

UNITED STATES OF AMERICA
U.S. NUCLEAR REGULATORY COMMISSION

STRATEGIC PROGRAMMATIC OVERVIEW OF THE
NUCLEAR MATERIALS USERS AND DECOMMISSIONING
AND LOW-LEVEL WASTE BUSINESS LINES

OCTOBER 2, 2012

9:30 A.M.

TRANSCRIPT OF PROCEEDINGS

Public Meeting

Before the U.S. Nuclear Regulatory Commission:

Allison M. Macfarlane, Chairman

Kristine L. Svinicki, Commissioner

George Apostolakis, Commissioner

William D. Magwood, IV, Commissioner

William C. Ostendorff, Commissioner

APPEARANCES

NRC Staff:

Bill Borchardt
Executive Director for Operations

Mark Satorius
Director, FSME

Elmo Collins
Regional Administrator, NRC Region IV

Jim Wiggins
Director, Office of Nuclear Security and Incident Response

Brian Sheron
Director, Office of Nuclear Regulatory Research

Brian McDermott
Director, Division of Materials Safety and State Agreements

Larry Camper
Director, Division of Waste Management and Environmental
Protection

1 PROCEEDINGS

2 CHAIRMAN MACFARLANE: Good morning. Commissioner
3 Svinicki will be joining us a bit late, she is stuck in traffic right now. It's been an
4 exciting morning so far. Lots of traffic, rain, transformer blowing. Anyway, okay.
5 I would like to -- we'll get on with things now. I'd like to welcome the staff, media,
6 the industry, members of the public to today's meeting. We are here today to
7 receive presentations by the NRC staff and only by the NRC staff, so it's an
8 NRC-only show, on a broad range of activities in the Nuclear Materials Users and
9 Decommissioning and Low-Level Waste Business Lines. Boy, that's a mouthful.
10 So what we're going to do is we're going to do this in two panels, and the first
11 panel is going to discuss topics related to the safe and secure use of nuclear
12 materials, then we'll have questions from the Commissioners, we'll have a break,
13 and then we'll go to the second panel which will focus on the decommissioning
14 and low-level waste activities. And then we'll have another set of Q&A. But first,
15 before we turn it over to the staff, would any of my colleagues like to make any
16 comments? No? Okay. In that case, I will turn it over to Bill Borchardt, the
17 Executive Director for Operations.

18 BILL BORCHARDT: Good morning. This will be -- today marks the
19 third in a series of strategic program overviews that we're conducting. Today
20 we're going to focus on some of the internal and external drivers that influence
21 the work that we do in this area, as well as explore some of our major
22 accomplishments, the strategic outlook, and our strategy for moving into the
23 future. Can we have slide two, please.

24 The Nuclear Materials User Business Line represents
25 approximately 23,000 users of nuclear materials across the United States. About

1 one-third of those users are engaged in diagnostic or therapeutic medical
2 practices. A small number are academic or research users, and most of the rest
3 use radioactive materials for commercial or industrial uses. The NRC regulates
4 about 3,000 of those licensees. The rest of them are under the regulatory
5 purview of 37 Agreement States. The decommissioning and low-level waste
6 business line is involved in the decommissioning of reactor and materials
7 facilities, uranium recovery, and disposal of low-level waste. As always, our
8 number one priority will continue to be our primary mission of protecting public
9 health and safety, and promoting the common defense and security, and
10 protecting the environment. We do this through the efforts of a highly skilled and
11 dedicated staff that are located here in headquarters, as well as Regions I, III,
12 and IV. We also work closely with our regulatory partners, including the
13 Agreement States, the Tribal programs, and our Federal partners. And at least
14 as much as any other program area that we have those stakeholders very
15 strongly influence our work in the agency. It's also obvious that the work in these
16 program areas is accomplished by a number of other program offices as well as
17 the full range of corporate support offices across the agency. So I'll turn the
18 presentation over to Mark Satorius.

19 MARK SATORIUS: Thanks Bill. And good morning Chairman,
20 Commissioners. I'm Mark Satorius, and along with Brian McDermott to my right,
21 we'll be presenting the first business line nuclear materials users. If I could get
22 the agenda. For this presentation I'll introduce the business line drivers,
23 including both internal and external elements; outline product line
24 accomplishments and follow up with the outlook and strategy for major
25 programmatic areas that will influence the future of our business line under each

1 product line. At the table are a few of our business line partners including Region
2 IV, who's here on behalf of Regions I, III, and IV; the Office of Nuclear Security
3 and Incident Response; the Office of Nuclear Regulatory Research; and the
4 Office of the General Counsel. Our business line also draws support from the
5 Office of Nuclear Material Safety and Safeguards, the Office of Enforcement, the
6 Office of Investigations, the Office of International Programs, the Atomic Safety
7 and Licensing Board Panel, the Advisory Committee on Reactor Safeguards, and
8 the Office of Human Capital.

9 In addition, as Bill has mentioned, we partnered with the
10 Organization of Agreement States, as the Agreement States are responsible for
11 the regulation of about 85 percent of our licensees, and play a pivotal role in the
12 national materials program. Alan Jacobson, who is the current chair of the
13 Organization of Agreement States is present today in the well, and he will
14 expound further upon our important partnership with the OAS in the upcoming
15 presentation. Lastly, while not present today, we also rely on the Conference of
16 Radiation Control Program Directors to supply inputs for policy, rulemaking, and
17 business line activities. Today's briefing will be about the future. The agency's
18 mission is accomplished through the work of the staff, and in this business line's
19 case, through partnering with the Agreement States. It's important to note that if
20 a state opts to change an agreement with the NRC, that may have a significant
21 impact on our business line. As mentioned previously, we will discuss later the
22 interfaces we have with the Agreement States and the importance of our
23 relationship with them.

24 We have four business line drivers. From a technological driver
25 perspective, we see most in the medical area, which we continue to see new

1 devices in treatment modalities. These require coordination with Federal
2 partners such as the Federal -- the FDA and Agreement States. New
3 technologies require safety reviews, new licensing and inspection guidance, and
4 training of NRC and Agreement State inspectors. Nearly as fast as new
5 computer technology is introduced, so is the advances in the new devices in
6 treatment modalities. From a societal perspective we see the broad use of
7 radioactive materials for medical, industrial, and research activities. The
8 deliberate use of radioactive material to help people and enhance the nation's
9 infrastructure. We have a very diverse set of stakeholders in the user
10 community. Engagement of Agreement States and diverse stakeholder
11 community is necessary for developing effective regulations and guidance. From
12 an economic standpoint, we have a challenging environment in which we work.
13 Federal and state governments have budget challenges and staffing. More than
14 40 states project billions in shortfalls for 2012. We need to efficiently engage
15 state regulators in a collaborative effort and ensure national program decisions
16 take into consideration the impact on state regulators. From an international
17 perspective, we're actively engaged with the International Atomic Energy Agency,
18 or IAEA, on review of radiation safety standards, outreach to aid other countries
19 to establish strong materials programs, and address international concerns such
20 as trans-boundary shipments of contaminated scrap metal.

21 We have eight product lines, event response, product line is closely
22 tied with activities in the other product line, so we'll be presenting on the
23 remaining seven. In the rulemaking and research product lines we're performing
24 expanded 10 CFR Part 35 Medical Rulemaking, which is intended to address
25 medical event reporting and written directive requirements for permanent implant

1 brachytherapy as well as 28 specific items that have been identified through
2 implementation of Part 35, through Advisory Committee on the Medical Use of
3 Isotopes, or ACMUI recommendations, and through petition for rulemaking.
4 Technology that is used in performing brachytherapy procedures is shown at the
5 left side of the current slide. Staff has undertaken extensive public outreach in
6 the medical community and ACMUI on medical event reporting. These
7 accomplishments also include meeting in three separate locations, and the slide
8 to the right shows picture of a workshop that we gathered stakeholder feedback
9 in New York City. Other workshops were held in Washington D.C. and Houston.
10 Commission provided staff direction to proceed with short-term actions and a
11 broader medical rulemaking.

12 The outlook as we move forward, shorter-term action includes
13 drafting a regulatory information summary to clarify current regulations for
14 medical event reporting. In collaboration with the Office of Enforcement, interim
15 enforcement policy is being developed to allow activity-based determination for
16 medical event reporting. We owe the proposed rule to the Commission in July of
17 2013 and the final rule in December of 2014. Our strategy, as we move forward,
18 and we see this product line linked to the drivers of technology in societal, with a
19 focus to provide clear and timely completion of rulemaking changes that protect
20 public health and safety without interfering in the practice of medicine.

21 In other rulemakings, this slide highlights our consideration of
22 whether to increase the alignment of our current radiation protection standards in
23 10 CFR Part 20, with the recommendation that the International Commission on
24 Radiological Protection, or the ICRP, particularly, the annual dose that an
25 occupational worker can receive in a year. The graph and table shows that the

1 NRC and Agreement States' regulations result in most occupational workers
2 being well below NRC's annual occupational dose limit, which is currently 5 rem.
3 In fact, this graph shows that more than 99 percent of workers get less than the
4 recommended ICRP average of 2 rem in a year. The issue for us to consider is
5 how to effectively reduce the doses for the small fraction of people represented
6 by the circled columns in the slide. Exposure at this level over a working lifetime
7 could mean that they would accumulate more than 100 rem, which equates to
8 roughly a five percent chance in radiation-induced health effect, and is the
9 maximum recommended by the United States National Council on Radiation
10 Protection and Measurements, or the NCRP. While this chart from the NCRP's
11 Report 160 is for medical, similar distributions are seen in other categories of
12 uses, such as radiographers. The nuclear power reactors are the best, or the
13 best performing with only a few dozen people exceeding 2 rem in a year. It's
14 also important to note that the picture here shows interventional cardiology. This
15 modality is one of the potentially most impacted activities, thus we are careful to
16 gather feedback from our Agreement State partners and other stakeholders in
17 considering any changes to 10 CFR Part 20.

18 Accomplishments in this area include obtaining estimates of
19 impacts on changes to occupational dose limits, and surveying international
20 counterparts on their experience in implementing the ICRP recommendations,
21 funding development of an up-to-date numeric dose coefficient to implement the
22 standards in cooperation with DOE and EPA, and working closely with the Office
23 of Nuclear Regulatory Research to gather information needed for the effort.
24 Their outlook is significant domestic and international interest in the NRC
25 decision. Additional outreach to obtain sufficient data for cost-benefit and backfit

1 analysis, and we see this effort linked to all the business line drivers. And
2 strategically, we need to engage stakeholders on the best way for regulation to
3 ensure protection for every single individual over their lifetime without
4 inappropriately removing the flexibility to safely use radioactive materials in day-
5 to-day activities. And this matter is currently before the Commission for
6 consideration with a paper that we had submitted earlier this year. And with that,
7 I'll turn it over to Brian and he'll continue walking us through the product lines.

8 BRIAN MCDERMOTT: Good morning Commissioners, Chairman.
9 I'll start out with the State, Tribal, and Federal programs product line. This
10 product line covers a broad range of activities and engagement of various
11 external stakeholders as represented by the various icons on the slide. Our
12 focus today in the briefing is on the Agreement State Program and some of our
13 Tribal activities. The Agreement State Program today is working quite well. We
14 have an unprecedented level of cooperation and collaboration with the states
15 under the framework of the National Materials Program. As an example, we
16 have 34 working groups today engaged in a variety of activities from developing
17 rulemaking language to working on draft guidance documents. However, we are
18 working to further strengthen the Agreement State Program. We have
19 undertaken a systematic review of the results from the Integrated Materials
20 Performance Assessment Program to look across both time and the state
21 programs in order to identify factors that correlate with program performance.
22 We're looking then to determine what actions the NRC might take to aid the
23 performance of the state programs.

24 In terms of outlook in this area, the transitions that were prompted
25 by the Energy Policy Act to Agreement State status have largely been

1 completed, and we don't see any new requests for Agreement State status on
2 the horizon. But we do see the possibility for some Agreement States to request
3 amendments to their existing agreements to add uranium recovery. While a few
4 states have investigated this issue, Virginia is actually actively engaged in
5 looking at that possibility with a report due to their governor at the end of this
6 year. Our strategy in this area ties to the economic driver. We clearly have an
7 interdependent relationship with the state regulators, and therefore the health of
8 the state programs is a strategic concern for the NRC. Going forward we need to
9 continue our work with the states to ensure that the national materials program
10 remains viable and protective of public health, safety, security, and the
11 environment.

12 Moving to the Tribal area, recently we've seen that uranium
13 recovery has resulted in significant number of consultations with the Tribes,
14 especially since 2009. And as a result, the staff has developed expertise in the
15 106 Consultation Process. Today, the staff is actively working on a proposed
16 policy statement and protocol regarding consultation with Native American Tribes
17 in order to enhance the outreach process by making it more focused and
18 consistent. And that product is due to the Commission in December of 2013. In
19 terms of outlook, we anticipate an increase in licensing actions that involve Tribal
20 interests. As a result, we see increasing interaction with Native American Tribes,
21 including an increase in the number of consultations and other government-to-
22 government meetings. Our strategy here links to the societal driver. We see the
23 need to continue our commitment to meaningful consultation and coordination
24 with the Tribal governments.

25 Moving now to the international activities product line. I'd like to

1 start out here by saying that the business line partners as well as Agreement
2 State representatives have been involved in a variety of international activities.
3 We provide consultation to the IAEA on a variety of technical issues that get
4 incorporated into international standards. We also support the NRC's Office of
5 International Programs, and work through IAEA and provide outreach to
6 countries who are either developing or improving their programs for the
7 management and security of radioactive materials. Recent activities include
8 some training, which is shown on the slide, with activities in Ghana, Nigeria,
9 Tunisia, and the Dominican Republic. Our outlook in this area is that there are
10 an increasing number of countries interested in the use of radioactive materials
11 for academic research and medical purposes, even if they are not interested in
12 developing nuclear power programs. We see the need for continued support of
13 the radiation safety standards committees as they work to look at and revise
14 standards based on the lessons learned following the accident at Fukushima.

15 We also are working on some specific international standards. For
16 example, we recently worked with the U.S. Department of State, the Agreement
17 States, the Environmental Protection Agency, and other Federal agencies to
18 provide consolidated U.S. comments on an IAEA draft Code of Conduct
19 regarding the trans-boundary movement of radioactive material inadvertently
20 incorporated into scrap metal. This effort we hope will address some of the
21 underlying causes of recent events we've seen here in the United States,
22 including the contamination of consumer products such as the metal tissue box
23 holders and pet food bowls. In terms of strategy here, we see ties to the
24 international and societal drivers that by remaining actively engaged in
25 international activities we can contribute to and benefit from the international

1 standards. And we have the opportunity to leverage our experience regarding
2 the management and security of radioactive materials to enhance safety and
3 security internationally.

4 Next we have the licensing product line. I'd like to start out here by
5 noting that the maintaining, updating, and enhancing the documents that guide
6 the national materials program is an extensive process. We currently are
7 working to update the consolidated licensing guidance for materials contained in
8 NUREG 1556. As shown in the picture on the left, there are 21 different volumes
9 to this NUREG that address the licensing of radioactive materials as prescribed
10 by the regulations. However, some of this guidance was issued 15 years ago or
11 more. Today we have 16 working groups that involve staff from NRC
12 headquarters, the Regional offices, and the Agreement States working together
13 to update the guidance, and the first two volumes were published for public
14 comment earlier this year.

15 In terms of outlook in this area, we see the need to continue these
16 guidance updates, and at the same time, we need to work to improve the
17 efficiency of the process we're using to do those updates. It's very inclusive, but
18 also very resource-intensive to do these. Beyond those updates, we see the
19 need for revisions to our inspection procedures and training materials related to
20 the guidance. In this area we hope to build on the experience that we'd gained in
21 working on the licensing documents. Our strategy in this area ties to the
22 economic driver, and simply our need to operate more efficiently. We need to
23 establish a routine cycle for review of program guidance and avoid the
24 accumulation of necessary updates over periods of years, because this simply
25 complicates the revision process and can cause some inefficiency as we

1 implement the program. I see a way forward here in that we can leverage
2 technology both in how we provide the guidance and how we maintain it as well.

3 Shifting now to the medical area. We've had a lot of significant
4 attention in this last year focused on permanent implant brachytherapy, medical
5 event reporting. In terms of outlook in this area, we see new and novel
6 technologies coming onto the market. On the right side of the slide, you'll see the
7 ViewRay device which provides image-guided radiation therapy, and the Infini
8 device, which is a radiosurgery device with sources that rotate around the patient
9 during treatment. These are new technologies and have never been licensed in
10 this country. As a result, the NRC and the Organization of Agreement States
11 recently reached an agreement to form a working group in order to form
12 necessary licensing guidance for these new types of products. The good news
13 here is that a rule put in place in 2002, Part 35.1000 allows for the use of new
14 and innovative technologies without the need for additional rulemaking, and that's
15 a big help. We also have the Advisory Committee on the Medical Uses of
16 Isotopes to help consult with us when we see these new technologies come
17 along. Terms of strategy here, we see ties to the societal and economic drivers.
18 We need to remain vigilant to emergent technologies and new uses of
19 radionuclides in medicine. We need to be able to provide timely reviews and
20 guidance that enable the safe use of new technologies in the practice of
21 medicine. Our collaboration with the Agreement State partners here is essential,
22 as their experience compliments the NRC staff's own experience in a number of
23 these program areas.

24 Next, moving to the Oversight Product Line. I'll touch briefly on
25 some of our inspection activities and what we're doing to enhance the oversight.

1 NRC has approximately 3,000 specific licensees as you've heard, and these
2 licensees are inspected by our business line partners in Region I, III, and IV. The
3 licensees include the non-Agreement States as well as other Federal agencies
4 regardless of the state they reside in, as well as the unique master of materials
5 licensees with numerous permittees. Our business line partners perform a wide
6 variety of inspections from medical facilities shown in the slide to panoramic
7 irradiators. Our outlook in this area is that we expect the number of Agreement
8 States to remain stable, and therefore our oversight activities in general will
9 remain stable. We do, however, have the work on procedures and process that
10 will follow those licensing updates that I mentioned ahead of us. We also have a
11 rather large number of enhancements to integrate into these program
12 documents, both in the oversight area and the licensing area. Over the last five
13 years, we've had 15 different self-assessments, task force reports, and external
14 audits that have given us good recommendations that we need to incorporate.
15 The challenge now is to integrate those as we actually do the updates.

16 In terms of strategy here, we see ties to economic and societal
17 drivers. We need to work with the Agreement State partners to ensure the
18 necessary oversight of the licensees, while at the same time we continually work
19 to improve the program. Similar to the licensing product line, we need to
20 establish a routine cycle of review for this area of our program to ensure it
21 remains up to date. Another future activity involves the ongoing Base
22 Realignment and Closure, or BRAC effort, under the Department of Defense.
23 Currently the DoD is working toward structure with a unified command for
24 approximately 100 different medical facilities in the greater D.C. metropolitan
25 area, and we'll need to work out how that will be addressed in licensing space.

1 Presently, the Air Force and the Navy have master materials licenses, while the
2 Army has a specific license for its separate facilities.

3 Under the Homeland Security product line, I'd like to touch briefly
4 on source management and source security. The integrated source
5 management portfolio, or ISMP, is a large information system with multiple
6 components including the National Source Tracking System. In August, the staff
7 deployed the web-based licensing component of the ISMP, and this was a
8 significant milestone in the development of a modern IT system for licensing
9 radioactive materials, some 20 years in the making. Our outlook in this area
10 includes, in the first quarter of 2013, a plan to deploy an improved system for
11 user access to the ISMP components. By the second quarter of 2013, we expect
12 to deploy the license verification system, which for the first time ever will enable
13 the online verification of a materials license prior to the transfer between the
14 distributor and the user. In this area we see ties to the technology driver. We
15 see multiple opportunities to enhance the efficiency and effectiveness of our
16 information systems by bringing old legacy systems under the ISMP umbrella.
17 This will help resolve obsolescence issues, it will help improve the quality of our
18 data and our licensing products that come out of the system, and at the same
19 time help reduce the cost associated with the maintenance and security of those
20 legacy systems.

21 Moving now to source security. As you all know, in March of 2012
22 the Commission approved the new Part 37 for Materials Security. And we're
23 presently awaiting the OMB approval for final publication. This was a major
24 accomplishment with significant coordination between the business line partners,
25 including the Office of Nuclear Security and Incident Response, extensive

1 engagement with our stakeholders, and close work with our Agreement State
2 partners. The rulemaking combined seven sets of security orders and
3 incorporated requirements for background checks, access control, and
4 coordination with law enforcement. Our outlook here is focused on the
5 implementation of these new requirements. We have a newly formed working
6 group on implementation that involves the headquarters, Regional, and
7 Agreement State staff, and they'll be focused on the revision of inspection
8 procedures, guidance, and other implementation products such as frequently
9 asked questions. We'll be updating training plans, course materials, and then
10 ultimately supporting the conduct of the training for all of the inspectors. Then,
11 ultimately we have to do the NRC review of the state regulations for compatibility
12 and coordinate with each of the states on rescission of NRC orders as the state
13 regulations become effective.

14 Another outlook area is our continued collaboration with the
15 National Nuclear Security Administration on their voluntary enhancements for
16 security that supplement the NRC's mandatory requirements. We also expect
17 continued work in the area of the task force on Radiation Source Protection and
18 Security. This organization involves 14 agencies, and the next quadrennial
19 report is due to the Congress in 2014, and we've just initiated the work within the
20 task force to prepare for that next report. In terms of strategy here, we see ties to
21 the economic drivers. We need to collaborate, cooperate, and communicate
22 effectively with our business line partners and Agreement State partners as we
23 plan and execute that implementation plan for the new security rulemaking. With
24 that, I'll turn it back over to Mark Satorius.

25 MARK SATORIUS: Thanks Brian, and I'll just very quickly

1 summarize some -- a few thoughts as we conclude the presentation and move to
2 questions. Materials users business line encompasses a great diversity of
3 devices and uses of radioactive materials. From the inherently safe generally
4 licensed devices with a few Curies to larger radiators containing several hundred
5 thousand Curies. Our expectations for the future are that we will continue to see
6 innovation in the use of radioactive materials for industrial and medical purposes.
7 Stakeholders across the country and around the world will see greater
8 transparency and more opportunities for involvement. Nationally, the materials
9 program is made of an interdependent group of independent regulators. This
10 system, complex by its nature requires a considerable level of cooperation and
11 collaboration. We are committed to working with our regulatory partners in the
12 States, Tribes, and other Federal agencies to continue to enhance the program
13 for the benefit of public health and safety. And with that Bill, we are ready for
14 questions.

15 CHAIRMAN MACFARLANE: Okay, great. Thank you, guys. That
16 was very informative. I will turn to Commissioner Apostolakis for the first set of
17 questions.

18 COMMISSIONER APOSTOLAKIS: Thank you, Madam Chairman.
19 Thank you all for your presentation. Mark, you listed a number of organizations
20 that support FSME, and among them was the ACRS. And I know that that
21 committee is very much involved in what NRO and NRR does, but I'm not sure
22 whether there is any formal guidance as to when your office goes to them and
23 whether they have the expertise to support your organization. So, do you have
24 any comments on this?

25 MARK SATORIUS: Well, within this particular business line, I know

1 we briefed the subcommittee recently on proposed changes to Part 20, and I
2 believe we're scheduled to address the full committee here this week sometime.
3 So there are those areas as far as doses and exposure information that we
4 routinely interact with ACRS. We have, just within this business line, that's what
5 immediately comes to mind. I don't know Brian, would you have any other
6 examples?

7 BRIAN MCDERMOTT: I think that's the most --

8 COMMISSIONER APOSTOLAKIS: But is it a judgment on your
9 part? Yeah, it would be a good idea to have the ACRS input on this particular
10 topic or not?

11 MARK SATORIUS: I think the best way to describe that would be
12 coordinating with Ed Hackett and pulsing him as to issues that we have coming
13 down the pike and knowing some of the areas where the committee has some
14 expertise outside of the pure reactor areas. That's probably the best that we do,
15 is that we maintain a relationship with Ed.

16 COMMISSIONER APOSTOLAKIS: Would you like for example to
17 see additional kinds of expertise on that committee?

18 MARK SATORIUS: I'm --

19 COMMISSIONER APOSTOLAKIS: Would be more useful to you?

20 MARK SATORIUS: I think we're open to any type of input. We
21 outreach to a lot of different stakeholders and welcome a wide variety of views.

22 COMMISSIONER APOSTOLAKIS: Good answer.

23 [laughter]

24 MARK SATORIUS: I worked hard on that one.

25 COMMISSIONER APOSTOLAKIS: Brian, you discussed the

1 Agreement States a lot and you said that the office is pleased with interactions
2 and arrangements. But surely, there must be some challenges that either we
3 face or they face, or we both face. So would you care to give us the top two for
4 example? I mean, please.

5 BRIAN MCDERMOTT: Certainly. Our relationship is very good
6 today, and I use the example of the working groups, however there are a number
7 of areas where we interact on a routine basis. You know, there's always interest
8 from the state perspective to provide additional assistance. States are currently
9 under a lot of budget pressure, so we are always doing what we can, following
10 the Commission guidance to provide assistance for training of their inspectors.
11 There's a benefit to the national program from doing that, but that's often a
12 frequent topic of discussion.

13 We've seen other concerns come up, and I wouldn't rate them at a
14 high level, but day to day there might be some activity that the states have not
15 been engaged in. For example, the staff recently has been looking at normal
16 occurrence criteria and although the states do have a representative on the
17 Advisory Committee for Medical Uses of Isotopes, there was expression of
18 interest at the recent Organization of Agreement States annual meeting that the
19 broader group needed to be involved in that as the staff develops new
20 recommendations for criteria that will be eventually brought to the Commission.
21 And so rather than just rely on one member of a state representation on another
22 body, we can go directly to the Agreement States on issues like that. And we're
23 always looking for those opportunities.

24 MARK SATORIUS: If I could add, Commissioner. We've heard
25 most recently at the annual meeting of the Organization of Agreement States,

1 and I've heard it before that, and there's -- and actually there's a policy paper up
2 before the Commission right now on adequacy and compatibility. That they
3 really -- some states are challenged more than others as far as regulations are
4 concerned and they're -- they always -- we hear them ask for flexibility, a degree
5 of flexibility in what compatibility category will place a certain requirement, so like
6 most things, you know, the answer sometimes is in the middle. And so, it's that
7 collaborative work that we -- on what we hear is a challenge for some states that
8 we're trying to be as accommodating. But at the same time, maintaining the
9 compatibility of their regulations and what they regulate to as our own regulations
10 and what we require our licensees to regulate to. And of course that examination
11 of the performance of the state programs is rolled up into our IMPEP program
12 which takes periodic reviews of the performance of state programs and looks
13 specifically at the adequacy and compatibility.

14 COMMISSIONER APOSTOLAKIS: Now the reactor side of the
15 house, has initiated an activity called "The Cumulative Effects of Regulation." Do
16 you think you might have something like that too? Are you familiar with it?

17 MARK SATORIUS: Yes.

18 COMMISSIONER APOSTOLAKIS: Okay, so...

19 MARK SATORIUS: You know, that 's probably an area but there's
20 just a little bit of difference between the reactor side and the materials --

21 COMMISSIONER APOSTOLAKIS: I'm sure there is, yes.

22 MARK SATORIUS: -- and the agreements program and agreement
23 organizations, so we have to be circumspect. I think we can learn aspects from
24 the reactor side, and we do from an inspection program and other areas. But --
25 and I think that it's something that we probably should look at and see if there's

1 something to learned there.

2 COMMISSIONER APOSTOLAKIS: Thank you. One last thing.

3 Brian, I believe you mentioned innovative technologies for new things. How does
4 that work? Do we take the lead to license them and the states support us, and
5 why should that be so? I mean --

6 BRIAN MCDERMOTT: Well, I mentioned Part 35.1000 --

7 COMMISSIONER APOSTOLAKIS: Yeah.

8 BRIAN MCDERMOTT: And what that allows organizations to do is
9 to basically get NRC approval for a licensing of new and unique devices,
10 because what was happening was the pace of new technologies and so forth
11 was too fast, essentially, for the rulemaking process. And this process has
12 worked well. There are two halves to the approval, so when an organization has
13 a new device, they need to get a sealed source and device registration for that,
14 that looks at the safety aspects of it. That follows the FDA's approval of the
15 device for medical use. That can be done either by NRC or by an Agreement
16 State depending on what's in their particular agreement. But once it gets
17 approved, it goes on the national registry. That takes care of making sure that
18 the device is approved.

19 In terms of licensing a body to actually use the device, that can
20 again be done by NRC or the Agreement States depending on where the
21 particular hospital is, say, that wants to use the new piece of technology. And so
22 when that comes up, we have an interest in working with the Agreement States
23 both for the possibility it may be licensed in NRC jurisdiction, but also to make
24 sure that nationally we have a consistent approach to licensing these new
25 devices. That licensing guidance actually is announced several ways, including

1 through the Federal Register, but also put on a section of the website. So it's
2 separate from the publication of those 21 volumes of guidance that address uses
3 of isotopes that are already in Part 35.

4 COMMISSIONER APOSTOLAKIS: Thank you. Thank you Madam
5 Chairman.

6 CHAIRMAN MACFARLANE: Okay, we'll turn to Commissioner
7 Magwood.

8 COMMISSIONER MAGWOOD: Thank you Chairman. Yeah, we
9 often -- we spend a lot of time talking about the reactor side. It's obviously the
10 most visible part of the NRC's mission, but the reality is that the work that FSME
11 does in terms of medical applications or even uranium licensing, things like that,
12 it brings us into contact with the public, the general public, and with a wide range
13 of businesses on a much, much larger scale than is true on the reactor side. So
14 really, when people actually have a direct interaction with NRC it's most likely in
15 your areas. So you're probably -- you who work in the Regions are probably
16 really where you see most of the public contact. So it's a very important area,
17 and one where I think it probably, where we find out whether we're a good
18 regulator or not because that's where people will have the most complaints. If
19 things take too long or things cost too much, or answers aren't -- questions aren't
20 answered quickly, you're going to hear about it from this side of the house
21 mostly, so it's a -- you're sort of at the front-and-center on a lot of these issues.
22 So I appreciate that. And I'm sure that, you know, the public watching today will
23 be very encouraged by how well organized the NRC staff, is that you all sat in
24 order of physical body size.

25 [laughter]

1 We're very regimented and very clear thinking about our
2 organization. The Agreement States obviously is an area that has somewhat
3 been a work in progress ever since the Agreement State program began.
4 There's always been some back and forth about how much flexibility the states
5 get and how much oversight NRC provides. And it's a constant tug-of-war to
6 some degree, and I think it's fair to say that most of the states are never entirely
7 happy with the relationship. But it works, and it seems to work quite well. And I
8 think that the one area where whenever I talk to state representatives, they're
9 always very pleased with is the training aspect. I think that -- particularly now
10 and as we've often talked in our case and the case of NRC, we were going
11 through this demographic shift where we're losing a generation that grew up, you
12 know, in the '60s, '70s, and they're beginning to retire. And people who were
13 born in the '80s and '90s are now taking their place which is a pretty big change.
14 In Agreement States, this is even more pronounced and we're seeing many
15 people retiring and we'll see lot of expertise walking out the door. So this training
16 has become very important to them. And I know that there have been several
17 states who have expressed a desire to return to that five-week basic health
18 physics course, and also expressed a desire to see an addition of a nuclear
19 medicine course, or brachytherapy course. Where are we on that? Has FSME
20 begun to react to that yet?

21 MARK SATORIUS: Well, I know that and I think Brian will probably
22 have some amplifications to put to my comments. But as to your latter comment,
23 Commissioner, on the brachytherapy and the nuclear medicine course, I believe
24 that's what you said, traditionally, we have had, in previous fiscal years, two of
25 those courses, each of those courses per year. Is it 2013 or 2014, Brian, that

1 we're going to three -- offer three of those classes, is it '13?

2 BRIAN MCDERMOTT: Move to '13 --

3 MARK SATORIUS: So in '13 we'll have -- which I think will provide
4 about eight additional slots for the Agreement States on both of those courses.
5 And so to answer your question, I think we are sensitive to be able to provide
6 support and realizing how important it is to be able to get their organization
7 qualified so that they can perform the important inspection activities that they do.
8 Now as far as a five-week course so you have something to add?

9 BRIAN MCDERMOTT: On the medical course, just to mention
10 briefly, you know, one of the issues we ran into was a five-year contract cycle
11 after the Commission reauthorized the expenditure of funds on training for the
12 Agreement States. So we had come to the end of that contract with no more
13 courses to offer, and we had to wait until the new vehicle was in place. So
14 hopefully that's an anomaly. In terms of the five-week course, as we looked at
15 that issue, what we had in place was two different courses that were, say, one-
16 week course and a two-week course. We added a third two-week course to that
17 that filled out the gap between the original five-week course that folks spoke so
18 highly of. And what that enabled us to do was have more customizable training
19 opportunity for the states. So if individuals didn't need the five weeks, they didn't
20 need to attend a locked-in five-week course. And at the same time, NRC
21 wouldn't be paying for the full five-week course. So it provides greater flexibility,
22 we ran two of those gap courses last year and had very positive feedback. So I
23 think we had a success path there.

24 COMMISSIONER MAGWOOD: Just make sure I understand. Is it
25 -- this is that, I think, the point we talked about in the past, but I want to make

1 sure I understand -- are we offering both options, both the full traditional five-
2 week course in the more parceled out part or just the sections, you know --

3 BRIAN MCDERMOTT: Our intention is to move to the composite
4 five weeks.

5 COMMISSIONER MAGWOOD: Okay. All right. As opposed to the
6 --

7 BRIAN MCDERMOTT: The one course. --

8 COMMISSIONER MAGWOOD: You know, another area of training
9 which I have begun to hear about in the last year and I'm sure this issue's been
10 around a lot longer, I'm just becoming more aware of it, is that there is some
11 desire of non-Agreement States to receive -- to have an opportunity to receive
12 training, particularly in the general health physics area. And I'm curious, what's
13 our ability to do that? Is it something that we've looked at in the past, what are
14 the restrictions? If you want to elaborate on that.

15 BRIAN MCDERMOTT: We do. We have provided training for non-
16 Agreement States in the past. It usually enters into the process through the
17 emergency preparedness arena, that's where folks tend to -- people in the state
18 EP programs have an interest. And we have conducted that training. We have
19 not funded that in the past, we do allow them to attend the course for free, but we
20 don't pay it for the travel like we do for the Agreement States. And the other thing
21 is that it's based on availability. So our first priority is providing the training for the
22 Agreement State staff, the NRC staff, and MML staff that require the courses for
23 their qualifications and so forth. But beyond that, we would make those courses
24 available.

25 MARK SATORIUS: And just from my perspective, it's a hard sell to

1 have a non-Agreement State person come in and take a seat where an
2 Agreement State person needs the course.

3 COMMISSIONER MAGWOOD: I would agree with that. When --
4 so, it sounds like you've had conversations about this. Are they requesting travel
5 funding or are they just looking for availability and slots in the courses? What are
6 they asking for?

7 MARK SATORIUS: I don't think we've ever -- I shouldn't say ever --
8 I'm not aware that we funded a non-Agreement State's travel for a person to
9 attend a course. Are you familiar --

10 BRIAN MCDERMOTT: I can add that we don't have any specific
11 requests in at this point. We know the issue was brought up recently and -- but
12 we don't have any specific requests in front of us.

13 COMMISSIONER MAGWOOD: Okay. Just -- you mentioned the
14 travel protocol that you're working on. What's -- give us a little more, what steps
15 have been taken so far? Have there been any meetings yet or are we just
16 gearing up for that? Developing the Tribal protocol?

17 BRIAN MCDERMOTT: Yes, actually, that's coming close to being
18 issued for public comment. So the -- I think within the next couple weeks, that
19 should be going up.

20 COMMISSIONER MAGWOOD: Okay, so that would be the first
21 step?

22 BRIAN MCDERMOTT: Yes, sir.

23 COMMISSIONER MAGWOOD: Okay. All right, thank you. Thank
24 you, Chairman.

25 CHAIRMAN MACFARLANE: Okay. Commissioner Ostendorff.

1 COMMISSIONER OSTENDORFF: Thank you, Chairman. Thank
2 you all for your presentations. I'd like to start out, Mark, in the area of the
3 medical rulemaking, Part 35, I have a couple questions in that area. Please feel
4 free to vet to whoever you want to have answer it. This started out with the
5 petition back as I think in 2006, it came to the agency, petition for medical
6 rulemaking and looking at a final rule in 2014. I know there's been some
7 controversy on the medical event definition in a lot of feedback and with
8 stakeholders in the medical community and so forth. Are there any big-picture
9 lessons learned that we had that would inform other future rulemakings based on
10 this seven or eight-year experience?

11 MARK SATORIUS: Yeah, I might, I'll start with an answer to your
12 question, Commissioner. And I think Mike Fuller is in the office, he can probably
13 give some perspective because my understanding is that the rulemaking was
14 undertaken in the 2006 time frame. And if -- I'm not sure if you were on the
15 Commission at that time. But we were into the rulemaking activities when the VA
16 Philadelphia problem occurred. And so it caused us to draw back, some, lessons
17 learned there is, sometimes you have to shift, because we drew back from our
18 rulemaking, do we need to look at this a little bit differently because of what
19 happened with the Department of Veterans Affairs at the VA Hospital in
20 Philadelphia. So that kind of gave us a side step before we were able to get that
21 behind us and move forward. But Mike, would you be able to provide any
22 clarification?

23 MICHAEL FULLER: Well, I think you're exactly right. Again, Mike
24 Fuller, I'm the team leader for the Medical Radiation Safety Team. I believe Mark
25 is right. In that particular case, when it came to the medical event criteria for

1 permanent impact brachytherapy, we were well on our way and then we had to
2 pause and see if we were on the right track. As it turns out, we are pretty close
3 to where we were back in the 2005, 2006 time frame. But in terms of your
4 question about lessons learned, one thing that I feel strongly about is that the
5 work that we did in outreach, the workshops that we put together, the work that
6 we did reaching out to the medical community as a whole, working with their
7 Agreement States and working through the ACMUI, provided us insights and
8 invaluable opportunities for alignment. And I think that, for me, has been a real
9 success story in allowing us to get in front of you a paper and now the direction
10 from you to end up in rulemaking space somewhere I think it'll carry us a long
11 way. And we shouldn't have this sort of bumps and problems that had preceded
12 in earlier rulemaking attempts.

13 COMMISSIONER OSTENDORFF: And I'm not critical of what
14 you've done at all. I'm just trying to figure out, it is a sort of long period of time,
15 trying to see if we've taken away anything. I think what I'm hearing is the pausing
16 and going back for enhanced or additional stakeholder engagement was a big
17 takeaway from this one. Let me -- I'm going to stay on this topic just for a
18 second. Can you update us on where you are? I think that the Commission
19 directed that there would be an interim enforcement policy? Can you tell us
20 where you are on that?

21 MARK SATORIUS: I think Brian probably has an update or Mike
22 has one. I don't know specifically.

23 MICHAEL FULLER: Yes, we had some specific direction in that
24 latest SRM for not only interim enforcement policy but also to develop some
25 further guidance and outreach. So we have drafted the RIS, it is going through

1 the normal process to explain to our licensees exactly what to expect under the
2 current rules until we get to the new rule. And then that bridge, that interim
3 enforcement policy, is something that we are currently working with the Office of
4 Enforcement and drafting that document and my understanding is that that will be
5 coming to the Commission in the form of a paper, you know, fairly soon. I can't
6 say, as I can't speak for the Office of Enforcement exactly where we are the
7 schedule, but I know that we are all -- we were immediately engaged with them in
8 developing that information that could come out in an interim enforcement policy.

9 COMMISSIONER OSTENDORFF: Final question, and maybe ask
10 Elmo if he has a perspective from the Regions here. At prior Commission
11 meetings we had at least two or three in this area since some of us have been on
12 the Commission and I know there had been a lot of controversy, or at least some
13 debate on what impact the medical event definition was having on the actual
14 prostate brachytherapy treatment procedures and, you know, the dust has settled
15 a little bit maybe, I'm just curious to see, have you seen any statistically
16 significant decrease in the number of procedures occurring because it's the
17 concern on the definition?

18 MARK SATORIUS: I think the answer to that, we talked to a
19 number of stakeholders and practitioners that we would say that the numbers
20 had dropped off since the VA Philadelphia issue. Elmo?

21 ELMO COLLINS: Yeah, thank you, Commissioner. Because of the
22 absence or drop-off, you know, I haven't -- what we go out and see, you know,
23 and it's hard for us to see what we're not -- what's not happening. So I don't
24 really have a good perspective from my inspection and feedback on that topic.
25 But I had not heard that report but it very well could be true.

1 COMMISSIONER OSTENDORFF: Thank you.

2 MICHAEL FULLER: I can add one thing based on a number of
3 presentations we've had from the American Brachytherapy Society as well as
4 ASTRO, is that there are a number of factors that have affected the decrease in
5 the number of permanent impact brachytherapy and especially prostate
6 brachytherapy procedures that are being done. But the fallout from some of the
7 problems that were addressed as a result of the VA Philadelphia events and then
8 the subsequent media attention to that has been a contributor. But it's not
9 probably the biggest driver.

10 COMMISSIONER OSTENDORFF: Thank you. I'm going to turn
11 quickly to the issues of source security and I guess this is going to be for Mark
12 and perhaps Jim Wiggins. This goes back to the Government Accountability
13 Office report and your response back to the GAO. And I've got, as others do, a
14 lot of respect for GAO and what they do for our government, but I wanted to
15 commend, Mark, your team for providing factually based feedback and clearing
16 the air, setting the record straight, whatever phrase you want to use on that
17 report, which was, I think -- your feedback was really needed, and thank you for
18 doing that. A few weeks back, maybe two months ago, I understood that we still
19 had not received from GAO what were the hospitals or areas of concern, have
20 you received that since that report came out?

21 MARK SATORIUS: No.

22 COMMISSIONER OSTENDORFF: I think that is just as
23 unfortunate where problems being identified and yet there's not the cooperation
24 and communication between that other arm of our government to help us to do
25 our job better. I just -- it's not a question, just making a statement here. But I did

1 want to commend you and your team for having taken a significant
2 communications step, especially an area of -- because I was familiar with the
3 NNSA upgrade programs, here had been the implication that if you didn't
4 participate in that program, you weren't compliant with security standards, which
5 is clearly not the case. Jim, I would, you know, from where you sit as head of
6 NSIR, do you have any big lessons learned from this particular source security
7 report or anything that is of concern that you that you want to comment on?

8 JIM WIGGINS: Not that you haven't touched. I agree with you, it's
9 important to get the specifics so we can look at a question that Mark and I have
10 discussed before. If you take what was found, by GAO factually, you need to ask
11 questions about where our inspection programs are, not just ours but in the
12 Agreement States. Is there a tune-up needed? There are certain aspects, the
13 thing I keep focusing on is the locked door with the combination on the door
14 jamb. I mean, that's not acceptable to anybody in any fashion as a method of
15 securing a facility. Without knowing where that is, you can't start the process to
16 unravel what was or wasn't known about that. You know, you got to ask
17 questions on depth of inspection and inspection frequency. You know, how long
18 has that thing been there? And without having the details, you're kind of inhibited
19 in that, you're left with taking some grandiose, sort of general action, which is
20 something out of my grade school experience, I don't like, you know -- I don't like
21 the idea that you are doing something generally, you need to start specific and
22 then generalize it based on what you learned out of the specific, not keep the
23 whole licensed population after school, if you understand the metaphor.

24 COMMISSIONER OSTENDORFF: Sure, absolutely.

25 MARK SATORIUS: I agree with Jim and, you know, we really need

1 to know the details before we can step back and take a look programmatically to
2 see those issues that need to be dealt with. It sounds to me like we don't know
3 that there could have been a wrongdoing involved, we need to engage the Office
4 of Investigations to see, so we need more information.

5 COMMISSIONER OSTENDORFF: Well, I just -- I don't have time
6 for another question on this but I would just suggest that if the Commission can
7 be helpful in this, in interfacing with the GAO, I would encourage you to give the
8 Commission the opportunity to help you out in this, I think it's unfortunate that we
9 don't have that information that has been presented.

10 MARK SATORIUS: Thank you, we'll take you up on that. And
11 thank you for your recognition of the staff on that response to GAO.

12 COMMISSIONER OSTENDORFF: Thank you. Thank you,
13 Chairman.

14 CHAIRMAN MACFARLANE: Okay. I have a couple of questions
15 here. We'll start back with the medical stuff. So I've been reading especially, just
16 before I started here, a number of articles in the paper about radiation doses to
17 members of the public when they receive medical procedures, et cetera. And so
18 I'm just wondering and maybe this is a question for you, Mark, or for Brian
19 Sheron, what NRC's research is into this particular issue?

20 MARK SATORIUS: Well, I'll get started, Chairman. And we sent a
21 paper up, I think it was last January, about patient release issues, you know,
22 patients being released from a doctor's care and at what time after the procedure
23 and are they a source that will --

24 CHAIRMAN MACFARLANE: Right.

25 MARK SATORIUS: -- radiate people on the bus or people. And

1 some of them --

2 CHAIRMAN MACFARLANE: Their family, or pets --

3 MARK SATORIUS: And their family. Some of them have even
4 checked into a hotel to stay away from their family, and as a result, with just
5 normal activity within -- they'll contaminate the hotel room. So we came forward
6 with a paper and received direction from the Commission and are now engaged
7 with the Office of Research in setting up a users need which is just about done to
8 move forward on gaining some specific data that will allow us to be more
9 informed as we make -- go back to the Commission after having conducted some
10 studies. And this is a user need that we're trying to set up with milestones as we
11 go down the research path to ensure that we're getting what we need. And
12 seeing if the cost is in line with the data that we're going to get and how we can
13 use that data. Just, we're being mindful of resources is I guess what I'm trying to
14 say. So, I don't know, Brian, did you want to add anything?

15 BRIAN SHERON: Oh, well I mean, we've already actually started
16 some work on it even though we're working with, you know, the folks there with
17 trying to get a user need. We've drafted a statement of work, we've also done
18 preliminary technical literature research in this area. We've compiled some
19 important field data and we've also started some dose calculations using Monte
20 Carlo methods down at Oak Ridge on this. And, like I said, the statement of work
21 is just, you know, basically, once we finalize the user need, we'll put it out for bids
22 and then we'll get started on it with a contractor.

23 CHAIRMAN MACFARLANE: Okay. Well another question for both
24 of you. So in the area of medical innovations, the issue that I used to teach
25 about was nanotechnology. And wondering about -- it's not just limited to

1 nanotechnology, but there are a number of areas in medicine and biotechnology,
2 bioengineering, et cetera. I'm just wondering about our abilities to evaluate these
3 technologies and whether we have the staffing capability to evaluate these
4 technologies to know what questions to ask, et cetera.

5 MARK SATORIUS: Well, I'll start, Chairman. And one of the things
6 that I think I mentioned in my presentation is that some of these technologies just
7 like the computer and iPhones and everything else are changing every six or
8 eight or 10 months. And one of the things that Brian and I, you know, at the end
9 of the day when we're sitting around kind of wrapping things up, we'll talk
10 informally about is our infrastructure and our process right to be able to be nimble
11 enough to do with these devices what needed to be done so they get an
12 appropriate safety review so that we can assist in licensing these devices that
13 help people.

14 CHAIRMAN MACFARLANE: Yes --

15 MARK SATORIUS: So it's something that we've kind of got on our
16 radar screen, we've not putting pen to paper, but we're looking at --

17 CHAIRMAN MACFARLANE: Right.

18 MARK SATORIUS: -- these advanced technologies and is there
19 something that we need to be thinking about doing differently or adjustments that
20 we need to make --

21 CHAIRMAN MACFARLANE: Yeah. I mean to --

22 MARK SATORIUS: -- to provide, to be more nimble.

23 CHAIRMAN MACFARLANE: Well, not just to be more nimble, but
24 especially with something like nanotechnology where you have materials that
25 behave in an entirely different way from regular materials. It's a different -- it's a

1 whole different thing. So I mean, we need -- you know, a lot of universities have
2 spread into this area, we really need, I think, to understand this pretty well
3 ourselves.

4 BRIAN SHERON: I was just going to -- I'll add that, you know, that
5 just like Mark said, we have to kind of keep our ear to the ground in terms of what
6 these technologies are. You know, decide, you know, what amount of resources
7 we need to put on them. Whether we need additional expertise in the staff or
8 whether we contract it. And that's sort of a routine thing that we do in Research,
9 you know, is make those judgments, you know, in terms of what we need and so,
10 interacting, with Mark and his staff, we kind of reach I think the right conclusion
11 most of the times.

12 MICHAEL WEBER: Chairman, if I could, Mike Weber from the
13 EDO's office, we've also participated in several workshops on nanotechnology
14 because we are looking at this as a leading technology and we need to
15 understand what the ramifications are with respect to human exposure and how
16 the material would then migrate in the environment. The Office of Science and
17 Technology Policy has been sponsoring committees that have focused on this.
18 We have been monitoring what our sister Federal agencies have been doing in
19 FDA and the Environmental Protection Agency on nano particles and the effect
20 that that would have on radiation exposures and transmissions through the
21 environment. So, you can see, I think it's a good example of where the NRC
22 identifies something on the horizon and then has to formulate a strategy in order
23 to ensure that we have the capabilities so that we can carry out our mission. And
24 that is to ensure that the protection of people and the environment. And
25 nanotechnology is one of those technologies.

1 CHAIRMAN MACFARLANE: Yeah. Okay, good, thanks. All right,
2 a couple other questions. So back to the dog bowls and the Kleenex process,
3 the contaminated scrap metal in general. So I'm interested in understanding
4 what exactly is done with this material once it crosses our borders and is that
5 identified. And then of course, we identify it but there's some source somewhere
6 else in some other country that's much -- getting much higher dosages. What --
7 do we have follow-up overseas, what happens?

8 MARK SATORIUS: I'll get started on that. I know that with the two
9 most recent cases, which was the dog dishes and the Kleenex holders. First of
10 all, I think it's important to say that a large number of these type of materials that
11 are contaminated are in fact detected before they clear customs. So with those
12 materials, they haven't really entered the United States, so they can be sent
13 back.

14 CHAIRMAN MACFARLANE: So is that, that's what happens?
15 They're sent back?

16 MARK SATORIUS: Well, if they're detected before they clear
17 customs. The problem is that that's for the Kleenex holders, those were detected
18 in a container that arrived in the East Coast and was discovered in California. So
19 when it's already gone across country, then it becomes a different matter. And in
20 that particular case, we had a very responsible owner, Bed, Bath & Beyond that
21 hired the appropriate contractors so that the material was collected -- well first of
22 all, it was removed to an isolated part of the stores until a contractor could collect
23 it all and it was disposed of in an appropriate disposal site in the United States.
24 And then the other thing that is important here is it is -- they are radioactive but
25 they're very, very low sources.

1 CHAIRMAN MACFARLANE: No, I know.

2 MARK SATORIUS: So, I don't know, did you want to add anything,
3 Brian?

4 BRIAN MCDERMOTT: That – Mark summed up how it's being
5 done today. This is an area where the staff is continuing to work with our Federal
6 partners. I mentioned the IAEA's draft Code of Conduct --

7 CHAIRMAN MACFARLANE: Right.

8 BRIAN MCDERMOTT: -- that touches on this area in terms of the
9 trans-boundary movement of the scrap metal. But as we were working on that, it
10 was obvious that the contaminated consumer products were on everyone's
11 minds --

12 CHAIRMAN MACFARLANE: Right.

13 BRIAN MCDERMOTT: -- as we're dealing with that issue.

14 CHAIRMAN MACFARLANE: So I'm curious. Is there, do we do
15 any follow-up, does anybody do any follow-up, when you say, "Sorry boat, you
16 can't come in here. You can't dump this stuff, go back." Where does it really go?
17 And then what -- do we follow-up with the source country? Do we --

18 MARK SATORIUS: Yes. We worked -- I know with the tissue
19 boxes and the pet dishes, we work with the Office of International Programs that
20 coordinates with the nation of origin regulator so that feedback is provided and so
21 I think the answer is we use our own internal organization --

22 CHAIRMAN MACFARLANE: Yes

23 MARK SATORIUS: I think the Department of State is also involved
24 in this matter as well.

25 CHAIRMAN MACFARLANE: And do we track the boat that goes

1 back with the stuff or not? We don't know where it goes? It could go anywhere.

2 BRIAN MCDERMOTT: We're not necessarily directly involved in
3 that. That's between customs and border protection and --

4 CHAIRMAN MACFARLANE: Right. Okay

5 BRIAN MCDERMOTT: -- Department of State.

6 CHAIRMAN MACFARLANE: Just curious. Okay. All right. Well, I'll
7 stop there and turn it over to Commissioner Svinicki.

8 COMMISSIONER SVINICKI: Good morning and thank you all for
9 the work you do and all the staff. I know you're representing the work of many
10 hundreds of NRC staff members, so I want to thank them for the work they do on
11 these issues as well. I would begin by reflecting, I think it was Commissioner
12 Magwood who commented that since we've had a lot of Fukushima-related
13 follow-up activities over the last year or so, I think that the issues we're talking
14 about this morning have not maybe been as squarely on the Commission's radar
15 screen, but they are very important. I also agree with Commissioner Magwood's
16 reflection that if we look at where the work of the NRC and the Agreement States
17 touched the most lives, it's probably in these areas. And I would be surprised if
18 there were anyone around this table or in this room, particularly on the topic of
19 nuclear medicine that hasn't had themselves or their families very directly
20 impacted by that.

21 I appreciate that Chairman Macfarlane was talking about a lot of the
22 recent media coverage of how much medical exposures have been increasing in
23 this country, now that's a good news maybe. But I don't want to say good news,
24 bad news, you know, we need to be thoughtful about how we approach this.
25 Wonderful benefit is that we have all of these diagnostic -- nuclear medicine

1 diagnostic techniques which allow the medical community to have such greater
2 insights and craft treatments for various types of diseases that we have. I know
3 that some Agreement States, I'm going to credit New York State, I think it is, have
4 Imaged Gently campaigns where they're trying to communicate to both citizens in
5 the medical community, though, that for children and others, some of these
6 exposures -- I'm separating diagnostic and therapeutic, therapeutic techniques
7 are needed exposures. But the diagnostic, obviously, we want to apply our as
8 low as reasonably achievable philosophy there and we want to encourage states
9 and the medical community to do that. So, you know, I appreciate those
10 reflections by my colleagues on those two important topics. I wanted to turn in
11 more detail to Web-based Licensing and National Source Tracking System
12 issues. Commission meetings on this topic in the past have spent some time
13 discussing some of what I'll say are broad user interface issues of the
14 credentialing process, which was rather involved. I know that we looked if there
15 were opportunities to make that a little bit more facilitated or user-friendly. Also,
16 data import issues and people faxing in data to be manually entered. And so is
17 there anyone in the well or at the table who could speak with a bit of detail, but
18 elaborate somewhat on progress that we might be making in these areas?

19 BRIAN MCDERMOTT: Sure, Commissioner. Regarding the user
20 access to the system, I mentioned briefly in my notes, the fact that we're looking
21 to launch a new user sign-on process in the first quarter of 2013. And that will be
22 the action to address the Commission's direction that allowed us to adjust the
23 security level for access to the system.

24 COMMISSIONER SVINICKI: Is that the principle change is
25 adjusting that or did we work with users on any other things we could do to make

1 the process smoother for them?

2 BRIAN MCDERMOTT: Well, it actually does both at the same time.
3 So a lot of problems that people had when they were trying to access the system
4 originally dealt with the version of the browsers that they were using and
5 certificates that they had to load in addition to the credentialing process that got
6 them the card. What we're working on now is a technology that would be
7 independent of those technologies. So it would be the -- you may have seen
8 them, the key fobs where the pass code on the key fob rotates automatically over
9 time. And that provides a way that they can get access to the system much
10 easier. So that's one of the technologies that we're looking at. Along with that,
11 there will be a streamlining of the process for them to actually get the credentials.
12 All the people who have gone through the trials and tribulations to get current
13 credentials will be converted over and for the new ones, it will be even easier to
14 get those credentials, while still ensuring we have validation of who the users
15 are.

16 COMMISSIONER SVINICKI: And then on the issue of like bulk
17 data, importing, and things like that. Could you talk a little bit on where we are
18 with that and what -- how much of the manual entry is still going on, sort of
19 people faxing in the information?

20 BRIAN MCDERMOTT: What we still have ongoing is -- well you
21 mentioned bulk transfers. Some of the large distributor's materials provide us the
22 notifications of their shipments in large files and we're able to import them so that
23 reduces the amount of manual updates needed. But the other important thing
24 that's happened over the last year or so was taking what had been the faxed
25 forms on transactions and converting that into an Adobe pdf form. That once

1 filled out by the users could be sent with a click of a button. And that has gone a
2 long way to improve the quality of data on the form that comes in --

3 COMMISSIONER SVINICKI: I knew we were, because sometimes
4 the fax, just the ability to read a fax form if a number might look like a nine or an
5 eight or something like that and we were a little concerned about QA, the Adobe
6 pdf, does that help with the clarity and accuracy?

7 BRIAN MCDERMOTT: It has.

8 COMMISSIONER SVINICKI: Okay.

9 BRIAN MCDERMOTT: It has, and there's also a greater automated
10 process if you will to pull that data in as opposed to somebody keying in the data
11 that was on the fax. So you eliminate a couple of opportunities for human error
12 there.

13 COMMISSIONER SVINICKI: Okay, all right, thank you, that's very
14 helpful. I think those things will help eliminate some frustration with the system
15 and obviously we want it to work well and to have the right kind of usability so I
16 appreciate that we continue to keep our eye on the ball there. The other topic
17 that I wanted to talk about was slide nine, which had talked about the radiation
18 protection standards. I wanted to drill down a bit into the statement that we have
19 data that shows that more than 99 percent of workers get less than the
20 recommended ICRP average of 2 rem in a year. I believe that the point was also
21 made the issue was how to effectively reduce the doses for the small fraction of
22 people who are receiving doses close to the present dose limit -- this is
23 occupational exposure center I'm talking about here. Are we the ones -- in terms
24 of the data that we have access to, are we actually analyzing it or do we have --
25 are there other published reports by NCRP and other groups that look at U.S.

1 occupational exposure rates, reactor employees versus materials users, and
2 things like that. Like who is doing the authoritative seminal work there in terms of
3 not just not collecting the data, because I realize that people need to do that for
4 compliance, but analyzing it.

5 MARK SATORIUS: Well I think that our conclusions are based a bit
6 on ICRP information that's available. We also use contractors to evaluate some
7 as well. But I think if I were to ask Don Cool to come to the podium, I think Don
8 is in the audience, Don would be able to properly answer your question better.

9 DONALD COOL: Good morning, Commissioner. Commissioners,
10 I'm Donald Cool with FSME. The answer is actually both. The National Council
11 on Radiation Protection Measurements in their Report 160, did a lot of analysis of
12 data which they obtained directly from dosimetry processors. The downside to
13 that of course is that that can't be correlated with what calculations may have
14 been done afterwards. That's raw data. So that gives you one flavor of the
15 distribution, but perhaps not all the information to what extent effective dose was
16 calculated from a bad treating and those sorts of things.

17 The other half of that is that we also do data analysis, the Office of
18 Research, working with their contractor on the REIRS database, the Regulatory -
19 - Radiation Information Reporting System which annually does a NUREG which
20 analyzes the data that's reported to us. Now the downside there of course is
21 there are only seven categories of licensees and that doesn't translate to
22 requirements for the state's data. So that actually gives you a very limited
23 subset, principally the reactors.

24 COMMISSIONER SVINICKI: If I could --

25 DONALD COOL: We went out and mined state data and got a little

1 bit more as part of the process that we had been doing over the last couple years
2 and that was recently published as another NUREG.

3 COMMISSIONER SVINICKI: Okay, so if I could ask you to stay at
4 the microphone then, is that also where the staff's point about the nuclear power
5 reactors are the best with only a few dozen people exceeding 2 rem in a year,
6 would that come from our analysis or from the NCRP report that you --

7 DONALD COOL: You see it in both sets of data.

8 COMMISSIONER SVINICKI: In both, okay. And so, I guess my
9 follow-up question is much more general. Stepping back from the specific data
10 that I was just asking about, when the NRC as a agency is contemplating
11 something like a regulatory requirement for fibrous material and containment
12 sump-related issues, that the regulated community comments to us could
13 significantly increase occupational exposures, at the same time that we have
14 under contemplation possible adoption of ICRP requirements to reduce those
15 occupational exposures, do we look holistically at where our regulatory
16 requirements might increase occupational exposures versus data and health
17 effects and, you know, the other side of the house in FSME?

18 I don't know how closely we coordinate that and I know that the
19 answer could be that what we've heard from the regulated community on
20 containment sumps is, well an overall number for occupational dose that would
21 potentially be received to remove the fibrous material. But you could spread that
22 over more workers, but I don't think it's practical to say that someone is going to
23 be qualified to work in the nuclear industry and they're going to do a job at one
24 plant for two weeks and get their dose for the whole year, I mean, that's just not
25 practical and that won't happen, so what's our thinking on that? And I'm being

1 holistic about this.

2 DONALD COOL: If I could go ahead and just answer that question
3 for you, Commissioner. We do look at those issues. We interact with a wide
4 variety of stakeholders. I can't say that we specifically had discussions with the
5 power reactor community about the fibrous materials in the sumps. There had
6 been discussions with them on a variety of the issues and the things that they are
7 looking at and the implications of different job types. There's actually a
8 tremendous amount of work that goes into looking at best practices, international
9 benchmarking of things that had been done in an outage somewhere else to see
10 if there's lessons learned. But the same thing happens on the materials side
11 where we interact with all of the different medical and industrial uses, the things
12 that they do, where they're getting their doses, what the implications are for the
13 various limits, that's part of the process that we're trying to engage with the
14 stakeholders to really dig into the details and understand what it means for them.

15 COMMISSIONER SVINICKI: That's useful. I thank you for that
16 because I think that that kind of analysis will help us to be more informed about
17 this and I'm over my time. Thank you, Chairman.

18 CHAIRMAN MACFARLANE: Okay. No problem. Let me ask my
19 colleagues if they have further questions? No, okay, good. All right. Well, thank
20 you again, staff for great presentations. We will take a five-minute break now and
21 re-adjourn.

22 [break]

23 CHAIRMAN MACFARLANE: Okay, we will get started again. And
24 we will start straight with Mark Satorius.

25 MARK SATORIUS: Thank you, Chairman and Commissioners.

1 We're here -- I'm still Mark Satorius

2 [laughter]

3 And with me now is Larry Camper, who is the director of the
4 Division of Waste Management Environmental Protection. He and I will be
5 walking through this business line. Similar to our earlier presentation, I'll
6 introduce the business line drivers, including both internal and external elements
7 of the drivers, outline product line accomplishments, and follow up with outlook in
8 strategic major programs areas that will influence the future of our business line
9 under each product line. Also, the business line partner that I toggled through in
10 the previous presentation remain the same for the decommissioning and low-
11 level waste business line.

12 As far as the business line driver, we still have the three
13 technological, societal, economic, and international. Technological drivers are
14 large scale low-level waste blending and uranium deconversion; site specific
15 performance assessments that provide comprehensive protection; and future
16 rulemaking on updating the waste classification tables, including depleted
17 uranium. Societal drivers are the desire to avoid future legacy sites. In other
18 words, for the most part, communities do not want sites that cannot be
19 decommissioned effectively. Different stakeholders prefer different outcomes in
20 new uranium recovery licensing. Stakeholders expect stabilization of uranium
21 mill tailing sites or complete cleanup. Economic drivers include limited
22 availability for disposal of certain low-level waste, and a worldwide demand for
23 uranium and uranium spot price influence the scope of licensing; in other words,
24 the price per pound of uranium is a driver in the licensing of uranium recovery.

25 International drivers include the International Atomic Energy

1 Agency and nuclear energy agency interactions increasing. We are obligated by
2 treaty to support the Joint Convention on the Safety of Spent Fuel Management
3 and on the Safety of Radioactive Waste Management. An increasing request
4 from developing countries for NRC assistance, because NRC is seen as an
5 international leader in low-level waste and decommissioning.

6 As depicted, there are five product lines within this business line.
7 Two of them are being combined, research and rulemaking, for this briefing, and
8 I'll go right into licensing. For the licensing product line we perform
9 decommissioning work. The universe -- the universe of decommissioning is
10 broad and includes over 80 diverse sites: power reactors, such as design station;
11 research and test reactors; uranium recovery facilities, such as Churchrock; and
12 fuel facilities. And in the slide you can see, you can see the Zion reactor head
13 being staged into a container for disposal, and also the Churchrock site that is a
14 uranium recovery facility that is in decommissioning. It's important to note the
15 extensive coordination support received from the Office of Nuclear Security and
16 Incident Response, with respect to progress on the shallow land disposal area in
17 Parks Township, Pennsylvania.

18 Some of the accomplishments. We've completed decommissioning
19 and license termination at two research reactors -- two research and test
20 reactors: the University of Arizona and the National Aeronautics and Space
21 Administration Plum Brook reactor. We've made substantial progress on many
22 complex material sites for unrestricted release, including the Breckenridge
23 disposal site in Michigan. And power and research and test reactor
24 decommissioning is commonly known, but we also have uranium recovery site
25 decommissions under the 1978 Uranium Mill Tailings Radiation Control Act. Our

1 outlook is, we see the licensing in these areas to remain about steady.
2 Challenge of legacy sites with unique decommissioning issues and approaches;
3 for example, number one is the shallow land disposal area, physical security and
4 materials control and accountability issues. The Churchrock facility in New
5 Mexico, and Zion in northern Illinois.

6 Our strategy, as we move forward, we see it linked to this societal
7 driver, and the decommissioning program must have an effective, cooperative,
8 creative, and flexible approach to address emergent issues. Actions include
9 radium and uranium recovery decommissioning guidance, rulemaking,
10 decommissioning planning rulemaking, and future rulemaking and prompt
11 remediation efforts. There's also licensing activity in in-situ recovery. And, as
12 the slide shows, you can see a Wyoming facility that is engaged in in-situ
13 recovery. This is one of the two primary recovery methods currently used to
14 extract uranium from ore bodies normally found underground, without physical
15 excavation. It is also known as solution mining, or in-situ leaching. Some
16 accomplishments in this area of the product line, it's been the issuance of several
17 licenses and draft licenses during the past three years.

18 Also effective coordination with other agencies on environmental
19 reviews to support licenses; for example, the Bureau of Land Management, the
20 Environmental Protection Agency, the Wyoming State Historic Preservation
21 Officer, and the Advisory Council on Historic Preservation. Our outlook is
22 increase in new license application and more operating sites require careful
23 source utilization -- resource utilization; continuing heightened Native American
24 Tribal interest in uranium recovery licensing actions, in support of the National
25 Historic Preservation Act, Section 106 consultations; continued use of the NRC

1 National Environmental Protection Act, or NEPA, stirring committee, to discuss
2 complex, cross-cutting NEPA issues amongst NEPA implementing offices to
3 ensure consistency in those agency approaches; possible Virginia,
4 Commonwealth of Virginia, uranium conventional mill or the Commonwealth of
5 Virginia becoming an Agreement State for byproduct material from uranium
6 abstraction. Our overall licensing strategy is linked to societal and economic
7 drivers to encourage applicants to provide accurate and up-to-date schedules to
8 assist staff planning and utilize pre-application audits with potential applicants, to
9 receive better applications. And with that, Larry will be providing the overview of
10 the remainder of this business line. Larry?

11 LARRY CAMPER: Thank you, Mark. Chairman, Commissioners,
12 good morning, pleasure to be with you. We're going to move now to the
13 oversight product line and starting with inspections. In the picture you see one of
14 our trusty Region IV inspectors, with meter in hand, conducting a gamma survey
15 at a facility in New Mexico. In terms of inspections for this product line, we have
16 a closed interface with three of the four regions, Regions I, II, and IV, in support
17 of our inspection activities. Additionally, we interact with the Department of
18 Energy, the Bureau of Land Management, the Environmental Protection Agency,
19 as well as other Federal and state partners for activities associated with Waste
20 Incidental to Reprocessing.

21 In terms of accomplishments, while we conduct many routine, non-
22 routine, and special inspections, it's worthwhile to point out a few particular
23 accomplishments. We did observe the off-site shipment of the Zion Unit 2
24 reactor vessel and head, and evaluated compliance with the NRC and
25 Department of Transportation requirements. Our office, along with Region IV,

1 jointly developed the observational site visit approach, and guidance for
2 performing oversight at uranium mill tailing and radiation control, UMTRA Title I
3 and Title II sites, which will be transferred to the Department of Energy for long-
4 term surveillance. This was in response to an OIG audit. We developed a
5 technical approach for the final safety survey for the University of Michigan Ford
6 Test Reactor, underground imbedded pipes. And we conducted a special
7 inspection at the Willow Creek facility in Wyoming, specifically related to a
8 pressurization event of a yellowcake drum. That also involved closure of a CAL,
9 which we're working on now and, ultimately, a root cause analysis of that event
10 as well. And the Regions are working currently on that and hope to finish it up by
11 October.

12 In terms of outlook, more licensed uranium recovery operating sites
13 will need to be inspected; that burden will fall to Region IV. The IAEA Research
14 Reactor Decommissioning Demonstration Project, known, by the way, as R2D2P
15 -- it really is -- is planning a visit to the University of Buffalo later this year. We're
16 accompanying them on that visit. Confirmatory surveys, leading to license
17 termination, hopefully, will take place at several complex sites, including the
18 United Nuclear Corporation and the ABB final status survey in Connecticut, with
19 coordination with that state as well as EPA Region I. And we have a great deal
20 of ongoing decommissioning activities at the Westinghouse Hematite site in
21 Region III, which is a very complex site, it's been in decommission for a very long
22 time. In terms of strategy, we see this being linked to societal and economic
23 drivers. Decommissioning and uranium recovery inspection programs must use
24 entrepreneurial approaches to ensure effective use of our limited resources.
25 Next slide, please.

1 Moving to the oversight product line, in the picture, what you see is
2 the Saltstone disposal facility, in the upper left hand corner picture, as well as
3 one of the tank farms in the background, as well the Defense Waste Processing
4 Facility; and on the bottom right, what you see is grout being placed into Tank 18
5 and Tank 19 in the F-Tank farm earlier this year. Now, let me make a couple
6 comments about Waste Incidental to Reprocessing. It's important to understand
7 that this is the cleanup of Cold War legacy waste. This would, otherwise, if not
8 by statute, be high-level waste, but it's been determined, by virtue of the 2005
9 National Authorization Defense Act, to be low-level waste. However, to be low-
10 level waste it must meet very stringent criteria and the Department of Energy
11 must conduct an analysis to make sure those criteria are met, and we're
12 obligated to work with the Department of Energy in reviewing those analyses.
13 We have two responsibilities under Section 3116 of the National Defense
14 Authorization Act of 2005. Section A says that we will consult with the
15 Department of Energy in their waste determinations; Section B of that Act says
16 that we will monitor to assess compliance.

17 So we have two very significant responsibilities around this topic
18 called Waste Incidental to Reprocessing. In terms of accomplishments in this
19 area, we have completed the Savannah River Site Saltstone and F-Tank Farm
20 technical evaluation reports. We did send a letter of concern to the Department
21 of Energy regarding the Saltstone facility continuing to meet the performance
22 objectives in Part 61, with a subsequent letter of partial resolution being provided
23 to the Department of Energy, also later this year, more recently this year. We
24 continue to conduct our onsite observation visits at the Saltstone facility, and we
25 have closely coordinated our interactions with the State of South Carolina DHEC,

1 the South Carolina Governor's Nuclear Advisory Council and the Savannah River
2 Site Citizen's Advisory Board.

3 In terms of outlook, we will continue the Savannah River Site, and
4 also the Idaho National Laboratory Site, which is included within the NDAA of
5 2005 that I cited earlier, and this will go on for a very long time. The Saltstone
6 disposal operations, for example, are scheduled to continue through the 2030s.
7 The F-Area Tank Farm grouting operations will continue through the 2020s. And
8 the H-Tank Farm grouting operations will continue through the early 2030s. So
9 we will be monitoring these activities for a very long time. We will revise the
10 Saltstone monitoring plan based upon observations and finalize our F-Tank Farm
11 monitoring plan; we are due to receive the determination from the Department of
12 Energy in December of this year around that tank farm. We will continue the
13 Idaho National Technology and Engineering Center Tank Farm Monitoring visit
14 and the completion of the grouting of its tanks. And we will assist the
15 Department of Energy, through an interagency agreement, with other waste
16 determinations that they might request at the Hanford site or the West Valley site.
17 In terms of strategy, we see this being linked to the technological and societal
18 drivers and we will need to maintain a strong performance assessment staff to
19 review these very complicated analyses provided to us by the Department of
20 Energy for Waste Incidental to Reprocessing. Next slide.

21 We have combined research and rulemaking in this particular
22 product line approach. The first point that I would make, in the picture, what you
23 see is a picture of the Waste Control Specialist Site, located in Andrews, TX. It
24 was licensed by the State of Texas earlier this year; it is the first site to be
25 licensed for all classes of waste under 10 CFR Part 61. It's important to also

1 note that the Office of Research provides support to this business line as user
2 need is identified and resources are available, in support of the Decommissioning
3 Low-Level Waste and Uranium Recovery programs. Just a comment or two
4 about the low-level waste program: it is interesting to note that the low-level
5 waste program is technically in a maintenance mode. It was put into a
6 maintenance mode several years ago by the Commission, following all the
7 activity that we did to develop the Part 61 and the guidance that goes into
8 supporting low-level waste facilities. But, interestingly enough, it's hardly in a
9 maintenance mode. There are three significant actions or rulemakings that's
10 taking place right now. That is, the Site-Specific Performance Assessment
11 Rulemaking; that is, the charge for the staff to look at the question of some sort
12 of comprehensive revision to Part 61; and there is the current assignment that
13 the staff has to risk inform and performance update, using ICRP current
14 methodologies the risk classification tables in 61.55; and to determine the
15 classification of depleted uranium waste. So it's hardly in a monitoring mode.

16 In terms of accomplishments, we have conducted an extensive
17 public outreach campaign in the summer of this year, to address the Commission
18 direction regarding the expanded Site-Specific Performance Assessment
19 Rulemaking. We also held several public meetings to seek stakeholder views
20 regarding any comprehensive revision to 10 CFR Part 61. In terms of outlook,
21 we will need to, and plan to, complete the expanded Site-Specific Analysis
22 Rulemaking during FY13 and FY14 to meet the current Commission direction.
23 We will address a wide diversity of views and stakeholder preferences with
24 regard to outcomes about this rulemaking. And then, of course, we'll proceed,
25 after that rulemaking, to risk inform the waste classification tables in Part 61.55

1 and to determine the classification for depleted uranium. And those activities will
2 commence in 2015. And for the Part 61 rulemakings, of course we will need to
3 continue very close coordination with the Agreement States that actually operate
4 the four commercial disposal facilities in the United States; that being Texas,
5 Utah, South Carolina, and the State of Washington. In terms of strategy, we see
6 this being linked to technological and societal drivers. Effective analysis of
7 comments will be needed to develop the proposed expanded Site-Specific
8 Analysis Rulemaking and to update the waste classification tables. Next slide,
9 please.

10 Continuing with research and rulemaking. What you see in the
11 picture is, actually, a very large slag pile and baghouse dust at the Shieldalloy
12 site in New Jersey. Now, that mound of slag and baghouse dust is there and it is
13 consistent with regulatory criteria, but it's an example of the kinds of things that
14 can be left behind in so-called "legacy sites" if there isn't an adequate
15 technological approach or finances to successfully decommission the site. By
16 the way, that's Commissioner Merrifield in the foreground, our own deputy
17 director Brian Holian there with the survey meter in hand taking a look at the site.
18 We are moving consistent with Commission direction to develop the Prompt
19 Remediation Rulemaking. This rulemaking will require licensees to promptly
20 address radiological contamination at sites during the operational phase of plant
21 life. For this rulemaking prompt analysis and remediation could be required, at
22 such time, that concentrations exceed specified values that will be identified
23 within that rulemaking. And this is a follow on, per Commission direction, to the
24 Decommissioning Planning Rule as well as the agency's effort to examine
25 ground water protection.

1 In terms of accomplishments around this initiative, we have drafted
2 the regulatory basis which was issued for public comment in the summer of last
3 year. We conducted a webinar with over 100 participants, also, last year. We
4 revised the regulatory basis in response to those comments. In terms of outlook,
5 we're going to be responding to the SRM associated with SECY-12-0046 with
6 more public interaction and then a notation vote paper is due to the Commission
7 in September of next year, 2013. Funding commences in FY14, pending
8 Commission direction relative to that particular cited SRM and paper. And then
9 we will revise the regulatory basis, develop the draft rulemaking, and finalize the
10 rulemaking as resources permit. In terms of strategy, we see it being linked to
11 the societal driver. In some cases, Prompt Remediation Rulemaking could be a
12 key in preventing future legacy sites by requiring prompt remediation during
13 operations. Next slide, please.

14 Finally moving to international activities and support. On the left,
15 you see, of course, a picture of the IAEA headquarters, in Vienna, the VIC
16 International Center; on the right, you see a hand shaking across the globe,
17 indicating assistance to other countries. A lot of accomplishments in this area,
18 including providing consultation to the IAEA on waste standards used by member
19 states. Like our colleagues in the materials program area that you heard earlier,
20 we have worked with the office of -- the NRC Office of International Programs,
21 and through IAEA to provide outreach to countries that are working to implement
22 or improve programs for the management of radioactive waste. We have hosted
23 foreign assignees or held information exchanges with countries such as, for
24 example, Iraq, Japan, Lithuania, the United Kingdom, and France. We actively
25 participated earlier this year, as part of the U.S. delegation to the Fourth Joint

1 Convention Review Meeting in the development of the comprehensive United
2 States National Report, required by the Joint Convention on the Safety of Spent
3 Fuel Management and on the Safety of Radioactive Waste Management, which,
4 as Mark indicated, is a treaty to which the United States is a party.

5 In terms of outlook, supporting the broader review of international
6 standards, in light of lessons learned following the accident at Fukushima
7 Dai-ichi, will take place. Participating in several workshops and conferences that
8 address site remediation after an accident and suspension of legacy sites will be
9 taking place at the IAEA later this year and next year. We will work to develop a
10 path going forward to increase U.S. stakeholder involvement in certain IAEA
11 safety standards. And in terms of the Joint Convention, along with the other
12 contracting parties, we will continue to encourage more member states to
13 become members to that Joint Convention. And we will work with the
14 Department of Energy, the Environmental Protection Agency, and the
15 Department of State to develop the next integrated U.S. National Report dealing
16 with a government-wide program for radioactive waste, spent fuel, and disused
17 sealed source safety, in preparation for the 2015 Fifth Review Meeting of the
18 Joint Convention. In terms of strategy, it's linked to the international driver, of
19 course. There has been an increased level of involvement in international
20 activities, particularly as a result of the Fukushima accident. We expect to see
21 this increase to continue and perhaps even go higher in years to come. That
22 concludes my remarks and, with that, Mark will provide our summary.

23 MARK SATORIUS: Thanks, Larry. I have a couple of minutes, I
24 just wanted to go through somewhat of a summary. And this business line
25 produces diverse products; for example, license determinations for

1 decommissioning sites, safety evaluation reports for uranium recovery facilities,
2 environmental impact statements or environmental assessments, and inspection
3 of decommissioning sites and radiation recovery facilities; technical evaluation
4 reports and monitoring reports for Waste Incidental to Reprocessing activities;
5 and regulatory basis for rulemaking.

6 This business line faces strategic challenges. Legacy sites with
7 unique decommissioning challenges and approaches; for example, shallow land
8 disposal area, physical security/material and control and accountability issues in
9 the United Nuclear Corporation Churchrock, as well as Zion nuclear power
10 station; less resources to perform new uranium recovery application reviews, due
11 to more resources to operating sites, coupled with a flat budget, may result in
12 deferral of some new licensing if all are received consistent -- all requests are
13 received consistent with credible letters of intent; support for the performance of
14 the Savannah River Site Saltstone; wide diversity in stakeholders' preferences for
15 outcome in Part 61 rulemakings; an increase in international involvement
16 anticipated. And then, lastly, this business line needs to have an awareness and
17 long term planning in place to encourage applicants to provide accurate and up
18 to date submissions, schedules for uranium recovery, and submit consistent with
19 credible letters of intent; hold uranium recovery pre-application audits and
20 receive better applications; maintain strong performance assessment technical
21 staff to review the Department of Energy's technical analyses, and lead agency in
22 developing a path forward for increasing U.S. stakeholder involvement in
23 International Atomic Energy Agency standards. And with that, completes the
24 staff's presentation, and we're ready for questions.

25 CHAIRMAN MACFARLANE: Great. Thank you very much. That

1 was very good, very helpful. We will start with Commissioner Apostolakis again.

2 COMMISSIONER APOSTOLAKIS: Thank you, Chairman. Larry,
3 you mentioned the inspections that are being done at decommissioning sites.
4 What are they finding? Do we have any analysis of the findings? Is there any
5 evaluation of their safety significance, if any?

6 LARRY CAMPER: We are conducting a lot of inspections at a
7 number of different sites undergoing decommissioning, whether they be nuclear
8 power reactors, research and test reactors, complex material sites. And what we
9 find -- we conduct these inspections during times of heaviest decommissioning
10 activity, of course. And so we're looking to ensure that these things are being
11 done safely. But I think it's fair to say that we're not finding things out of the
12 ordinary in terms of during the decommissioning process. Occasionally, there
13 will be a site such as a shallow land disposal area where there is a surprise and
14 we found material that we didn't expect to find, or sometimes we -- at other sites,
15 we'll uncover materials.

16 But generally speaking, I think it's fair to say that decommissioning
17 inspecting goes along fairly routinely. Decommissioning processes are carried
18 out with many surprises and is being conducted rather safely, in fact, quite safely.
19 But no, I don't think we've compiled an analysis of findings from
20 decommissioning inspections over time, because generally what we find is fairly
21 benign and routine in terms of safety implications.

22 ELMO COLLINS: If I may, Commissioner, kind of give a Region IV
23 perspective on that. A couple of points. One, I think the inspection in not only
24 this area, but also in the materials area, really highlights the value added that the
25 inspection program brings. We send inspectors out to do independent

1 verification. The licensee activities are done safely and in accordance with the
2 regulation. I think that brings a lot to value. For decommissioning inspection at
3 Humboldt Bay, for instance, one of the key challenges was, I'll say, high alpha
4 contamination in piping that they were going to go in and clean, and then conduct
5 those activities. And I think just the fact that they knew we were going to be on-
6 site and inspecting them caused them to pay attention, and the activity went very
7 well, went without incident. But it would have been very easy for that to have
8 become a significant contamination event.

9 And then at the decommissioning facilities, where decommissioning
10 plan is being implemented, obviously we expect that plan to be implemented.
11 The value brought there, I believe, in our confirmatory -- in our samples that we
12 take to confirm the levels to which the licensee has reduced the radioactive
13 material. So that independent confirmation, I think, brings a lot of value and
14 confidence to what's going on.

15 LARRY CAMPER: Yeah, it is important to point out, particularly at
16 material sites. I mean, final status surveys have to be designed, we review and
17 approve them. And then we go through a process of conducting confirmatory
18 surveys. And so, generally, first we've given it a very thorough analysis up front.
19 What levels of contamination will remain? Does it meet the standards? How will
20 they conduct the survey? And then we confirm that it's done effectively.

21 COMMISSIONER APOSTOLAKIS: That's very interesting. I was
22 aware of the value of inspections, but there are other activities of this agency
23 where we do find things, so I'm very happy to hear that, here, the findings are of
24 minor significance, if any.

25 Larry, you said something about Waste Incidental to Reprocessing

1 that confused me a little bit. You said these would be high-level waste, but an
2 act of Congress declared them low-level? Can we do that in other areas?

3 [laughter]

4 LARRY CAMPER: I knew that you would ask me this question
5 Commissioner.

6 [laughter]

7 This waste -- there's a story behind -- there's a long story behind
8 how the congressional legislation came to be in 2005, including a lawsuit in the
9 background. But what Congress had in mind when it passed the law in 2005 was
10 to put in place a mechanism whereby this Cold War legacy waste, which was
11 high-level waste, could, in fact, be remediated and cleaned up to small residual
12 amounts. It could become low-level waste if certain criteria were met. For
13 example, all of the high-exposure radionuclides had to be removed to the
14 maximum extent practical, both technically and economically. The material did
15 not require disposal in a high-level repository. And if this criteria were met, then
16 the waste could be treated as if it were low-level waste, okay? Now, prior to that
17 congressional act of 2005, there was similar criteria that had been used for
18 several years before that, in which we had done some work with the Department
19 of Energy under an interagency agreement. But fundamentally, you have to
20 ensure that the high-risk radionuclides are removed to the maximum extent
21 practical, both technical and economically, and that the material does not require
22 disposal in a high-level repository.

23 COMMISSIONER APOSTOLAKIS: So this is what is being done,
24 then?

25 LARRY CAMPER: Yes, it is. And what happens is, these tanks

1 are cleaned vigorously several times. Small amounts of residual low-level waste
2 are left behind after the material is moved into the high-waste defense
3 processing facility or into the Saltstone facility, and what's left behind is then
4 grouted in the tanks and stays there, and it gets a permit from the State of South
5 Carolina Department of Environmental Health as well to be a low-level waste
6 disposal facility.

7 COMMISSIONER APOSTOLAKIS: Okay. Thank you. That's all
8 for me.

9 CHAIRMAN MACFARLANE: Okay. Commissioner Magwood?

10 COMMISSIONER MAGWOOD: Thank you, Chairman. I think WIR
11 is a good example of the occasion we run into a technical problem that's not
12 easily solved. But I think it was a case where if Congress hadn't stepped in, we
13 would still be staring at that waste, wondering what to do with it. There was just
14 not a straightforward way of dealing with it. So I think the WIR program has been
15 really kind of a success story, because otherwise we'd be sitting there and
16 people would be arguing about what to do about it. And so this moved the issue
17 forward. So -- and I think the fact the NRC's taken the role that we have in it has
18 provided public confidence that this is an appropriate solution because I think it
19 would have been very difficult for the Department of Energy to convince, you
20 know, the stakeholders by itself that this was a safe approach without having the
21 outside oversight of the NRC. So this is -- while I'm not one of the people that
22 thinks that NRC ought to take over oversight of all DOE operations, I think there
23 are certain places where it makes a lot of sense, and this is clearly one where it's
24 been very sensible and a very good thing.

25 You know, I was talking with a colleague several years ago, and he

1 met with a nuclear industry representative who had met with me when I was in
2 my former position at Department of Energy. And this person said that the
3 person that met with me said, "Yes, I met with Magwood. He's an
4 internationalist, isn't he?" And it wasn't a compliment. So when I ask this
5 question, you'll understand I'm sort of ambivalent about some aspects of this. I
6 do -- there is one area I do believe very much in international cooperation. I
7 notice that, in your presentation, you made a point in every area to point to the
8 international aspect of the work that we're doing, which raises kind of a
9 philosophical question for me. We had some conversation about this in Part 61.
10 We certainly have had a lot of it in Part 20. I see Don sitting back there. I'll have
11 a Don question in a second. Philosophically, as you think about all the areas that
12 you work in and the fact that there is, certainly, particularly in the European
13 system, different ways of approaching these issues, sometimes more stringent
14 than what we do, but certainly, in some places, different from what we do. How
15 much does international synchronization matter? Should we care about it at all?
16 Is it something that we should even spend time thinking about? But it comes up
17 all the time. It shows up in staff papers quite often. But I'm curious as to what
18 your perspective is on that.

19 MARK SATORIUS: Well, I certainly don't have the length of time in
20 international experience as Larry has on these matters, but if you're asking me
21 for what I think, I think that the effort of harmonization, even if it's not completely
22 successful, always provides an opportunity to learn something on how others are
23 doing it so that you could apply, if not in complete harmony, aspects of it into our
24 own program to get a better end product and a safer end product. So I guess
25 that's my overall -- my overall consideration.

1 I think that our role with the Department of Energy, especially with
2 this Waste Incidental to Reprocessing, is a very important role. I think that what's
3 going on -- they're making Saltstone right now, and they're emptying tanks, and
4 these are legacy issues that the United States needs for the Department of
5 Energy to be successful in. And then I think that we have a role in that, and not
6 as the regulator, but a role as a monitor. And we need to exercise that role such
7 that we have confidence that the waste that's being disposed of will meet our
8 Part 61 requirements, and at the same time, we need to have this waste cleaned
9 up. We need to move forward.

10 LARRY CAMPER: In the perfect world, it makes perfectly good
11 sense to me that waste classification, for example, would be identical. I also
12 think it would do an awful lot to inspire public confidence, frankly. If you look in
13 the United States, you know, the Department of Energy has a classification
14 system. We also have the commercial classification system in the United States,
15 and, yet, the classification system that the IAEA developed and is used by
16 member states is different. Different political processes, different stakeholder
17 issues, for example, the IAEA classification system includes the exempt category
18 of waste at the low end. We certainly have, you know, dealt with that topic a
19 couple times over the years. Very complicated. So, yes, I mean, I think it's a
20 worthwhile goal to strive to, but I think that there are so many embedded issues
21 that make it very difficult.

22 BILL BORCHARDT: Yeah, I think it's far more important that we
23 understand the differences and have a solid technical basis for why we have the
24 conclusions we have. There are a lot of non-technical reasons that the rest of
25 the world makes certain decisions and comes up with certain criteria. We have

1 the luxury of adequate resources at the NRC and technical capabilities to do a lot
2 of the work ourselves. That doesn't mean we should ignore what's going on in
3 the rest of the world. We should be able to explain why we're different when we
4 are. I agree, in the perfect world, it'd be great if we all had the same standards.
5 And this goes to all program areas. But it's unreasonable -- unrealistic.

6 COMMISSIONER MAGWOOD: I appreciate that answer. Let me
7 ask one specific area, which is not even really exactly a technical issue, but in a
8 way, it's a very technical issue. And that is something that's contained in the Part
9 20 paper that's now before the Commission: the issue of transitioning to SI units.
10 And as Don and I were at a conference in Scotland earlier this year, and in my
11 talk I mentioned that the U.S. -- the staff had proposed the U.S. move in this
12 direction. And, as I recall, there was something of a little bit of a cheer in the
13 back of the audience.

14 I mentioned this at a visit to a nuclear power plant. I did not get a
15 cheer, I got quite the opposite. You know, that's one where I'm curious as what
16 staff uses. Obviously, staff has proposed that we make that transition. Have we
17 considered the sociological impacts at our own facilities and, you know, the fact
18 that we have so many people who have grown up in this system and just have
19 visceral, inherent understanding what a rem is. And all of us had the experience
20 during Fukushima trying to figure out what the hell, you know, 0.01 sieverts
21 meant and whether that was important or not. Yeah.

22 MARK SATORIUS: Just a thought, and Don Cool can weigh in. I
23 think we've heard the same reports that you have experienced coming from,
24 primarily, the reactor side, is that they're not real thrilled about moving in that
25 direction. On the other hand, I had an opportunity to speak at the Health Physics

1 Society annual meeting in Sacramento this summer, and from that group I heard
2 a lot of cheers in the back of the room as well when I --

3 COMMISSIONER MAGWOOD: Well, they're all internationalists.

4 MARK SATORIUS: So I would say -- my answer is, I would say
5 we've heard what you've heard, at least from the reactor side, and it's a part of
6 our consideration, depending upon how the Commission decides to direct the
7 staff in moving forward, that we'll have to explore that further.

8 COMMISSIONER MAGWOOD: Don, do you have a --

9 DONALD COOL: Donald Cool, FSME. It's actually a very
10 complicated issue. There are those who would wish to say that it was very
11 simple. "We should just do it, be done with it." The Health Physics position
12 sheet that was published back earlier this year was certainly a case in point. In
13 my view, it's not nearly that simple, because it is, in fact, communication issues.
14 It is the whole questions that we dealt with in the Fukushima response magnified
15 thousands of times over at different levels of organizations and different groups.
16 It's not only emergency response, but it's the normal day-to-day operations. It's
17 the reposting and labeling. It's recognizing that suddenly this number is different,
18 but it's supposed to mean the same thing, and the whole recognition and training
19 process that would go along with that. And that doesn't matter whether it's a
20 lock-out in a reactor or whether it's the boundary for a radiography zone. So, in
21 fact, I think we need to explore very carefully, not just with the industry, but with
22 our Federal partners, because it would mean that EPA, DOE, OSHA, and
23 everyone else would need to come along. All of the states would need to come
24 along in the process. There are a lot of implications that we need to look very
25 carefully at to figure out a way through this. I -- you asked, "Does the staff have

1 a position?" At the moment, the answer is, I think it needs to be looked at, but it's
2 not simple enough to have an answer right now.

3 COMMISSIONER MAGWOOD: All right. Appreciate that. I know I
4 only have a few seconds left, but let me just follow up on something that I think I
5 heard from Larry's presentation, or maybe it was Mark's; I don't remember which.
6 But you mentioned the fact that there is a budgetary aspect to the number of
7 licenses that will likely be processed, particularly, I think, in the uranium recovery
8 area. Do the applicants understand that those limitations exist? And do they
9 know how the budget situation might affect them?

10 MARK SATORIUS: Well, I think we've been clear in telling them
11 that as we license operating facilities, the focus of our resources has to be the
12 safe operation of those operating facilities, and that may -- we may have to take
13 resources away from licensing work to be able to ensure we have enough
14 inspectors to do what they need to do for the ops. So we'll take care of the
15 operating side first, and then, if -- and then we'll deal with the licensing issue after
16 we've made sure the operating units are safe.

17 COMMISSIONER MAGWOOD: I just -- I appreciate that. I just
18 encourage that the staff be as clear as possible to applicants so that they don't
19 have unrealistic expectations about how quickly these things are going to be
20 processed. Thank you, Chairman.

21 CHAIRMAN MACFARLANE: Thank you. Commissioner
22 Ostendorff?

23 COMMISSIONER OSTENDORFF: Thank you, Chairman. Thank
24 you for briefing. I want to start out piggybacking on Commissioner Magwood's
25 comments on WIR, because it really has not gotten much visibility here at this

1 agency for the significance that Commissioner Magwood talked about. I just
2 want to go back in time a little bit, because some of us at this table have worked
3 very closely on this when working as staff members of different committees on
4 the Hill. I know that, from April through September 2004, I probably spent 40
5 percent of my time on the WIR issue when I was working on the House version of
6 the 3116 legislation. Commissioner Svinicki was a key player working the
7 Senate side and was very instrumental in getting the State of Idaho to agree, and
8 working a lot of interfaces there that were very difficult at the time. And I think
9 there's some good takeaways from this that's worthwhile from a corporate or
10 agency lessons learned, just to kind of put in the back of our mind.

11 One is the respect the NRC had at that time and still enjoys today.
12 The reason why NRC was brought in to perform this consultative monitoring role
13 was, quite frankly, some folks were not completely trusting of the Department of
14 Energy's history in that area. And this agency's professional reputation was
15 perhaps the key reason for the NRC having any role, period, in this. Absent that
16 well-deserved reputation, the NRC would not have had a role, so that's a big
17 takeaway. Two, huge success story, and Commissioner Magwood alluded to it.
18 About a month ago, I got an invitation to go down to Savannah River site for a
19 tank closeout ceremony they were having, I think, in the next week or two. I had
20 to decline for schedule reasons, but in the State of South Carolina, from the
21 public's standpoint, this was a big success story. We had single-shell carbon
22 steel tanks, some of which contained, individually, hundreds of thousands of
23 gallons of material that Larry characterized as part of the price of the Cold War.
24 And absent the WIR approach, the 3116 legislation, that stuff, as Commissioner
25 Magwood had said, would still be there today. So this is a big success story.

1 The third point -- and I think it's worth just keeping in mind -- is the interface that
2 the agency has had with the Department of Energy here. I know there's been
3 some challenges, and there's been a lot of back-and-forth, but I suggest that this
4 is a good marker for us to keep in mind, how to work in some of these unique,
5 really tough legacy cleanup issues, whether they be in the Department of
6 Energy's purview or in our decommissioning site activities. There is some
7 fundamental process and engagement lessons that I've seen you all work on that
8 I think have pretty broad applicability. So I think I really appreciate your mention
9 of WIR today, because I think it's worthwhile for us to sit back and reflect at times
10 on -- we talked a lot about problems we've had, failures. This is a success story
11 we need to leverage from.

12 Let me go to decommissioning sites. Early in my term here,
13 Commissioner Svinicki suggested I go visit a decommissioning site, so she told
14 me I ought to go to Humboldt Bay, and I did, August 2010. And I'm going to Zion
15 Thursday this week. And I was commenting -- looking at the slides, Mark, from
16 your presentation, talking about, you know, there's been some unique aspects of
17 some of these decommissioning sites. We saw some things that were unique, or
18 we talked about it at Humboldt Bay when over two years ago we were out there.
19 I guess my question is, do we think that our existing regulations and
20 requirements allow sufficient flexibility to handle one-of-a-kind decommissioning
21 activities, whether they be in the reactor area or in the, you know, fuel area? Do
22 you view our -- you mentioned the word flexible. Do we have that flexibility now?

23 MARK SATORIUS: I believe that the requirements of Part 61
24 permit flexibility. I think that the rulemaking that we're engaged upon will add
25 some flexibility to Part 61 to allow disposal facilities and disposers of low-level

1 radioactive waste to have some more options -- let's put it that way -- when it
2 comes to disposal strategies. Larry, you want to add anything?

3 LARRY CAMPER: I think the simple answer is yes. I think -- well,
4 several years ago, 1995, 1996, the Commission made decisions about how
5 decommissioning could proceed in the nuclear power plant world, and it took a
6 very performance-oriented approach. And licensees, you know, file their post-
7 shutdown decommissioning activities report, we review it, they proceed to do
8 dismantlement. They ultimately file their license termination plan. We conduct
9 surveys to ensure that the site has been remediated successfully. And that's
10 worked very well.

11 And by contrast, on the materials side, there has been a recognition
12 that these sites are far more complicated, really. Have subsurface soil and water
13 contamination, extraordinary events outside of normal operations, and, therefore,
14 their decommissioning plan has to be approved before they proceed. And that's
15 worked also very well. In many of these cases, these sites did not have the
16 technical expertise that the power plants do. So I think the approach that the
17 agency has taken, and similarly for research and test reactors, has worked very
18 well. I mean, we currently have 11 nuclear power plants decommissioning, 11
19 research and test reactors decommissioning, 13 materials complex sites,
20 probably 32 uranium Title I, Title II sites. It's working well. And we have a track
21 record of having successfully decommissioned several sites already. And so I
22 think that we do have an approach that's performance-based, is reasonable,
23 considers the two sides of the world, or the three sides of the world that we work
24 in. It works well. It works well.

25 COMMISSIONER OSTENDORFF: Okay. Thank you. Let me turn,

1 briefly, to the area of uranium recovery. And I believe, Mark, on one of your
2 slides, you mentioned an increase in Tribal interest in uranium recovery licensing
3 actions. And I was going to see if you, Larry, or Elmo had any comments or
4 could be a little more specific as to what that type of feedback you're getting from
5 our Tribal partners.

6 MARK SATORIUS: Certainly. I'll start, and I know Larry will
7 probably have some things to add, and I suspect Elmo as well, because he's very
8 familiar with ISIS. Over the last several years, we've seen, as we call them,
9 Section 106 consultations to have grown. Members of these Tribal organizations
10 have requested them more often. There's a level of sophistication as they
11 become familiar with the process. And the number of Tribes have increased.
12 When we first started to see an increase, we were seeing, oh, three, four, five
13 Tribes per uranium recovery site. Now we're working with up to 10 or more. And
14 so that adds a level of -- and each one of these Tribes is its own separate entity,
15 and when we meet with them, we have to meet as a government to government,
16 one to one. So it adds a level of complexity and, frankly, time and resources that
17 we have not experienced, really, in the past.

18 LARRY CAMPER: I think that's a good way to characterize it,
19 Mark. I mean, there are as many as 30 Tribes that we now find ourselves
20 communicating with, probably 15 -- on the order of 15 that are common to the
21 uranium recovery sites. Under the Section 106 consultation provision, we are to
22 make a good -- have a reasonable and good faith effort at identifying Tribal
23 cultural and historical properties. When you have that many Tribal nations
24 involved, in and of itself, the administrative coordination is something else. And
25 as Mark said, we have to bear in mind that each one of these is a sovereign

1 nation, and they come to the table with their own specific set of issues and
2 concerns. And it's not as simple as, "Let's have a meeting," and bring all 20
3 concerned Tribal nations to the table at the same time. It doesn't work that way.
4 They really do require individual care, interface, and it can be a protracted affair.
5 It can be two to three years, and it certainly has become more time-consuming.
6 But it's something we have to accomplish if we're going to carry out our
7 responsibilities under the National Historic Preservation Act. It's become a fact of
8 life that we have to deal with.

9 COMMISSIONER OSTENDORFF: Okay. Elmo, did you want to
10 add anything?

11 ELMO COLLINS: No, Commissioner. I think Larry and Mark
12 summed it up very well.

13 COMMISSIONER OSTENDORFF: Okay. Thank you all. Thank
14 you, Chairman.

15 CHAIRMAN MACFARLANE: Okay. Let's -- let's just finish up with
16 this Tribal issue. I have another question. And I appreciate Commissioner
17 Ostendorff's question. So I understand, now, the difficulties here, some of the
18 challenges you face. But I also want to understand how NRC has -- how they
19 work with the Tribes to make the meetings accessible to the tribes, the locations.
20 You know, are we considering where the meetings are held? And, you know,
21 sort of making the process as smooth as possible.

22 MARK SATORIUS: I think we're making reasonable approaches in
23 just every interaction. I mean, 100 percent of the meetings, based on my
24 recollection, are held locally, which means significant amount of travel issues to,
25 you know, Wyoming, the Dakotas, that area. So we will go to the Tribes. We will

1 travel there. Requires effort to put these meetings together. And like I think
2 you've probably heard, is that if we have 10 or 12 Tribes interested in a specific,
3 that, for the most part, necessitates 10 or 12 meetings. And so you try and
4 schedule them to line them up where you can maybe do more than one per trip,
5 but it does take a degree of time that really is challenging for us.

6 CHAIRMAN MACFARLANE: Right. Right, no, I understand that.
7 Okay. Let me -- I'll turn back to uranium recovery in a minute if I have time, but
8 let me turn to Waste Incidental to Reprocessing, seeing how that's been a big
9 discussion. And I agree with my colleagues Magwood and Ostendorff that it has
10 been very important to make progress on Cold War legacies. There are quite a
11 few big, large messes out there, and I'm glad that NRC is helping out. At the
12 same time, I'm also concerned about the technical aspects of it, being a waste
13 person myself and thinking about this. And so I'm wondering how close both the
14 Saltstone -- and I don't know a lot about the Saltstone. I'll admit that up front. I
15 know more about the tanks. But how close these two -- the final product, shall
16 we call -- is to what we would consider low-level waste? And this is a monitoring
17 function that we do, we don't regulate. So I'm concerned about slippage on our
18 regulations if there is a mismatch, because -- so, you know, and partly, as my
19 understanding of the tanks, is you leave a heel behind. How -- I don't really recall
20 the volume or the thickness, et cetera, of the heel. But when you put grout in and
21 you just average the volume, that's not really, in my view, a real metric. You still
22 have that highly concentrated material. It doesn't mix. So, interested in your
23 views on this.

24 MARK SATORIUS: I think -- and I would agree with you, that the
25 analysis that's required to be able to satisfy -- for the Department to be able to

1 satisfy the NRC in its monitoring role, is not insignificant at all. It is a very
2 significant evaluation that the Department of Energy engages in. We have
3 probably some of the best performance assessment practitioners that you will
4 find in the nation working for Larry. And so we put those people to work to
5 analyze, to look at their assumptions, to look at the evaluations, results, and we
6 hold -- and we ensure ourselves that we have confidence that the as-disposed-of
7 waste will meet the requirements of Part 61. And when we have -- and I think
8 Larry, in his presentation, mentioned that we made a conclusion back in the
9 spring that we did not have reasonable assurance that the proposal that the
10 Department of Energy had put into place would result in meeting the
11 requirements of Part 61 throughout the period of performance. And we issued,
12 by our process, established by Congress, a Type IV letter that basically said we
13 don't have reasonable assurance. And then the Department, then, responded to
14 that in two pieces in several public meetings and were able to convince our staff
15 that they would be able to comply with Part 61 for the full period of compliance.

16 And we'll be able to continue to -- and what's interesting, Chairman,
17 is this is a process that's not going to go away, because as they change the feed
18 which changes the inventory of radionuclides, you have to sharpen or change
19 your analysis to make sure that that feed and the population of radionuclides in
20 its concentration -- so what we're comfortable with right now is there's -- based
21 on the tanks that they're going to empty and work and provide into the feed,
22 we're confident for about two and a half -- two, two and a half, three years that
23 they're going to be able to -- they can satisfy and give us reasonable assurance
24 that they're going to meet the Part 61 requirements. That's going to change as
25 they change the inventory of tanks, because the tanks aren't all the same.

1 CHAIRMAN MACFARLANE: Right.

2 MARK SATORIUS: So it's a process that we're not going to get
3 away from for another 20 or 25 years. Did you want to add anything?

4 LARRY CAMPER: I would. I think Mark did a very good job of
5 explaining the process. I would also second his comment about the quality of our
6 staff. We are just blessed with an incredibly good performance assessment staff.
7 We really are. They're world-class. But the easiest way to answer your question
8 is to point out that here is the waste as you characterized it, as being remediated
9 to a standard that was imposed by the 2005 law that said you'll meet the
10 performance objectives in Part 61. That's a public dose limit of 25 millirem per
11 year. And that's to a receptor at 100 meters from site boundary, and the period is
12 10,000 years. So I think that that's a very, you know, stringent standard. In fact,
13 the State of South Carolina, at times, has expressed concerns about that
14 standard. It's a fairly conservative approach, because, as Commissioner
15 Ostendorff pointed out, some of these tanks have failed.

16 CHAIRMAN MACFARLANE: Yeah, no, I know. They've already
17 gone into the --

18 LARRY CAMPER: So I think that we have -- the act brought to
19 bear a very conservative standard, and the Department of Energy has done a
20 very good job of meeting that standard. And of course, I would agree that the
21 value that we have added has made for a very good outcome.

22 CHAIRMAN MACFARLANE: Yes.

23 LARRY CAMPER: But it's a very protective standard.

24 CHAIRMAN MACFARLANE: Okay. Let me rush on to another
25 question. So, in terms of international activities, I do highly endorse all your work

1 on the international end of things. And having just gotten back from the IAEA
2 General Conference, I heard a lot about it, and I really appreciate all the work. I
3 think it's very, very important. So keep it up.

4 MARK SATORIUS: Thank you.

5 CHAIRMAN MACFARLANE: So, in terms of -- you say that you --
6 in the material that you guys provided, you say that you're looking to increase
7 stakeholder input on IAEA activities. And so I just want to understand a little bit
8 more about what you mean.

9 LARRY CAMPER: Good question. Thank you. Yes. The safety
10 committees for the IAEA, whether it be the Waste Safety Standards Advisory
11 Committee or the Transportation Advisory Committee or the Radiation Safety
12 Advisory Committee, has something called terms of reference. And in the terms
13 of reference, there's a line item that says that members states should seek
14 comments from their national stakeholders in order to develop a national view
15 about the IAEA standards that are under review. What we have done in the --
16 and different member states are doing that to differing degrees, but increasingly
17 so, they are doing it. We have only done it upon occasion. For example, a
18 couple of years ago, as the IAEA was bringing to closure its significant revisions
19 to its basic safety standards -- the BSS, it's called -- which parallels our Part 20
20 for standards for protection of the public, we did hold a public meeting nearby
21 and got stakeholder input. Typically, what happens, under very tight time
22 schedule, we go and solicit input from our Federal brethren at the Environmental
23 Protection Agency or the Department of Energy. But what the terms of reference
24 say is, "Go seek national stakeholders."

25 CHAIRMAN MACFARLANE: Right.

1 LARRY CAMPER: So, as we strive to enhance harmonization, as
2 we strive to understand, for all stakeholders, the standards of the IAEA and what
3 they mean and how they work, we are taking part in an initiative right now to find
4 ways to do that. We're going to be meeting internally with the Office of
5 International Programs, Office of General Counsel. And following those
6 meetings, we're going to go talk to our Federal brethren and develop a plan
7 where we can go out and enhance stakeholder input on IAEA standards, and we
8 intend to communicate with the Commission along the way as we develop that
9 process.

10 CHAIRMAN MACFARLANE: Okay. Great. Thank you. And now I
11 will turn to Commissioner Svinicki.

12 COMMISSIONER SVINICKI: Well, thank you all for your
13 presentations. And I guess I'm provoked into making some commentary on WIR
14 as well. I will begin by associating myself 100 percent with the comments of
15 Commissioner Ostendorff. I do want to -- at the risk of giving testimony from this
16 side of the table, I do want to comment on Commissioner Apostolakis' question
17 about legislators redefining things. I would say that high-level waste was defined
18 in law as well, and so if Congress seeks, subsequently, to amend the definition of
19 high-level waste by having Waste Incidental to Reprocessing, I guess it does
20 point out the downside of having overly technically complex things defined in law.
21 I think that's why in areas from health care to telecommunications to nuclear
22 waste, Congress often leaves the definition of terms to independent regulatory
23 agencies and asks them to do that and carry that out, just because it becomes
24 very difficult to adjust subsequent, but for whatever reason, the Nuclear Waste
25 Policy Act does define high-level waste, and WIR is an occasion where they

1 decided to go back and amend the process slightly.

2 I don't -- and I'm not aware of any initiatives to amend the laws of
3 thermodynamics or gravity, but if they take that up, then, Commissioner
4 Apostolakis, I'll alert you, because that would be clearly inappropriate. But in this
5 instance, they were merely amending something that they had previously
6 defined. At least that's how I see it.

7 [laughter]

8 And so, by that, you can tell, yes, I do have some direct association
9 with this legislation. So I don't mean to be defensive about it. On this issue
10 specifically, though, Mark, you gave a very detailed answer just now about staff's
11 review of Saltstone disposal. And my understanding, though, is that, subsequent
12 to the letter of concern that NRC sent to DOE regarding -- I think it was one tank;
13 maybe it was two -- DOE has presented further evaluation of technetium
14 inventories, and they've presented a reduction from their previous estimates, and
15 I think that that had some influence. When you said they were able -- the staff
16 was able to be made comfortable, is that part of -- was that changed radionuclide
17 inventory?

18 MARK SATORIUS: Yes, that's correct. And technetium is the bad
19 actor here, because of its mobility.

20 COMMISSIONER SVINICKI: Okay. Thank you. But you've also
21 indicated, though, that, going forward, as -- I'll use the crude term -- as the recipe
22 changes, as they move forward, we will need to continue to be reviewing various
23 analyses there.

24 MARK SATORIUS: We will be continuing to review until the last
25 gallon is pumped out of the last tank.

1 COMMISSIONER SVINICKI: Okay. Thank you. And is it your
2 view -- would you characterize that the relationship, the technical exchange with
3 DOE, is that open and working well? I mean, we may not always agree on every
4 point, but is the flow of information productive?

5 MARK SATORIUS: I think it's excellent. I think it's probably --
6 Larry would know, because he has more -- my experience is 10 or 11 months,
7 but I think it's the best -- I'm told it's the best they've ever seen. Larry?

8 LARRY CAMPER: Yeah. I have had the good fortune -- or the
9 misfortune, however you want to look at it -- to be involved with the Saltstone and
10 WIR interaction with DOE since the beginning. I mean, both agencies, two totally
11 different agencies, were put into this arrangement by virtue of this act, and it was
12 new for both of us. I mean, here we are, accustomed to being an independent
13 regulator. The DOE is not accustomed to being regulated, and although we don't
14 regulate them, we certainly are providing a lot of oversight around this issue.
15 And so, yes, there were growing pains in the beginning, but I would agree with
16 Mark wholeheartedly. I think the two agencies, given the difference in our
17 cultures and overall charges working together around a very complex technical
18 arena, has been superb. I think Department of Energy is working very diligently
19 down there to deal with a very complex problem, and I think we are, as
20 Commissioner Ostendorff said, providing very useful counsel during the
21 consultation phase, and then we are assessing compliance during the monitoring
22 phase.

23 So I think it's working very well. And I think, generally speaking, in
24 fact, if not completely, the citizens of South Carolina are pleased with what's
25 happening. Now, DOE faces some challenges there. They have a Federal

1 facilities agreement with the state. They want to make sure they maintain that.
2 By and large, it's working well. It's working well.

3 COMMISSIONER SVINICKI: Okay, thank you. Separate topic.
4 The staff has been engaging with stakeholders on revisions to Part 61, and I'm
5 aware of at least a handful of stakeholders who have indicated that they think
6 that the more comprehensive revisions could be addressed, perhaps, later after a
7 more limited rulemaking was completed, and that even a more limited rulemaking
8 would have the potential to go very far in risk informing Part 61. Have you heard
9 that? Is that just a handful of stakeholders? Or can you give any view of how the
10 staff has received that? Are you looking at various alternatives?

11 MARK SATORIUS: What I'll say is a couple things, Commissioner.
12 One is, we've heard a number of issues come back from stakeholders as a result
13 of the Commission direction received in January. We've held, I think, three public
14 meetings, a number of workshops, spoke at three or four different -- to gather
15 input as we gather the information necessary to meet the schedule of providing a
16 site-specific rulemaking to the Commission by next July.

17 What we're hearing is that, with the redirection that we received in
18 January, it's allowed us to open our scope, to a certain extent, where it may not
19 be necessary to go and do a larger, as we call it, big Part 61 look. And, yes, we
20 are exploring that as we speak. In fact, staff has developed a paper, which
21 should be sent to you soon, that's going to provide you some perspectives on
22 what we've learned, you and your colleagues, some perspectives on what we've
23 learned, and provide some recommendations on paths forward.

24 COMMISSIONER SVINICKI: Okay, thank you. I look forward to
25 receiving that. The last topic I'm going to touch on is something my colleagues

1 have as well. It is -- since this is a programmatic review, this was a
2 programmatic question about uranium recovery resourcing. I think that the
3 comment that, Mark, you made in your presentation was, as one of the strategic
4 challenges, that less resources -- I'll paraphrase this here -- less resources may -
5 - and coupled with a flat budget -- may result in the deferral of new licensing
6 applications if all are received consistent with the letters of intent. I know that this
7 agency -- and I think it's a great practice -- we engage very fulsome way with
8 potential applicants to try to get -- because we do budgeting two years out, we're
9 trying to have a sense of what we might expect to receive in which budget year. I
10 know that Commissioner Magwood asked you if potential applicants were aware
11 of our resourcing issue. I guess I'm coming at it much more practically. Do they
12 have a sense -- and if we're going to just receive applications and put them on a
13 shelf, they do grow stale. Has the staff considered, would it be better for us,
14 once we've received all we can handle, to simply say, you know, "We're kind of
15 closed; don't send me anything more"? Or does the regulated community have
16 any sense that, you know, if you're not in by June, you won't be considered?
17 Because these are not trivial exercises to prepare these applications. So I know
18 that my colleagues have called for us to communicate very clearly on, you know,
19 we're only taking -- I'm going to make up a number -- well, I'll just say X number
20 in this year, and beyond that, we can't accommodate it. If I were a potential
21 applicant, I guess I'd rather know that you're just going to receive my application
22 and shelve it for 12 to 18 months. I'd rather not send it to you. So, I mean, being
23 clear with them that resources are limited I'm not sure is blunt enough to be
24 practically useful to them.

25 MARK SATORIUS: Well, I will say this. We do not, and have not,

1 accepted applications and tossed them on a shelf.

2 COMMISSIONER SVINICKI: Are we in danger of having that
3 happen in '13, or...

4 MARK SATORIUS: A lot depends on the letters of credible intent,
5 because -- and I think I said in the very beginning, is the price of yellowcake
6 makes a lot of difference in this.

7 COMMISSIONER SVINICKI: And I know we can't predict that, but
8 in terms of -- do we have stats on, you know, generally we receive X numbers of
9 letters of intent; we only get 75 percent of them, so --

10 MARK SATORIUS: Yes. It's more like 50 percent.

11 COMMISSIONER SVINICKI: It's 50 percent? Okay.

12 MARK SATORIUS: Larry, you have anything to add?

13 LARRY CAMPER: I would. This question of, "Will we get the
14 applications?" has been a challenge for several years now. I mean, for example,
15 if one goes and looks at the 13 applications that we assume we will receive in
16 FY13, I mean, that goes back from budget planning two, two and a half years
17 ago, based upon credible letters of intent. I don't think we'll get 13 applications
18 this year. Historically, we've gotten about 50 percent. We're due to get 13 this
19 year in theory. Five next year in theory. Thus far, we've only had to defer for
20 about five months. But if all 13 were to come in --

21 COMMISSIONER SVINICKI: Which you're saying history would
22 show is not likely.

23 LARRY CAMPER: Say it would not. Exactly. But let's say they
24 did, and then we also continue and proceed to have three more operating sites
25 next year. At some point, we would probably have to ask ourselves that

1 question. If we were really going to have 13 applications sitting on the shelf
2 somewhere for new applications, I think that's a question we would have to ask
3 ourselves.

4 COMMISSIONER SVINICKI: Do you hear frustration from the
5 regulated community that, with no small hint of irony, that they pay for these
6 reviews, and that we don't have the money to do them?

7 LARRY CAMPER: Oh, sure.

8 COMMISSIONER SVINICKI: Okay.

9 [laughter]

10 BILL BORCHARDT: You know, Commissioner, this goes beyond
11 this program area. We have a CR. We're facing a sequestration. This is going
12 to have a big impact on new applications. There's no way around it. We're not
13 going to recommend to the Commission that we cut back on oversight of current
14 licensees. Once you lock that in, given all the other constraints we have, one of
15 the sources of meeting the requirements of the sequestration will be new
16 applications.

17 COMMISSIONER SVINICKI: And I don't think I suggested, in any
18 way, that we short-circuit oversight and inspection. I don't think that that was
19 implied in my question at all. But I will say that I do think there is, you know, the
20 better fidelity that we can give on, you know, we're budgeting for -- and I think a
21 fair way to state it, based on your answer, is, we're budgeting for as many as
22 historically we have had received based on the number of credible letters of
23 intent we have, so we're not budgeting for some lesser amount, but we do, I
24 think, have to be driven by how many have manifested in past years, because if
25 we budgeted for letters of intent, then I think history shows that we would be

1 over-resourcing this area.

2 LARRY CAMPER: Agreed. And one of the things we do, we do go
3 to and take part in the National Mining Association meeting every year in Denver.
4 And almost every year, this question comes up. We provide an overview; we
5 answer questions; we make ourselves available for meetings with companies
6 that are in the midst of applying or plan to come in. And we try to be as candid
7 as we think is appropriate to explain the resource question. And it really gets at
8 what you just said. I mean, here's how many we have received historically.
9 Here's how many we're capable of managing in a given year. Here's what the
10 forecast is. And here's how many we see going operational. These are the
11 implications. So we do try to communicate that.

12 COMMISSIONER SVINICKI: Okay. Thank you. Thank you,
13 Madam Chairman.

14 CHAIRMAN MACFARLANE: Okay. Let me turn to my fellow
15 Commissioners, see if anybody else has further comment. No? Okay. Well,
16 then, I thank you all for this morning's presentations and discussion. It was very
17 helpful, very fruitful. And I think it was a great opportunity to discuss this large
18 variety of different programs. So -- and with that, I think we will adjourn.

19 [whereupon, the proceedings were concluded]