Commission approves or disapproves the
22 recommendation in whole or in part.

23 The Commission reviews the staff's
24 recommendations and holds public meetings when they're
25 appropriate. Each commissioner often seeks briefings

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1 from the staff experts who worked on these
2 recommendations. The Commission uses a process called
3 notation voting, in which each commissioner writes a
4 vote that not only records whether he or she approves
5 the recommendation, but also explains why. In these
6 votes, we might also include additional direction for
7 the staff on particular items.

8 After all the commissioners have voted, the
9 NRC's Office of the Secretary goes through the votes,
10 tallies them, and puts together what we call a draft
11 Staff Requirements Memorandum. That document captures
12 the elements of the staff's recommendation that were
13 approved or not approved by each commissioner, and also
14 includes each commissioner's additional comments. The
15 commissioners then vote on the draft Staff Requirements
16 Memorandum. It takes a majority of the Commission to
17 include each additional direction or to change a policy.
18 Now, we may go through a few rounds of voting before the
19 final product has a majority, and our voting process
20 also gives our staff a chance to comment on the
21 Commission's direction and to raise any concerns they
22 may have.

23 I find this formal, structured,
24 open-voting process is a real strength of the NRC and
25 the Commission on which I serve. You do not have to

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1 wonder how a commissioner weighed in on different
2 issues. There's a clear public record of the basis for
3 all of our votes, including the post-Fukushima actions.
4 By my count, on Fukushima-related actions alone, I have
5 cast 25 separate votes, all of them on our website.

6 That is how you can hold me accountable for
7 my actions. I am proud this is how the NRC regulates.
8 I will now close. I want to take a moment and thank my
9 personal staff for their hard work and dedication.
10 They're a tremendous group of people who take their work
11 seriously, but they don't take themselves too
12 seriously, and they take care of each other. We enjoy
13 an open and collaborative work environment, even though
14 our professional football allegiances are wildly
15 divergent -- two agnostics, two Steeler fans, two
16 Patriot fans, and one extremely devoted Dallas Cowboy
17 fan -- that would be me. Team WCO, I thank you all.
18 First, to acknowledge my current team, Eric Benner,
19 Tammy Bloomer, Amy Cubbage, Molly Marsh.

20 Because this is my last RIC, I'd like to
21 also thank the staff who have worked for me since 2010,
22 Ho Nieh, Jason Zorn, Mike Franovich, Andrea Koch, John
23 Tappert, Kimberly Sexton, Cathy Kanatas, Greg Warnick,
24 Jeannette Quesenberry, and last, but not least, Linda
25 Herr and Sunny Bozin, who've been with me since my first

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1 day, April 1, 2010. I'm most grateful for your support
2 and friendship. I'll end on a personal note.

3 I've had a few titles over the years, like
4 many of you. I've been called Captain, dad, Counsel,
5 Administrator, Director, Commissioner, hey you, Gramp
6 O by 2-year-old granddaughter, Dylan, and now I'll be
7 going to another title. My term ends in June. I've
8 accepted a position in the Naval Academy as a
9 distinguished visiting professor of national security.
10 I'll start teaching in August. I look forward to
11 returning to my alma mater and sharing my experience
12 with a new generation of Naval officers. I have
13 thoroughly enjoyed my time on the Commission with my
14 colleagues and with the NRC staff. It has been a most
15 rewarding experience professionally and personally.
16 The NRC does really good and important work, and I've
17 been proud to stand beside you the last six years. It's
18 been a pleasure to work with you all. Thank you.

19 (Applause.)

20 MR. WEBER: Well, we have a few questions
21 here, Commissioner. In reflecting on your federal
22 service, what was most valuable during that service as
23 a commissioner, as a member of the nuclear Navy, in
24 serving in law, in Congress?

25 COMMISSIONER OSTENDORFF: I have to say my

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1 Navy experience. I was a Rickover guy. I'm going to
2 give you one quick sea story, but I think it relates to
3 the things that Vic is working on with his leadership
4 team, and that is safety culture. 1978, I'd been on
5 recently qualified engineering officer watch on U.S.S.
6 George Bancroft, SSBN-643 gold crew. During the
7 watch -- I was probably 23 years old at the time -- our
8 throttleman, with main coolant pumps and slow
9 speed -- and some of you have been there on S5W
10 plants -- when we shifted reacted coolant pumps to main
11 coolant pumps to fast speed, the throttles got ahead of
12 the pumps, and so we had a power-to-flow scram. I was
13 shaking in my boots as a newly qualified engineer -- I
14 was watch at this point this was probably my third watch.
15 Did a fast recovery startup. After watch, we had a
16 post-watch critique. I thought the engineer and the
17 commanding officer were going to come in and just really
18 lay on me, and they didn't.

19 They came in and said, "Let's have a
20 critique in the wardroom. Let's bring all the watch
21 standers up forward. Let's see what happened. Let's
22 discuss the facts of the incident." What were the root
23 causes, as Commissioner Svinicki noted earlier. Let's
24 make sure we understand what happened and why, and then
25 we'll write the Admiral Rickover incident report and do

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1 some training.

2 I was stunned by the openness and clarity
3 of the critique that occurred, now 38 years ago, on
4 George Bancroft. As I served on five other submarines
5 after that, and I was engineering an old attack
6 submarine and the commanding officer of a submarine, I
7 think that nuclear operating experience served me very
8 well, so that's been my highlight.

9 MR. WEBER: Okay, thank you. Along the
10 same lines, do you have any regrets or unfinished tasks
11 from your tenure as a commissioner at the NRC?

12 COMMISSIONER OSTENDORFF: No regrets, not
13 at all. I would say I am -- and the chairman made this
14 reference earlier -- I am disappointed as to where the
15 country is on not having a geologic repository for
16 high-level waste. I think that is a significant
17 shortcoming of government. I don't think it's been
18 handled, quite frankly, with enough urgency and
19 objectivity. I'm very proud of the work the NRC staff
20 has done here on this area, but I think elsewhere in
21 government, it's been a shortcoming, so that's what I
22 would leave you with.

23 MR. WEBER: Okay, thank you. This
24 commenter thanks you for your service and reflects on
25 your many good comments today, balancing risk and

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1 regulation, and adds a question. Do you think we have
2 achieved the right balance on physical and
3 cybersecurity programs?

4 COMMISSIONER OSTENDORFF: Let me address
5 this because I spent some time on security issues as a
6 commissioner. I believe that our commercial nuclear
7 facilities, whether they be power plants, fuel
8 facilities, materials licensees, I believe that the
9 security posture is robust and comprehensive for
10 physical security. In the cybersecurity arena, I know
11 that licensees are still working on implementing all the
12 milestones for the 2009 cybersecurity rule. I think
13 the rule, itself, is a good rule. I think our staff,
14 led by -- going back to when Jim Wiggins was here in
15 NSIR -- Jim, Barry Westreich, Russ Felts, Brian Holian,
16 have worked hard to look at a more consequence-based
17 approach for cybersecurity to risk inform those
18 critical digital asset determinations in a positive
19 way. I can't rule out there may not be need for further
20 adjustment to the cyber rule as we go forward.

21 MR. WEBER: Thank you. This questioner
22 notes that reduced core damage frequency estimates are
23 good news, but do they tell the whole story, and goes
24 on to point out that the core damage frequency estimates
25 at Fukushima did not anticipate what happened. How do

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1 we get the whole picture in probabilistic risk
2 assessment, or can we ever get the whole picture?

3 COMMISSIONER OSTENDORFF: That's a very
4 thoughtful question. I thank the questioner who posed
5 that. I acknowledge that core damage frequency by
6 itself is not an adequate metric, but I would say that
7 in the context of Fukushima, the work that we have
8 directed for seismic and flooding hazard re-evaluations
9 has been very significant. Much of that work is still
10 continuing in certain areas, and I believe that when we
11 look at the combination of seismic, flooding, station
12 blackout, which is manifest in the mitigation of beyond
13 design basis rulemaking, I think we'll be in a very solid
14 position.

15 MR. WEBER: This commenter notes that
16 we've made great progress following the lessons learned
17 from the Fukushima Daiichi accident. However, in
18 hindsight, was the Near-Term Task Force broad scope and
19 recommendations premature, given the relative limited
20 understanding of the real causes of the accident at the
21 time the Near-Term Task Force was conducted? You've
22 had the benefit of reflecting on that in your service
23 as a commissioner.

24 COMMISSIONER OSTENDORFF: I'm going to try
25 to answer this the best I can. I saw Marty Virgilio

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1 earlier this morning, and Marty in Mike Johnson's
2 position in the fall of 2011, when we were looking at
3 SECY-11-0137, a very key vote that Commissioner
4 Svinicki and I voted on, associated with the
5 prioritization activities for the Near-Term Task Force.
6 I think the prioritization activities that were
7 undergone by the staff under Commission direction at the
8 time were appropriate, were the best fit for what we knew
9 about Fukushima. I did not vote to support immediately
10 going into the Recommendation 1, looking at the overhaul
11 of our regulatory framework. I'm afraid if we had
12 looked at the overall framework first, we would just now
13 maybe be getting to some actions here in 2016. So I
14 think in hindsight, I, personally, think we did the
15 right thing to say let's go ahead and move forward with
16 these Tier 1, Tier 2, and Tier 3 action items, and let's
17 hold off for any review of the framework as a separate,
18 distinct body of work.

19 MR. WEBER: Thank you. What practical
20 consequences do you see resulting from the Vienna
21 Declaration on Nuclear Safety that came out of the
22 diplomatic conference on the margins of the convention
23 on nuclear safety?

24 COMMISSIONER OSTENDORFF: I think, based
25 on discussions I've had with our international program

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1 staff, with Chairman Burns, with our State Department
2 colleagues, I think we'll see, hopefully, renewed
3 engagement by the international community in activities
4 associated with the convention. I think that's a real
5 key message that everybody will hopefully rally around
6 is a need for engagement/participation in those
7 activities.

8 MR. WEBER: Okay. Shifting gears to small
9 modular reactors, is the NRC fully prepared to meet the
10 42-month commitment in the schedule for SMR licensing?

11 COMMISSIONER OSTENDORFF: I believe we
12 are. Now, I met with Mike Mayfield, Diane Jackson,
13 Debbie Jackson, Jennifer Uhle in the last three weeks,
14 after I attended an advanced reactor summit that the
15 Nuclear Infrastructure Council put on at Oak Ridge last
16 month. I've discussed this at some length with Amy
17 Cabbage and my personal staff. I believe that the NRC
18 staff is ready to receive the NuScale license
19 application here at the end of this calendar year. I
20 do believe the time period that our staff has advertised
21 for processing a well-put-together application is 39
22 months.

23 MR. WEBER: Okay. Keeping on the theme of
24 SMRs -- this question begins with go Navy -- there are
25 a number of potential SMR vendors who say that they're

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1 completely designing out the severe accident, like what
2 happened at Fukushima. They range in megawatt level,
3 coolant type, fuel type, and even include nuclear fusion
4 designs. What are your thoughts on how the vendors and
5 the NRC staff should address this part of design
6 certification reviews, so as not to be too lax or too
7 strict?

8 COMMISSIONER OSTENDORFF: When I was in
9 Oak Ridge on February 11th, I had a chance to hear from
10 maybe four to six different groups talking about
11 different non-light-water reactor technologies. So
12 I'm going to answer this from a standpoint of SMRs and
13 non-light-water reactor technologies that are being
14 discussed in the industry vendors and in different other
15 organizations.

16 I'm going to go back to a comment that
17 Victor McCree made earlier today, and it's one that I've
18 heard from Mike Johnson and Jennifer Uhle, is the NRC
19 staff's willingness to take a step-wise approach in the
20 context of topical report by analogy and look at a
21 discrete, conceptual design proposal in a way that,
22 early on, gives feedback to a prospective applicant.

23 We've seen this happen before in a very
24 successful way in this Agency. This Agency had a lot
25 of experience back in the 1990s with sodium pebble-bed

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1 reactors and so forth, so I don't think that there's a
2 key concern here. I think this commitment by the NRC
3 staff to be willing to use a step-wise approach under
4 our existing framework will get us there.

5 MR. WEBER: One last question here on
6 advanced reactors. This commenter is pleased to see
7 the \$5-million budget request off the fee base for
8 advanced reactor preparations, but what is the \$5
9 million for, and is it enough?

10 COMMISSIONER OSTENDORFF: It's two
11 questions there. Certainly, the \$5 million is going to
12 help our staff get up to speed on some of the
13 technologies. It's going to allow us to conduct some
14 outreach with other organizations working on advanced
15 reactor technology development. It'll also help
16 identify, in selected areas, any regulatory gaps we may
17 have for a particular type of technology. That's where
18 the money's supposed to go towards. As far as is the
19 \$5 million enough? I think it's a good start. I will
20 hopefully not see this as being a fiscal year '17 budget
21 item, and then it disappear after that. I think we have
22 to kind of build the case, walk before we run, deal with
23 this \$5 million in a responsible, good stewardship
24 manner, and then look towards perhaps what might be
25 appropriate for the future.

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1 MR. WEBER: From your perspective, as a
2 commissioner, what is NRC's responsibility in educating
3 the general public to understand the issues regarding
4 nuclear safety and security?

5 COMMISSIONER OSTENDORFF: I think we have
6 a significant responsibility. I think the chairman and
7 Victor both talked about this. I believe we try very
8 hard to communicate to the public, in terms that the
9 public can understand, what the risks are from nuclear
10 facilities under different circumstances, etc. Bill
11 Magwood and I put out a column in 2011 on this topic.
12 I gave a RIC speech in 2012 on this topic. I think
13 people are working very hard in this area. It's one
14 where you've never finished the job. This need will
15 always be there. But it's important for us to take the
16 time and to have those tailored communications -- I say
17 tailored -- tailored to the audience and the scientific
18 literacy that's before us, as an agency.

19 MR. WEBER: You cited the value of
20 cost-benefit analyses to determine whether safety
21 enhancements are appropriate. Such analyses are only
22 as good as the estimates of cost and safety improvement.
23 Are you satisfied with the validity of the NRC's cost
24 estimates, in light of information that the industry has
25 supplied?

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1 COMMISSIONER OSTENDORFF: No.

2 MR. WEBER: Do you want to elaborate?

3 COMMISSIONER OSTENDORFF: I will, yes. I
4 will. When I first got here -- Ho Nieh's out there
5 someplace in the audience, and Jason Zorn. Back in
6 2010, we were talking about the Agency's experience with
7 the Part 73 rulemaking and the physical security
8 enhancements. I think that's one where, from a case
9 study, we didn't do a good job, and neither did industry.

10 I think the lack of fidelity of cost
11 estimates in that Part 73 rulemaking served as a wakeup
12 call for the Agency to realize we need to do better, but
13 we can't get to a better place without industry's more
14 thoughtful input. I do think there's been enhanced
15 awareness of this in the last three or four years, in
16 the context of cumulative effects of regulation, in the
17 context of cost-benefit analyses for regulatory
18 decision making, under the backfit rule. I think we're
19 making improvement. I don't think we're where we need
20 to be.

21 MR. WEBER: Thank you. Commissioner,
22 you've suggested that the NRC should liberally
23 interpret the Atomic Energy Act's prohibition on
24 foreign ownership control and domination of production
25 and utilization facilities. Do you think the

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1 Commission will have another opportunity to consider
2 this issue?

3 COMMISSIONER OSTENDORFF: First, I'm
4 going to go back to a meeting we had, I believe it was
5 in January of 2015, on this topic. We had some
6 extremely helpful insights external to the nuclear
7 industry from the Department of Defense, from the
8 aerospace industry and other sectors. Commission
9 colleagues, we all engaged in voting on this topic. Our
10 votes are on our website. I think you can see a very
11 rich discussion on the foreign ownership, control, and
12 domination piece in our website.

13 I think all of us recognize that the world
14 today, and as of the time we voted back in 2015 -- the
15 world in 2015 is not the same as it was in 1954, when
16 the Atomic Energy Act was passed. The globalization of
17 the economy -- 60 years ago, people thought that all of
18 the nuclear technology would really be controlled by the
19 United States. That is far from the case today. I
20 think if you look at commissioner votes on this, you'll
21 see a very comprehensive discussion by all four
22 commissioners on this topic. I don't see anything
23 right before the Commission here in the near term that
24 would suggest revisiting this, but I think the
25 Commission, if the issue comes up again, will deal with

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1 it.

2 MR. WEBER: Here's a question for you.
3 What's the status of the Yucca Mountain license
4 application review, and will NRC seek funds to resume
5 the hearing process?

6 COMMISSIONER OSTENDORFF: I think we were
7 asked this at a Congressional hearing recently. Well
8 certainly, our staff did a superb job of completing the
9 safety evaluation report, putting that out in the public
10 in January of 2015, completing the environmental impact
11 statement. Still working on the supplemental
12 environmental impact statement, which I believe is due
13 out, I believe, sometime this fall. There are not funds
14 in the current budget request to address the hearing
15 adjudication issues you're asking about.

16 MR. WEBER: So the second part of that,
17 will the Commission seek the resources?

18 COMMISSIONER OSTENDORFF: The Commission,
19 in the context of the fiscal year '17 budget, and
20 recognizing that this part of an administration Office
21 of Management and Budget -- OMB process, the budget
22 request that went to the Congress did not include those
23 funds. I'll tell you -- I'll just speak for myself. I
24 have personally supported those funds in past votes.

25 MR. WEBER: Thank you. What role, if any,

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1 does the Atomic Energy Commission's concept of beyond
2 regulatory concern play, especially with respect to the
3 Fukushima actions? I think that question might twist
4 a variety of different concepts there, but I'm sure
5 you'll be able to address it, in terms of Fukushima.

6 COMMISSIONER OSTENDORFF: I'll just say,
7 without going -- I'm not sure where -- what year that
8 pronouncement came out, but I'll tell you that in the
9 context of the Near-Term Task Force report -- let me make
10 this statement.

11 The Near-Term Task Force group under
12 Charlie Miller and company did a superb job. But let
13 me just clarify what they did do. They didn't
14 necessarily say go regulate this additionally or that
15 additionally. They said go look at these areas.
16 There's a big difference between exploring and
17 analyzing a given area, on the one hand, which is what
18 they teed up, and the other hand suggesting go add
19 additional requirement X, Y, or Z over here.

20 I bring that up because I think, to answer
21 the question, Mike, I believe that the Near-Term Task
22 Force, the Japan Lessons Learned Directorate, the
23 Steering Committee, and the numerous Commission votes
24 we've had have had some things that have come up that
25 we did not believe needed to be regulated so, therefore,

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1 perhaps fell in the category of beyond regulatory
2 concern.

3 MR. WEBER: Okay, thanks. If there are no
4 more questions, we might actually complete early
5 because I've gone through the questions.
6 Commissioners, when they leave the Agency, seldom have
7 the opportunity to have such an audience. As you may
8 know, within the NRC, we typically have a farewell, God
9 speed kind of ceremony in honor of our commissioners,
10 and this is not your departure from the Commission, but
11 I would be remiss if I didn't take this opportunity to
12 applaud you in your leadership on the Commission and
13 wish you every best in the future.

14 COMMISSIONER OSTENDORFF: Thank you,
15 Mike. Thank you all.

16 (Applause.)

17 MR. WEBER: With that, we are adjourned,
18 and we will resume our first technical sessions at 1:30.
19 Thank you very much.

20 (Whereupon, the above-entitled
21 presentation was concluded at 11:54 a.m.)
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24
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