

UNITED STATES

NUCLEAR REGULATORY COMMISSION

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MEETING WITH THE ORGANIZATION OF AGREEMENT STATES (OAS)

AND THE CONFERENCE OF RADIATION CONTROL PROGRAM

DIRECTORS (CRCPD)

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TUESDAY,

OCTOBER 8, 2024

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The Commission met in the Commissioners' Hearing Room, One White Flint North, 11545 Rockville Pike, Rockville, Maryland, at 10:00 a.m., Christopher T. Hanson, Chair, presiding.

COMMISSION MEMBERS:

CHRISTOPHER T. HANSON, Chair

DAVID A. WRIGHT, Commissioner

ANNIE CAPUTO, Commissioner

BRADLEY R. CROWELL, Commissioner

ALSO PRESENT:

CARRIE M. SAFFORD, Secretary of the Commission

BROOKE CLARK, General Counsel

OAS AND CRCPD PARTICIPANTS:

LISA BRUEDIGAN, Director, Radiation Section, Consumer Protection Division, Texas Department of State Health Services (CRCPD Chair Elect)

STEVE SEEGER, Deputy Director of Field Operations, Chattanooga Field Office, Division of Radiological Health, Tennessee Department of Environment and Conservation (OAS Champion)

RIKKI WALLER, Senior Radiation Physicist, Laboratory Improvement Section, Idaho Bureau of Laboratories, Division of Public Health Laboratory Improvement, Idaho Department of Health, and Welfare (CRCPD Chair)

KEISHA CORNELIUS, Environmental Programs Specialist IV, Radiation Management Section, Land Protection Section, Oklahoma Department of Environmental Quality (OAS Past Chair)

PATRICK MULLIGAN, Assistant Director, Radiation Protection Element, Division of Climate, Clean Energy, and Radiation Protection, New Jersey Department of Environmental Protection (CRCPD Past Chair)

SARAH SANDERLIN, Radiation Physicist 2, Bureau of Environmental Radiation, New Jersey Department of Environmental Protection (OAS Chair Elect)

PROCEEDINGS

9:59 a.m.

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3 CHAIR HANSON: Good morning, everyone. I convene the
4 Commission's public meeting with the Organization of Agreement States, or
5 OAS, and the Conference of Radiation Control Program Directors, or
6 CRCPD. In this meeting, we'll hear from these two organizations about
7 their views on radioactive materials policy and regulatory issues that are of
8 interest to them and other states. Before we start, I'll ask if my colleagues
9 have any remarks they'd like to make.

10 Okay. So I intend to proceed in the order in which you all are
11 listed on the scheduling note. We'll hold questions until the end of the
12 speaker presentations. And then we'll hear questions from the
13 Commissioners.

14 So, with that, we'll begin with Lisa Bruedigan. Lisa, the floor
15 is yours.

16 MS. BRUEDIGAN: Good morning. There we go. Good
17 morning. We appreciate the opportunity to come meet with you this
18 morning and discuss all things that are important in radiation going on
19 across the country. So from the state perspective, we have a little different
20 angle of things than you guys do.

21 And so we appreciate the chance to exchange ideas and
22 make sure that we're collectively handling the business of radiation in the
23 country. So if my first slide will come up there. Do I have the advance or
24 someone does that for me? Okay. Next slide, please. And the next one,
25 please.

26 All right. So I'm the director for the Radiation Control

1 Program in the state of Texas, and I'm the current chair of the Conference of
2 Radiation Control Program Directors. And so today I'm going to speak with
3 you a little bit about communications. And overall, we believe that
4 communication between the states, between CRCPD and OAS and the NRC
5 is at an exceptional level these days.

6 As the person that's been in the program for 27 years, it
7 wasn't always the case in former years. And so the efforts that we are
8 seeing have been greatly appreciated and are acknowledged. So some of
9 the positive things that the groups are doing together are the
10 government-to-government meetings. The G2G meetings are wonderful.

11 The Champions Chats offer us an opportunity to talk about
12 things that are really of interest at the state levels that are truly issues that
13 we're dealing with and are relevant to the current times. The integrated
14 working materials and working groups are giving us the opportunity for
15 integration as far as being able to know whether the concerns are going to
16 be from a state level before we have a new rulemaking that's coming down
17 that says here's what we propose from the NRC side. So we applaud those
18 efforts and would like to see those continue.

19 And having the integrated IMPEPs, that has been a fabulous
20 tool for the members of our state teams that are participants in that as well
21 as I believe for the NRC. It's giving you more manpower. But it also gives
22 you a greater perspective, and I think we all learn from each other on each
23 IMPEP that happens across the states or in the country.

24 And we appreciate those efforts and want to continue to see
25 that grow. So some recent examples that we've had and I'm from the Texas
26 program. We are a large program and have quite a bit of activity going on

1 in the state.

2 So I've used several of my personal experiences. So
3 industrial radiographers, we had -- I'm sorry. Next slide, please. So that's
4 the current one. So for the industrial radiographers, there were some
5 questions that came up.

6 I believe someone at NRC was approached by a different
7 group about adjusting the hours on industrial radiographers. So we got a
8 call and they said, what is going on in Texas? What are you looking at?
9 What's going on in some of the other states?

10 And so we were able to quickly put together a discussion on
11 that, bring some additional information, let NRC know what was happened at
12 the national level as well as in Illinois, Oklahoma, Louisiana, and Texas and
13 that the proposal that was being given was indeed going to align the country
14 and was going to be a better fit for industrial radiography across the country.

15 So again, having those contacts, making that phone call, and just saying,
16 can we have a discussion I think has been a benefit to everyone. Next
17 slide, please. Another not so recent but in the last few years was the
18 industrial radiography two-man rule.

19 And so as you know, this is one that the request was
20 originally submitted by Texas many, many years ago. And the powers that
21 be change. And as we have more experience and we learn more,
22 sometimes philosophies change as well.

23 And so by the time this came around, Texas had already
24 changed its stance on this. And we were not in favor of this. And we
25 shared our opinions on that.

26 We did not know that we could have withdrawn our request.

1 And had someone whispered that in our ears, we might would've done that.
2 We just did not know that was something that was an option for us.

3 So that's an example that the communication just took a little
4 bit longer time than what we anticipated. And maybe some conversations
5 right before it came up again would've been helpful and might've avoided us
6 all a lot of work. Next slide, please. So some recent examples there.

7 So we've had topics discussed during the national fall call that
8 we had on the exempt devices. And then we brought it up between the
9 OAS and the CRCPD boards. We met, had a conversation, and this
10 exempt device has kind of caught us a little off guard.

11 It had been published a couple years before. But to be
12 honest, we weren't paying attention to it and were not quite so prepared
13 when it was brought up on the national call. So we asked to have a
14 conversation with NRC staff.

15 We discussed it at the OAS meeting that we just had in
16 August and then again at the Champions Chat that we had last month. And
17 I believe that there's work in progress that we're going to be developing a
18 users group or something to have that conversation again. It's an
19 opportunity that we appreciate having our voices heard, that we had
20 concerns, and we wanted to come back to the table and have a discussion
21 on that.

22 And more than anything no matter what the final outcome is,
23 is the opportunity to know that we were heard and listened to. And I think
24 that goes both ways and, again, strengthens communication as we need to.
25 Next slide, please. And so ongoing interactions, we would encourage you
26 guys to keep it up as much as you can.

1 We will commit to doing so from both OAS and the CRCPD
2 side as well as the states themselves. The earlier the notifications we can
3 have about any significant issues that are coming along would be nice,
4 updates on the ADVANCE Act as that continues. And then the annual SLO
5 meeting we believe is an important thing.

6 And I know there was a time when it was discussed virtually
7 or not. And we believe that the in-presence attendance is an important
8 thing for the states. And then continued support and attendance for
9 CRCPD and OAS at the meetings and the board meetings.

10 The interactions that we have are just invaluable, to be able to
11 know that we've got a partner at the table to express our concerns to as well
12 as listen to and get updates. And it's been a very key and very helpful
13 component. Next slide. So future interactions, we would like to see --
14 continue the G2G meetings, the Champions Chat, individual interactions, the
15 request for comments.

16 We'd like to see those continue to be ongoing and any
17 combination of that much. Advance notice for meetings is always a benefit.

18 I understand schedules are incredibly hard to coordinate.

19 But if things like the third Thursday of the month is very, very
20 helpful for us to be able to adjust our schedules at the state level so that we
21 can participate to the extent possible in the meetings and make sure that
22 we're getting the important information that we need. And my last slide is
23 for questions. But I think we're moving along.

24 CHAIR HANSON: Thanks. Next, we'll hear from Steve
25 Seeger from the state of Tennessee. And I understand you're going to talk
26 about fusion.

1 MR. SEEGER: Yes. Thanks, Lisa. Good morning,
2 Commissioners. I am Steve Seeger from the state of Tennessee, and I
3 currently serve as the OAS Champion.

4 I want to thank you for meeting with us today. Radiation
5 protection and the status of the national materials program are very
6 important. So we thank you for taking the time out of your busy schedule.
7 And like you said, I'll be discussing the status of fusion regulatory framework.

8 Next slide.

9 NRC is committed to working closely with the Agreement
10 States in a true partnership to ensure a well-developed and comprehensive
11 program is created. This includes the development of fusion regulations,
12 regulatory guidance, and procedures as well as figuring out how it will fit into
13 the IMPEP framework. Next slide. Both the NRC and the Agreement
14 States have common goals of achieving consistency and competency across
15 the National Materials Program.

16 Consistency will allow us to work together to create uniform
17 practices and methodology to ensure safety across our regulated entities as
18 well as instilling confidence in members of the public that fusion is a safe
19 and clean alternate for our future. Competency is an important factor for the
20 Agreement States. The NRC provides the Agreement States training which
21 ensures our technical competency.

22 Fusion is different than fission. And therefore, the training
23 available doesn't adequately cover the technical information we would like to
24 know before regulating a fusion license. Next slide. There are many items
25 we have already started working on with NRC.

26 There have been several working groups that have involved

1 NRC staff as well as Agreement States staff, the draft NUREG and
2 regulations were released for comment earlier this year. Many states
3 commented on these documents. By the number of states that expressed
4 interest and took the time to comment, you can tell it is a very, very hot topic
5 and everyone wants to ensure we all get this correct.

6 The NMP Champions have had several Champion Chats
7 regarding fusion and there have been many public meetings. All of these
8 were well attended and helpful for the states to keep an open
9 communication thread. Another way for states and NRC to collaborate is
10 during conferences.

11 During this year's OAS annual meeting, almost an entire day
12 was dedicated to fusion. We heard from the NRC, the different states
13 already working with fusion as well as many fusion companies.
14 Communication is key to helping us to create this new framework. Another
15 aspect of communication we have found very helpful is the open line of
16 communication between the states and the potential licensee.

17 Having conversations early and often can make sure that both
18 parties have a full understanding of the process and technology to be
19 regulated. Next slide. Everyone's big question, what do we do now and
20 how do we get to the point where we feel comfortable regulating commercial
21 fusion? Next slide. One of the most successful parts of the NRC and
22 Agreement States relationship is our training opportunities.

23 You will hear later from Sarah just how important these
24 training opportunities are to the stability and continuity of the National
25 Materials Program. Regulating fusion requires training Agreement State
26 and NRC staff. This training will need to not only focus on licensing and the

1 inspection of these machines, but it'll also need to include fusion technology.

2 The training classes that are available now are fission-based.

3 To understand how to license and inspect these machines, we need an
4 understanding of the technology that will allow us to regulate in a
5 risk-informed and performance-based manner. The Agreement States have
6 never regulated putting power on a grid.

7 This has been solely regulated by the NRC until now. The
8 NRC should leverage this experience to help the states feel comfortable with
9 this part of regulating fusion. Next slide. Another way to help Agreement
10 States and the NRC prepare for fusion would be to create a group of subject
11 matter experts made up of representatives from the states that currently
12 working with fusion companies in some way.

13 States that receive new interest for fusion in their state will be
14 able to reach out to this group for advice and guidance. This group could
15 also help develop standardized licensing conditions and inspection
16 checklists since they already have some experience in this area. With lots
17 of communication and working together, we can be ready for commercial
18 fusion before it's here. Next slide. Next is Rikki, and I will have questions
19 at the end. Thank you.

20 CHAIR HANSON: Great. Rikki Waller who's from the state
21 of Idaho, over to you.

22 MS. WALLER: Thank you. I am the director for the state of
23 Idaho. Thank you all for meeting with us today. Commissioner Hanson,
24 congratulations on recent reappointment as chair. We appreciate the
25 opportunity to present with you today. Can we go to the first slide, please?

26 When I met with -- when we met with you 17, 18 months ago,

1 just one of my topics out of three was AI. Since that time, AI has grown in
2 leaps and bounds. It gets its own topic this time.

3 And now we can get AI on our cell phones, on web browsers,
4 and even on social media. Next slide, please. With the growth of AI, we
5 need to figure out how to use it to our advantage. There are many tasks
6 that may be assigned to AI to aid the states in performing radiation safety
7 procedures and practices.

8 The tasks listed are just a few of the items that may be
9 accomplished with the use of AI. And as time goes on, that list just
10 continues to grow. Next slide, please. AI can be a tremendous aid in
11 assisting with inspection preparation.

12 With the ability to gather and analyze past history of each
13 facility, a more focused inspection plan for each facility can be generated
14 prior to inspection which leads the inspector themselves to be more -- gosh,
15 I forgot the word. Just more prepared and with more of a past history of
16 what has happened before this current inspection. Next slide, please.

17 And training can be enhanced with the use of AI by aiding the
18 capability of simulating various scenarios for training purposes. It can also
19 help streamline the scheduling process as well as preparing any necessary
20 documentation required before and after the inspection. Next slide, please.

21 And AI can also help streamline operations while also considering the
22 ethical use. It can also assist in monitoring and detection, 24/7. Next slide.

23 As with all emerging technologies, it will take some time to
24 learn how to use, manage, and develop the use of AI as a radiation safety
25 protection tool. A means to provide privacy and data safety measures is a
26 key component to using AI. Training will be necessary along all levels of

1 users to ensure proper use as well as fiscal responsibility.

2 And ethical considerations should always be in the forefront,
3 making the decision to use AI. Ethics in AI is one of the most critical issues
4 that have been identified as AI has come up in more people using it and it
5 being more prevalent in society. Next slide, please. Much work still needs
6 to be done.

7 Experts and industry leaders must collaborate proactively to
8 invest in infrastructure. It will be important for them to stay updated on the
9 latest advancements and best practices in an ever-changing technology.
10 Next slide, please. And it will take a great deal of training to implement an
11 AI assisted program.

12 AI is only as unbiased as the data put into it as a lot of the
13 experts like to say when utilizing AI as garbage put in is garbage put out.
14 So putting the data in correctly and efficiently is something that's very
15 important. So if the data is imperfect, the resulting AI will be imperfect as
16 well.

17 And as always, the balance between innovation and fiscal
18 responsibility will always be a consideration. So in closing, the main thing
19 we need to consider in the AI use is that no human element. And therefore,
20 AI lacks the human emotional intelligence, the ability to understand,
21 empathize, and connect on an emotional level.

22 It also lacks the capacity for creativity and new ways of
23 thinking. And as I said before, the data put in to AI is crucial and must be
24 accurate and true. Knowing this, we should ourselves focus on keeping
25 these attributes alive and well. Thank you.

26 CHAIR HANSON: Thank you very much. Next we'll hear

1 from Keisha Cornelius from the state of Oklahoma. Keisha, over to you.

2 MS. CORNELIUS: Thank you. Good morning. I'm Keisha
3 Cornelius from the state of Oklahoma, and I serve OAS as the past chair. I
4 want to thank you for meeting with us today and for taking time out of your
5 schedules to discuss radiation issues that are so important to the NMP.

6 I'll be discussing the prioritization of recommendations from
7 the working group to assess National Materials performance and also
8 integrated materials performance impact process improvements. Next
9 slide. Based on the charter approved by the director of the Division of
10 Material Safety, Security, State and Tribal Programs and the chair of OAS, a
11 working group was established to assess the current IMPEP process with
12 respect to for providing a proactive assessment of the National Materials
13 Program, NMP, Radiation Control Programs, or RCPs. In addition, the NRC
14 wanted to evaluate the effectiveness of the IMPEP program to predict,
15 identify, and reverse declines in performance indicators before RCP's
16 performance would result in an unsatisfactory finding.

17 Because of recent declines in performance, the NRC wanted
18 to identify potential root causes common to declines identified in recent
19 reviews and identify leading indicators to help identify RCP's experience and
20 challenges in achieving satisfactory findings for each indicator. The NRC
21 and OAS established a 15-person working group comprised of staff from the
22 NRC and four Agreement States. The working group focused on
23 recommendations that fell into two distinct categories.

24 The first one, enhancing awareness of the RCP's
25 performance, including metrics used to identify programs with a declining
26 performance or performance challenges, and second, improving the IMPEP

1 assessment of RCP's performance. Through its review, the working group
2 identified five recommendations, three associated with enhancing
3 awareness of the RCP's performance and two with improving IMPEP
4 assessment. Next slide. Recommendation No. 1, identify and implement
5 meaningful performance metrics to track the health of the NMP.

6 The working group reviewed the current CBJ performance
7 indicator, NM-23, to determine if there's room for improvement. NM-23
8 measures the Percentage of Materials Programs with More Than One
9 Unsatisfactory Performance Indicator. The working group determined that
10 NM-23 was unnecessarily narrow as it did not consider other program
11 performance measures like the number of programs on monitoring,
12 heightened oversight, or probation.

13 It also doesn't account for the degree of recovery of a
14 program between IMPEPs. The working group considered how to update
15 the CBJ metric to measure more than just the number of unsatisfactory
16 performance indicator results. Therefore, the working group recommends
17 that a new performance indicator for NMP performance is established.

18 Management should consider establishing a less than 15
19 percent of Agreement State programs on enhanced oversight metric. OAS
20 also supports a joint OAS/NRC working group to develop a new metric. The
21 working group determined that the annual report to the Commission could be
22 improved by including additional tracking, trending, and statistical insights
23 providing information regarding the overall health of the NMP. Next slide.

24 Recommendation No. 2, develop tools and strategies for
25 identifying potential performance issues and facilitating prompt corrective
26 action. The working group and stakeholders continue to describe IMPEP as

1 a strong program within the NMP. Under this program, individuals from
2 NRC and Agreement States work together to evaluate the effectiveness of
3 each RCP's performance while ensuring public health, safety, and security
4 surrounding the use of radioactive materials.

5 The working group identified that RCPs that experienced
6 declines in performance also had turnover in personnel. This turnover in
7 personnel often affected the program's ability to reach out to other RCPs for
8 information or formal advice and made it less likely that the program would
9 approach the NRC for help early in the process. In order to build
10 relationships in the NMP, the working group recommends that we continue
11 to support the NMP through the monthly NMP calls and Champions Chats.

12 OAS also appreciates that NRC provides funding for each
13 Agreement State director to attend the OAS annual meeting. These all give
14 opportunities for NMP to discuss common issues. We also recommend that
15 we develop an IMPEP awareness training for new radiation control program
16 directors.

17 Many new RCPDs have never been through an IMPEP and
18 do not realize the scope or importance of IMPEP. An IMPEP training
19 program should be created for new RCPDs. This could also include a new
20 RCPD observing another program's IMPEP so they can get a firsthand view
21 of the process.

22 We also recommended facilitating NMP counterpart meetings
23 for inspectors and license reviewers, increasing the opportunities for NMP
24 program personnel to build relationships and discuss common performance
25 challenges. This would likely result in more engaged staff and may mitigate
26 potential future declines in performance. Early identification of challenges

1 facilitates timely corrective actions.

2 The working group recognizes the benefits of self-reflection
3 and self-identification and taking a proactive approach to solving
4 performance issues. The working group heard from stakeholders that
5 performing periodic self-audits could aid with early identification of potential
6 challenges in an RCP. OAS recognizes that a self-audit tool must be clear,
7 concise, and easy to use.

8 Implementing the self-audit tool into web-based licensing
9 could encourage more programs to use WBL. Also ensuring when a
10 program self-identifies and corrects an issue, that would not necessarily lead
11 to an unsatisfactory finding during IMPEP. That would encourage more
12 programs to use the self-audit tool.

13 The number of agreement states has increased and
14 continues to increase while the number of regional State Agreement officers
15 has remained constant. The working group noted that in 1990, there were
16 28 Agreement States and 5 RSAOs. Today, there are 39 Agreement
17 States, soon to be 41 and still only 5 RSAOs.

18 The working group recommends assessing the current and
19 future role of the RSAO in the NMP. Next slide. Recommendation No. 3,
20 develop NMP strategies to assist RCPs with performance challenges. The
21 working group also considered how to effectively provide timely and targeted
22 assistance to RCPs with performance challenges.

23 This could be accomplished by revising the programmatic
24 technical assistance section of SA-1001, "Implementation of Management
25 Directive 5.7, Technical Assistance to Agreement States." The revision of
26 this section should include self-identified programmatic issues in addition to

1 ones discovered during the IMPEP reviews. The revision should describe
2 how programs can request timely assistance through the OAS board,
3 RSAOs, other Agreement States, and NMSS.

4 It should also identify how the request is acknowledged,
5 assigned, tracked, and closed. Next slide. Recommendation No. 4, modify
6 and enhance IMPEP to ensure that reviews continue to be done in a
7 consistent and risk informed manner. Working group and stakeholders
8 agree that the essentials of IMPEP are sound, but there is room for
9 improvement related to consistency of implementation of IMPEP.

10 One recommendation is to consider evaluating all RCPs
11 under the same common performance indicators and establish a joint
12 working group to implement this action. Evaluating all Agreement State
13 RCPs using the same criteria, six performance indicators, could allow for a
14 holistic review as well as provide a much more aligned focus and oversight
15 of the NMP. We also recommend enhanced team leader training to include
16 more scenarios.

17 Scenarios should be informed by previous IMPEP reviews
18 where the teams debated indicator findings and recommendations, also
19 establishing forums for team leaders to meet to discuss recent IMPEP issues
20 and findings. Include additional training on report writing and how to deliver
21 a high-level brief for exits and MRB. This is increasingly important as new
22 team leaders in training are identified.

23 We know recently the decision was made to have team leader
24 and team member training virtually instead of in-person. OAS believes that
25 this is counterproductive to ensuring consistency at IMPEPs. In-person
26 training allows for individuals to give their undivided attention during training

1 without distraction.

2 It facilitates more interaction among attendees and gives
3 opportunity to continue important discussions outside of the classroom
4 during breaks and after hours. Next slide. Recommendation No. 5, modify
5 IMPEP processes to increase efficiencies in addition to creating consistency
6 in the implementation of IMPEP. The working group and stakeholders are
7 recommending consideration of areas within the entire IMPEP process that
8 may be streamlined, including the Management Review Board.

9 Currently, Agreement State IMPEP team members are not
10 allowed to review the LROPE indicator which is Legislation, Regulation, and
11 Other Program Elements. Consistent with SA-107, much of that evaluation
12 consists of reviewing whether the state has submitted the appropriate state
13 statutes. Importantly, the compatibility review of submitted state statutes
14 and regulations is conducted separately by qualified NRC staff outside of the
15 IMPEP process. There is a need to qualify individuals to review this LROPE
16 indicator.

17 As a number of Agreement State IMPEP team members
18 increases, the working group sees this activity beneficial to the NMP. Items
19 for the MRB chair consideration for improved performance and efficiency,
20 the working group recommends the following items for the MRB chair to
21 consider; revising the MRB script to guide discussion to the challenging
22 performance indicators, consider grouping all clearly satisfactory indicators
23 into one short discussion so that the remainder of the time can be focused
24 on those indicators that are less than satisfactory, encouraging MRB
25 members to provide questions to IMPEP team members prior to the MRB
26 meetings and with enough lead time for the IMPEP team members to be

1 able to provide quality answers. Because the MRB meetings are open to
2 the public, we want the IMPEP team members to be prepared to provide the
3 answers as necessary. Also encourage MRB members to provide
4 questions to the IMPEP team prior to the MRB meeting and with enough
5 lead time for IMPEP members to be able to provide quality answers.

6 With a new MRB chair to be named still, OAS thinks that this
7 is a perfect opportunity to implement recommendations with the
8 Management Review Board. Next slide. This presentation is in no way
9 intended to be representative of the all the recommendations that the
10 working recommended. These are just the ones that OAS considers a
11 priority.

12 But we think all are good recommendations that should be
13 considered by the Commission. I would also like to thank you for your time
14 and welcome any questions at the end. And now I would like to turn it over
15 to Patrick.

16 CHAIR HANSON: Okay. Patrick Mulligan from the state of
17 New Jersey, over to you.

18 MR. MULLIGAN: Good morning, Commissioners. And
19 again, like my colleagues had mentioned earlier, certainly appreciate the
20 opportunity to come here again this year and speak with you and allow you
21 to kind of understand what's collectively on the minds of some of the state
22 folks. And I'm going to talk a little bit this morning about new reactor
23 technology and the reactor design approval process.

24 As I'm sure all of you are aware, one of the challenges that
25 we're facing right now is the world's global climate change initiatives and the
26 quest to reduce carbon emissions, some aggressively, certainly by 2030 and

1 others more aggressively by 2050. And in order to reach those goals, we
2 understand that we're going to need to be creative. We're going to need to
3 be flexible, and we're going to need to consider all the tools that are
4 available to us in order to reach those goals.

5 And certainly subject matter experts agree that the nuclear
6 energy needs to be part of that portfolio if we're going to meet those. And
7 so we fully understand that over the next 15, 20, 30 years or more that we're
8 going to see a lot -- an increase in the nuclear portfolio that supplies
9 electricity in this country. And we're seeing it a lot at the state level too.

10 I mean, many states have provided legislation that provides
11 funding for nuclear sector, some states specifically for small modular
12 reactors. And so we see that from the state perspective we're moving in
13 that direction as well. And so as we move through, we understand that --
14 you can go to the next slide. I'm sorry. I'm probably two behind now.
15 Apologize for that. Yes, that's the one.

16 So considering that right now the current technology is light
17 water reactors. But we have a lot on the horizon that there's a lot of
18 research that is being done right now. Obviously, small modular reactors
19 are very close to being a reality, and we should be seeing some of those
20 relatively soon.

21 Steve talked about fusion reactors. And so I think that we've
22 heard from the industry that possibly by the end of this decade we may see
23 fusion as a viable possibility. But there are also other more next generation
24 nuclear reactors that we're also taking a look at and there's a lot of research
25 being done too.

26 The Generation IV reactors, the sodium cooled fast reactor,

1 molten salt reactors, the gas-cooled fast reactors, and then you have some
2 other general types that have the high heat reactors. So those are all being
3 considered as new technologies. And obviously as that research comes
4 down the line, there's going to be probably NRC involvement with approving
5 those designs along the way.

6 And so that's where I think my point is coming to the NRC
7 with -- and you can go to the next slide, please. They play a critical role in
8 the technical review of those reactor designs to ensure that they are
9 operated safe and reliable for the public. And that rigorous oversight
10 process ensures that they operate safely.

11 And I guess my message is state and local governments rely
12 on your agency to do all that work. I mean, we don't have the level of
13 subject matter experts to really take a look at the engineering designs and at
14 the reactor safety analysis that needs to be done with sufficient rigor to
15 ensure that these plants may be operated safely. And so we look to the
16 NRC to continue, as we know you will, look at those from a very critical eye
17 and from a public health and safety perspective.

18 And I know that moving forward -- let me go to the next slide
19 because that's where my head was going. There's a lot of pressure. I
20 know that the Nuclear Energy Institute obviously is a proponent for the
21 nuclear energy industry.

22 They work not only within this country but they work
23 internationally to support harmonization of standards and practices in the
24 nuclear industry. But I know that in hearing some presentations from NEI,
25 they're also looking to encourage streamlining of the process for which the
26 regulatory bodies approve and review reactor designs. And we understand

1 -- if we can go to the next slide, please.

2 We understand that there can be efficiencies in reviewing that
3 process and streamlining. But I think that the message from the states is
4 we need to temper that streamlining with making sure that we're actually
5 continuing to ensure safe and reliable operation of the design. So that
6 means kind of sticking with -- and the whole processes that we've been to,
7 especially with going through the severe accident management
8 consequence analysis, those kind of things, and providing the rigorous look
9 at what the impact pathways may be.

10 I don't know that we can -- state agencies certainly can't and
11 don't have the knowledge to really go through that. And so we're relying on
12 the Nuclear Regulatory Commission and the experts that you have here to
13 address those issues that we're comfortable in the end that the review
14 process has been rigorous to the extent that these designs are approved
15 and they can operate safely. So I think that we're -- I know that there's a lot
16 of pressure, and it's not just from NEI.

17 But there's political pressures and there's other pressures to
18 streamline the process and move quicker than you have in the past. And I
19 don't believe that looking at just the time that it takes to do that is a measure
20 of how good or bad it is. You can streamline the process if it makes sense.

21 There are some steps that just need to be done and are going
22 to take time because they need engineering analysis to do them. And they
23 need some studies to be done to do them. And so some things do take
24 time and they cannot be rushed.

25 And so we just -- and the question is just to be cognizant of
26 that process and to remain true to the standards that you've always set

1 within this agency. And that's safe, reliable operation of nuclear power
2 plants. And I will turn it over to our next presenter, Sarah.

3 CHAIR HANSON: Okay. Next, we'll hear from Sarah
4 Sanderlin, also from the state of New Jersey who's going to talk about
5 training.

6 MS. SANDERLIN: Yes, good morning, Commissioners. I'm
7 Sarah Sanderlin. I work with the state of New Jersey. Is that better?
8 Okay. I'm currently serving as the OAS Chair Elect. Thank you for taking
9 time to meet with us today and discuss radiation protection issues that
10 impact us all in the National Materials Program.

11 Today, I will be discussing Agreement State training. Next
12 slide, please. The NRC provides -- currently provides funding to Agreement
13 States to obtain training on various topics. There are several formats used
14 for the training such as in-person.

15 This can be onsite through the NRC, state hosted or state
16 delivered, virtual with an instructor, and self-study through the collaborative
17 learning environment online, also known as the CLE.

18 Next slide, please. With an influx of new staff, Agreement
19 States are having an increase in demand for training. The current
20 availability of training is unable to meet this demand.

21 Due to this, some Agreement States have begun the process
22 of having state delivered training. State delivered training is when
23 Agreement States staff run the course themselves, providing the venue and
24 instructors. For this to happen, staff audits the particular course and
25 obtains all training materials from the NRC.

26 The main benefit of state delivered courses are that the state

1 can have as many staff members attend the training. So if there is a large
2 amount of new staff members, they can get them trained on that course all at
3 one time. There's also great potential to have nearby states send their staff
4 members to attend the course as well.

5 However, state delivered courses receive no funding from the
6 NRC for travel and accommodations for any of the staff attending the course.

7 For in state NRC funded training, an Agreement State would have to apply
8 to host an NRC sponsored course which is also known as state hosted.
9 This form of training course is when an Agreement State provides the venue
10 and NRC instructors run the course.

11 Both are beneficial, but funding can be an issue. Over the
12 last several years, more courses have moved to an online format, whether it
13 be virtually given or self-study -- self-guided courses online. While the
14 increased availability of online courses is a great benefit to the Agreement
15 States, there are several downsides to this format as well.

16 When taking a course online, whether it be instructor-led,
17 virtually, or self-guided, there's a lack of hands-on experience and in-person
18 visualization of material being taught. For instance, the medical courses
19 have recently been moved online under the self-study through the
20 collaborative learning environment. There is no longer -- this no longer
21 allows core students to do the field trips to local hospitals and other medical
22 centers which has been a critical part of the in-person version of these
23 courses.

24 While the CLE online format does have a discussion board
25 and NRC staff available for questions, this does not account for the natural
26 discussions that may occur between students during breaks or with

1 instructors. Self-study can also impact the knowledge uptake as there may
2 not be any explanation beyond what is available on the page. It can also be
3 harder for a student to be able to give all of their attention to a self-study
4 course when they are making their own schedule as opposed to having a
5 designated period of time to complete the course like other formats provide.
6 Next slide, please.

7 Moving forward, the Organization of Agreement States would
8 like to see continued support and funding for all training of Agreement State
9 staff. We would like to see this also include funding for students traveling to
10 state delivered courses. Obtaining NRC training is crucial for all staff
11 working under NRC agreements to ensure regulations and best practices are
12 being implemented across the National Materials Program. This concludes
13 my presentation. I would like to thank you for your time and welcome any
14 questions now that we are at the end of everybody's presentations.

15 CHAIR HANSON: Okay. Thank you very much. We'll start
16 with questions this morning with Commissioner Wright.

17 COMMISSIONER WRIGHT: Thank you, Chair. Good
18 morning, everyone. Thank you for your presentations. I know some of
19 you, it's your first time I think maybe. So I hope the nerves didn't affect you
20 too much. We're going to have fun today.

21 This is a great meeting. This is probably my favorite meeting
22 of the year. I really enjoy this and I enjoy interacting with you during your
23 conferences during the year as well.

24 There's a lot that's been going on -- that is going on in your
25 states. I recognize that not all states are equal. You have funding issues
26 from your legislatures or whoever.

1 Sometimes your fees aren't where they should be and you're
2 having trouble with employees being poached by even us because of the
3 financial considerations and just the disparaging amounts between -- the
4 differential amounts between each place. When I travel around, as you
5 know, I do try to stop in and meet with the OAS staff or CRCPD staff that is
6 there in the state. And if I need to, I'll go talk with the people are your
7 overseers in the state, right, to try to let them know your value to the NRC
8 and try to make those issues known that you're having issues with and
9 maybe bring some awareness to things maybe they don't and you're not able
10 to do from a peer-to-peer thing.

11 So I plan to continue doing that. And I think that Kevin and
12 them are doing a wonderful job as well. And I really loved the way that -- in
13 the last four or five years, the way this relationship has really come together.

14 And so I commend you from your positions for your reaching
15 out and wanting to be transparent and inclusive with our program that Kevin
16 and them head. And we're very -- I feel we're very fortunate to have people
17 like you who are willing to do what you do because it's passion that you do it
18 for. It's not the money. I get it, right?

19 Steve, I want to start with you this morning. You talked about
20 creating a group of subject matter experts, right, as a future action. How
21 are the states that have already licensed fusion devices such as Washington
22 state, right, how are they sharing how they license their fusion facilities and
23 lessons learned with other states? How are they doing that now?

24 MR. SEEGER: That's a good question. I guess, like, if we
25 could get a working group maybe and we can have those discussions. And
26 the working group would know talking with the OAS board and how we could

1 reach out to the states what they need.

2 It's so new right now. Training and just understanding the
3 technology because right now in Tennessee, that's what we're working on
4 too. And it's also affecting our x-ray regulations too.

5 So it's not just the radioactive material aspect. It's the x-ray
6 portion too. So right now, I don't know the best answer for that. But I
7 guess starting off with a working group.

8 COMMISSIONER WRIGHT: So on the training piece, I
9 guess tell me a little bit more about the role you envision for us at the NRC
10 having. Is there something that -- I don't know. like, most training for the
11 states would be NRC initiated and led. Or is this something that you think
12 the states would take the lead on because in some areas you're ahead of
13 us?

14 MR. SEEGER: Right, right. I guess it could be both. I
15 guess first, licensing, like, for the grid, we've never done anything like that,
16 so that'd have to be we'd lean on the NRC for the experience on that and the
17 expertise. And then the state could do some of the other things too and
18 especially with the x-ray portion of it too.

19 COMMISSIONER WRIGHT: Okay. Thank you. Sarah,
20 welcome. So you talked about funding challenges, right, for training
21 courses. And it's not the first time that I've heard it or the Commission has
22 heard about the funding challenges that we have.

23 So tell me a little bit more about some of the obstacles here.
24 Is it a policy issue? Are there legal issues? Or is it a resource challenge
25 issue for this in your opinion?

26 MS. SANDERLIN: I might need some assistance answering

1 this question. But I think maybe some of the issue is coming from higher
2 ups and getting the funding from your own state and getting the approvals
3 and maybe not knowing the importance of that training. So how you were
4 talking about coming in when you're available and talking to higher ups and
5 telling the importance of our function with you and our agreement, that
6 probably will help. Anybody else have anything, Steve or Keisha?

7 COMMISSIONER WRIGHT: So I'm aware that we have in
8 the past and probably still do, Kevin, I'm guessing, we send letters to people
9 too to tell about the importance of this and encourage -- tell them what's
10 available from us. Tell them how important it is that will assist you. This is
11 in addition to maybe a Commissioner dropping by and saying hi and making
12 that known. So are you all using that that still from the boards maybe,
13 encouraging the states to do that?

14 MS. CORNELIUS: I think with the increased turnover that
15 states are having, more and more of their staff needs training. And NRC is
16 not always able to provide that training in a timely manner that the states
17 need it. So we've been having other states delivering the training for us.

18 But the issue the NRC doesn't pay for those states to attend.
19 And I think that may be an NRC policy issue that could be addressed. And
20 that's the issue that we have.

21 And we want other states to be able to deliver and do that
22 training because we have so many experts at the state level that can give
23 that training that they know licensing and they know inspecting. But it's just
24 a matter of states being able to pay for their employees to travel to that state.

25 So that would be a very big help.

26 MR. SEEGER: And I can add on to that because right now

1 Tennessee, we're delivering -- last week, we did the licensing procedures
2 class. This week, we're doing inspection procedures. And we have three
3 other states that are attending it. And those states and some other states
4 said they would've sent more people, but it was just funding was their main
5 issue.

6 COMMISSIONER WRIGHT: So on the training a little bit
7 further here, I'm just trying to get a full understanding of this. So getting
8 back to Sarah, but you can pitch in as well. On the virtual courses and that
9 idea, I'd like to know a little bit more.

10 I mean, I know that these could be hybrid courses, right,
11 maybe where having a paper version of it versus -- as well as a virtual part.
12 And I guess the reason I'm asking about that, it seems like hands-on is
13 preferred, right, in-person, hands-on. And if you're doing it virtual, how are
14 you going to know if someone has mastered the material?

15 And how and maybe when would you know if they mastered
16 the material, right? Because I can see some benefits to a virtual thing. But
17 then in the end, you got to do the inspections.

18 You got to get out in the field and get that experience too.
19 But you don't want to send someone out that's not prepared to be sent out,
20 right? How are you going to measure that, or has there been thought given
21 to that?

22 MS. SANDERLIN: I'm not really sure how you measure it.
23 But I do think that hybrid is a great path forward. I know there is some of
24 the lab equivalents that are in person mostly for instruments.

25 And Oak Ridge staff comes into the TTC and shows
26 instruments and learning different programs on the computer and things like

1 that. When I was making my very short presentation, I was thinking about
2 the medical courses and I did talk to some of my staff in my office about that.

3 And I almost visualize, like, maybe even, like, a couple days where there's
4 people that took the class virtually that could go down to Houston or to
5 somewhere else and just do the in-person portions of that just to see the
6 equipment in person because I know for myself I'm an industrial site
7 inspector and license reviewer.

8 I don't do medical. I'm starting to cross train. I took the
9 medical courses a couple years ago. And I think seeing them in person
10 really did benefit me. I know after a certain period of time, you can retake
11 courses and that's probably beneficial as well. So I do think that hybrid is
12 more of a way to go with classes like that.

13 COMMISSIONER WRIGHT: Certainly we'll have discussions
14 about that with Kevin. And Mr. Chairman, I'm out of time.

15 CHAIR HANSON: Thank you, Commissioner Wright.
16 Commissioner Caputo?

17 COMMISSIONER CAPUTO: Good morning. It's wonderful
18 to see you all again. Always good to have you here. I appreciate the
19 presentations so far and thank you for preparing for today.

20 I was lucky enough to attend the National Conference on
21 Radiation Control this year. And it was great to see all of you there. I did
22 learn a lot. It was a brief visit, but I enjoyed my time. And it's always great
23 to see so many regulators working together as a team to address the
24 challenges that we're all facing.

25 I'm going to start, Mr. Mulligan, with you. I feel like it's
26 incumbent upon me to just sort of ease your mind and assuage your

1 concerns. You mentioned pressure on the agency to streamline, and you're
2 urging us to maintain our standards.

3 Our employees come to the NRC because of the mission.
4 And they are incredibly dedicated. So there's no intention to rush or skimp
5 on our decision making. And this agency will always maintain its standards
6 because that is why we are here to protect public health and safety.

7 And our personnel are very, very dedicated to that as is your
8 team. So that said, Congress has given us direction. And there is room for
9 improvement to become more efficient and more risk informed and data
10 driven. But we will not be lowering our standards or rushing our decision
11 making as a result of that or pressure from industry groups either. So you
12 can --

13 MR. MULLIGAN: And I didn't mean to offend anybody here
14 because from working with this organization for so many years, I knew that
15 that was the case.

16 COMMISSIONER CAPUTO: No offense taken. But I think
17 it's often inferred by people that any discussion of streamlining or improving
18 efficient equates to decreasing the safety and decreasing standards. And
19 that is simply not the case.

20 There will always be better ways to improve the nature of our
21 decision making to make sure that we are risk informed and efficient. And
22 that, I think, is what we are certainly as Commissioners focused on.

23 So it's been an exciting year. I already mentioned passage
24 of the ADVANCE Act and the focus on -- focus by Congress on our
25 becoming more efficient and timely in our decision making to enable nuclear
26 energy to be a significant contributor to meeting our nation's energy security

1 needs. The ADVANCE Act also directs the NRC to submit a report to
2 Congress on the results of a study conducted in consultation with Agreement
3 States and the fusion industry to develop a regulatory framework for the
4 mass manufacturing of fusion machines. So Mr. Seeger, I understand the
5 Agreement States have had a chance to weigh on some draft proposed rule
6 language and its implementation guidance for the fusion rulemaking.

7 I appreciate how closely Agreement States are working within
8 NRC staff on the proposed rule, especially considering your subject matter
9 expertise which we've already heard about this morning. Stakeholders
10 raise concerns regarding how the current version of the language may be
11 contrary to direction Congress provided in the ADVANCE Act. Do you think
12 that the Agreement States foresee any challenges in implementing the
13 fusion proposed rule considering the direction given by Congress in the
14 ADVANCE Act?

15 MR. SEEGER: I'm not sure if I can answer that completely
16 for all the states. I know for our state, part of the definition for particle
17 accelerator is some of the concern the industry has, a conflict with the
18 ADVANCE Act. And then with our state, we have x-ray regulations too that
19 we have -- where we define accelerators. So I think that's the main -- that's
20 a big concern with the industry. And I guess it could be hard with some of
21 our regulations when we go forward with changing them.

22 COMMISSIONER CAPUTO: Okay. So you envision a need
23 to change state language to reflect the ADVANCE Act?

24 MR. SEEGER: I don't know if -- I don't know yet. It's too --
25 I'm not sure. I can't answer that thoroughly.

26 COMMISSIONER CAPUTO: Okay.

1 MR. SEEGER: Anybody on the OAS board have anything to
2 add to that or same with me?

3 MS. CORNELIUS: I know we just saw the stakeholder letter,
4 like, last week. So we have not met to talk as a board about our opinions
5 on that letter yet.

6 COMMISSIONER CAPUTO: Okay. All right. Well, I think
7 this is potentially going to be an issue and a complication. So I believe NRC
8 staff and Agreement States should carefully consider Congress' direction
9 and raise any potential implementation concerns as soon as possible. If
10 that is going to be an area for complication, we need to get that resolved
11 sooner rather than later.

12 MR. SEEGER: And we as the board will talk about that in
13 our next meeting. We'll make that a priority.

14 COMMISSIONER CAPUTO: Okay. Thank you. Ms.
15 Cornelius, always nice to see you. And I forgot to mention, thank you,
16 ladies. It's always wonderful to see women willing to take on leadership
17 roles and acting in leadership roles, those who have been and those who
18 are and will soon be. So thank you for stepping up.

19 So you talked about recommendations for improving the
20 IMPEP process. Would you just expand on that a little bit? Particularly,
21 what do you see possible in the near term for making the process more
22 effective but also more efficient?

23 MS. CORNELIUS: I think some of the main priorities we
24 have for the IMPEP process is a self-audit tool. I think that goes along with
25 a lot of the other recommendations. A self-audit tool can be used by new
26 program directors where they can see the health of their program before

1 they start, before they made changes.

2 A self-audit tool can be used during your periodic meeting
3 when you're talking with your RSAOs and the NRC that comes in. But I
4 think being able to use something that's efficient to be able to determine the
5 health of your program annually or whatever frequency that the program
6 decides to use is so important. And also training to new radiation control
7 program directors, I think a lot of new program directors that we've had have
8 never been in radiation.

9 They're coming from other parts of the health department or
10 environmental department. They're never been through an IMPEP. They
11 don't know what an IMPEP means.

12 They may not know what NMP means or truly understand
13 what the Agreement State process is. And I think getting there from when
14 they start and having some kind of training program to bring them up is
15 extremely important. And even if they can visit another program and watch
16 an IMPEP in process and understand, okay, this is what I'm supposed to do.

17 This is how I prepare my documents. This is what they're
18 looking for. I think that would go greatly in improving the IMPEP process
19 and then also a new metric.

20 Just because a program has two unsats that triggers the
21 metric. But there's so much that goes into that. So if a program has two
22 unsats and they're put on probation or enhanced oversight.

23 And they've got another IMPEP in two years. Well, they've
24 been working hard and they've been trying to improve. And they may not
25 be at that process where it's satisfactory yet.

26 And that, again, triggers that metric. But it doesn't take into

1 account that they've improved, that they've been working throughout the two
2 years. And it may have gone from unsat to satisfactory, needs
3 improvement. But that metric if it's still unsatisfactory doesn't show the
4 actual improvement of the program.

5 COMMISSIONER CAPUTO: All right. Thank you.
6 Microreactors, Mr. Mulligan. But also, I'd like to hear from Ms. Bruedigan.
7 Obviously, there's a history of licensing reactors. That's very standard.

8 And what we are looking at in the future are business models
9 that differ widely from what the agency has customarily done. Microreactors
10 is one example of that. As the NRC moves forward with how to regulate
11 microreactors, and I know this is an issue of particular interest in Texas, how
12 do you see the role of the states in complementing or supplementing what
13 the NRC will be looking at if we are shifting away from a pair of large plants
14 at one particular site to a package of ten microreactors scattered across in
15 multiple locations?

16 MR. MULLIGAN: The way I look at that from a state
17 perspective is that we can certainly work with the Nuclear Regulatory
18 Commission on how that looks within the state as far as the regulatory -
19 because most states don't regulate nuclear power. But it becomes a
20 stakeholder involvement where we're partners with the Nuclear Regulatory
21 Commission in some of the day-to-day things that we do. For example, in
22 New Jersey, we have an agreement with the NRC where our nuclear
23 engineers attend the NRC inspections at the site.

24 And we participate in those, we observe. So it could be sort
25 of the same type of process where the state is involved with where these
26 microreactors are located. And we just keep stakeholder involvement with

1 understanding where they're located, what they're doing, what the reactor
2 operating parameters are, and what their safety onsite looks like.

3 And so that we can support the Nuclear Regulatory
4 Commission and the oversight of those once they're located. And I think
5 that just comes down to communication and information sharing between the
6 organizations as we move forward with those. I think the technology is fine.

7 I just think that there's a new paradigm coming in how do we
8 locate them? And then what is our role from a regulatory perspective and
9 what is our role from the state perspective because obviously the state
10 needs to know where they are. You can't just bring a nuclear reactor on
11 any size into a state and someone is going to say it's okay. Wherever it
12 goes is fine.

13 Someone is going to need to know. So there needs to be
14 that kind of communication and coordination with the state. And I think
15 that's a relationship that we can build as we move forward. It's going to be
16 a shift from what we are typically used to. But we're willing to work through
17 that because I know that's what's coming and we need to be ready for it.

18 COMMISSIONER CAPUTO: Is there anything you'd like to
19 add from a Texas perspective?

20 MS. BRUEDIGAN: Just to echo what Pat has said. It's kind
21 of the not knowing. As the first ones to come on board, one of our concerns
22 is the offsite support. What does that truly look like for the states to be
23 prepared with the Dow project that's being proposed in Texas.

24 NRC came in and did this is what the licensing part will look
25 like. And it was just a preliminary meeting. We very much appreciated
26 being involved in that and allowing the rest of our state counterparts to come

1 and learn from that instance.

2 We took that opportunity to then attend the NRC meeting that
3 they had with the public in that community and just to meet with the locals to
4 say when the time comes, we will be here. And we will help you figure out
5 what this looks like for you as a community and how you ensure your
6 stakeholders in your community that it is, indeed, safe and what would
7 happen if there was an unforeseen scenario that was not planned that we
8 would be there to respond and help them assist with that. But there's a lot
9 of unknowns. And it's just about making sure that we're paving the way as
10 we go, so inclusion.

11 COMMISSIONER CAPUTO: Okay. Thank you.

12 CHAIR HANSON: Thank you. Commissioner Crowell.

13 COMMISSIONER CROWELL: Thank you, Mr. Chair.
14 Thank you to everyone for being here today. I will -- without repeating it, I'll
15 associate myself with Commissioner Wright's remarks about the importance
16 of what you all do and your value in being here.

17 As a former state regulator myself, I can appreciate the
18 challenges and pressures you work under and the unique challenges that
19 come with working with different legislatures and elected bodies in each of
20 your states. So I'm going to kind of go across a couple topics here. But let
21 me start, Patrick, with you.

22 I appreciate your comments about the importance of the
23 critical role of nuclear power and, again, our climate goals. We just --
24 there's no math that gets you there without it. But that means we need to
25 do it safely.

26 And I will underscore what Commissioner Caputo said that we

1 will ensure that the safety case is maintained here at the NRC. But the
2 external pressures are real. And I think you pointed them out is legitimate.

3 And one of the primary interest groups pushing for efficiency,
4 and inefficiency is not bad. But they are an industry-led private sector
5 representing industries that are for profit. That's got to be taken into
6 account.

7 But it's never a bad thing to remind us all of that. But we will
8 also be maintaining a rigorous safety case. And if you ever see us straying
9 from that, make sure you say something.

10 Ms. Cornelius, I'll go to you next on a different topic here. So
11 thank you for your presentation. I thought all of the recommendations
12 sounded reasonable, and I'm wondering if you would care to give some
13 insight on where things stand now.

14 I know that NRC has had the report since last December.
15 Has there been discussion or feedback on the recommendations and what
16 may or may not be doable? And what are the next steps? Where are we
17 at?

18 MS. CORNELIUS: That's all that I have heard is that the
19 report is out. I know that some of them are quite easy to do and they've
20 already been implemented. I went to team leader training, and we did have
21 more scenarios this time.

22 And we did discuss it. And one team leader thought we
23 should do this, and another one thought this is how we should handle it.
24 And it really helped this year in training.

25 But we as Agreement States, we worked really hard on this.
26 And we don't want to see it fall through the cracks. And we think that there

1 are a lot of good recommendations.

2 Sometimes IMPEP are the five most feared words in the
3 NMP. But we want to change that type of culture. We want it to be
4 something that we -- we want to help. We want all programs to succeed.

5 We want everyone to be compliant and health and safety and
6 security of radioactive materials. So if states are succeeding, we know that
7 the National Materials Program is healthy. So that's our goal, but we want
8 to make sure that these recommendations do not fall through the cracks
9 because we think they are very good.

10 COMMISSIONER CROWELL: I don't want them to fall
11 through the cracks either because at first blush, they seem very reasonable
12 and accommodatable. But we'll have more internal discussions on that.
13 And we share the goal of making sure the National Materials Program is
14 successful and IMPEPs are not scary. But if you're being asked to do your
15 job with one hand tied behind your back, or you have no ability to do better
16 despite your desire to, it's no fun when you get slapped on the wrist for it.
17 So I understand that.

18 Ms. Waller, can we talk a little bit more about AI? And this is
19 an area that I'm fascinated with as well. And I'm still trying to wrap my head
20 around it. And I don't fully appreciate or understand all the potential
21 applications or risks or pitfalls. But I do understand kind of from your
22 presentation where there could be efficiency gains from using AI.

23 So, on the operational side, and that can be a good thing if
24 managed correctly. What about on the -- using AI and machine learning for
25 improving our forward-looking regulatory safety and risk analysis? Does AI
26 have potential there to improve the way in which we apply the analysis that

1 is part of our regulatory framework or to potentially offer new regulatory
2 pathways based on a more advanced analysis of available data?

3 MS. WALLER: I believe, yes, it can do that. I believe its
4 capabilities are endless. And like I said, it puts out what you put into it.
5 And so that's going to be a key component is that part of it, is the data that
6 it's getting. It can pretty much do, I feel, anything we want with the data that
7 it gets. Did that answer your question?

8 COMMISSIONER CROWELL: Yes. I mean, the devil is
9 going to be in the details.

10 MS. WALLER: Yes, definitely.

11 COMMISSIONER CROWELL: But I hope it has the ability to
12 maybe while improving efficiency also give more assurance that we're
13 constructing a safety case that is as relevant as possible, so to speak.

14 MS. WALLER: Yes, yes, definitely.

15 COMMISSIONER CROWELL: We've talked a little bit about
16 fusion and the pressures that can create on states as this technology
17 emerges and the regulatory framework around it. But there's another area
18 of emerging technologies that states are going to have to manage that the
19 NRC has been focused on lately and that's with remediation of abandoned
20 uranium mining waste. And I don't know who here or who's familiar with this
21 on this panel.

22 But I was thinking about it more in the context of, Ms.
23 Bruedigan, your presentation about communication. It's going to be critical
24 that there's good communication channels between states, tribes, and the
25 NRC as we look to apply novel uses of emerging remediation technologies
26 to ensure that we're all in compliance with the law but also that we're

1 meeting the objectives and that it's well understood what can be
2 accomplished with these new remediation technologies and what maybe
3 can't. That need to continue to be monitored. Anyone want to comment on
4 either the technical concerns or the communication concerns related to that?

5 MS. WALLER: I'll just share because we do have a lot of
6 uranium mining in the state of Texas and that technically belongs to my
7 partners at the Texas Commission on Environmental Quality. But there are
8 constant new challenges. And when we have those in the state, especially
9 where they may cross over between how the state agencies are split out.

10 Then we have those ongoing conversations. And it's not just
11 with the uranium mining because TCEQ is very much informed and stays
12 abreast of what those current issues are. But we have other technology
13 issues that come to us that we're not always able to be convinced that we
14 have the right pathway forward on how to deal with the potential licensees
15 on that.

16 And so we reach out to other states. We reach out to our
17 contacts at the NRC and say, who's seen this? Who can help guide us in
18 the right direction? Or do we need to develop something from scratch as
19 these new technologies come along?

20 COMMISSIONER CROWELL: Which gets right back to the
21 broader capacity issue amongst all states in being able to -- if you're asking
22 your friends and neighbors, they're, like, well, we don't have the ability to do
23 that because of funding or staff constraints.

24 MS. BRUEDIGAN: And some of us are very happy to phone
25 a friend. I do that fairly easily and readily. But other states do not. And
26 they tend to live in their silos, and that can be a detriment sometimes.

1 COMMISSIONER CROWELL: I keep looking at the sticker
2 on your laptop and kind of loving it. Not bossy, just aggressively helpful.
3 And I think that applies in many ways.

4 We all need to lean in, in terms of helping each other. My
5 last question, Sarah, first I just wanted to say congratulations because you're
6 the incoming Chair Elect. And I'm going to ask you a question that may end
7 up being rhetorical because you may not know the answer.

8 The fact that the NRC does not fund -- currently fund states to
9 go to certain training or training in other states. And I forget all the areas
10 you said that NRC funding is not currently available. Do you know if that's a
11 policy prohibition on the NRC's part or statutory prohibition on the NRC's part
12 in our ability to fund those things or funding availability issue?

13 MS. SANDERLIN: I think it's a policy. Keisha mentioned
14 something about that earlier. She probably --

15 (Simultaneous speaking.)

16 MS. SANDERLIN: Yeah.

17 MS. CORNELIUS: We don't know whether it's a policy issue
18 or a statutory issue. We just know that the funding isn't available.

19 COMMISSIONER CROWELL: Then we will look into it on
20 our side and get back to you. Thank you, Mr. Chair.

21 CHAIR HANSON: Thank you, Commissioner Crowell. And
22 let me just echo my colleagues this morning. Thanks, you all, for being
23 here. It's great to see.

24 I know several of you have been before us in the past, and it's
25 good to see you all. And really looking forward to the discussion. I want to
26 just pick up -- this is the trouble with going last, of course, as I'm picking up

1 on a lot of the threads that have been discussed.

2 But I want to start with one thing for you, Ms. Cornelius. And
3 it's not even a question. I think it's more of just a statement. I appreciate
4 the work that OAS and CRCPD put into the report and the recommendations
5 that you all had for us.

6 I think we owe you a detailed answer. I'm somewhat
7 concerned that you haven't seen one of those from us. I'm glad maybe
8 you've started to see some just downturn -- downstream results of that.

9 But I think it's incumbent on us to get back to you all about
10 here are recommendations we think we can do. Here are ones we want to
11 talk more about, whatever the response is, but to have that kind of -- to
12 continue, I think, the tradition that the NRC has with you all on that strong
13 and open dialogue. So I think we need to follow up on that.

14 Ms. Bruedigan, this is kind of on the theme of communication.
15 And I wanted to -- I appreciated your presentation very much. And you
16 talked about one of the examples was on exempt devices. And I know -- I
17 guess this was discussed a year or so ago and then most recently, I guess,
18 on an NMP Champions Chat as well. Could you expand a little bit on the
19 exempt device kind of back story?

20 MS. BRUEDIGAN: So one of the issues is that we came up
21 with the theory that we were moving those types of sources, devices from --
22 sources to x-ray side. And so to see that they were now being exempt and
23 it's easier for those manufacturers to sell those and the facility or the user
24 not have to license them where on the x-ray side of the house, they would
25 still be required to register them. It's kind of a step backwards in our eyes
26 as far as radiation safety in general is concerned but also that we don't have

1 awareness of where the devices are. There's some concerns about
2 potential disposal, that they may end up in the landfills and things like that.
3 And just some general awareness that we'd kind of been asleep at the wheel
4 and not paying attention that these were still being manufactured and sold
5 and we just weren't aware of that at the state level.

6 CHAIR HANSON: Okay. Well, so then kind of what actions
7 are being taken by the NRC with you all to kind of resolve your concerns in
8 this area?

9 MS. BRUEDIGAN: So it's my understanding we have a
10 commitment for -- I think the term is a users group is what was mentioned
11 the last -- just within the last couple of weeks to take a look at this and again
12 to open the dialogue is what I see from our side to say, what can we do
13 about this? Are there true safety concerns that need to be readdressed? I
14 don't know. We're asking for that conversation to occur.

15 CHAIR HANSON: Well, thank you for that. And given this
16 case and kind of the other examples that you had, I mean, are there -- what
17 do you think has had the most impact on fostering strong communication?
18 Where can we do better?

19 MS. BRUEDIGAN: I don't know it's so much do better. I
20 think that where we've done an excellent job in fostering is truly getting face
21 to face and meeting with each other and becoming more familiar and
22 comfortable with each other. When you are able to spend some time with
23 folks, have the little chit chat on a break or something like that and develop a
24 little bit more of a relationship, then you're a little more encouraged or less
25 cautious about making a phone call or saying, hey, what can we do about
26 this, and then being receptive to it. That has been very much improved over

1 the years. Again, we feel like our voices are heard and that you are taking
2 into consideration what the states are saying and where our concerns are
3 and that's key.

4 CHAIR HANSON: Thank you very much. Ms. Waller, I just
5 wanted to touch on AI, kind of like my colleagues, in the variety of potential
6 use cases and so on and so forth. But one of the things I started to get at
7 least more educated on for myself is the importance of governance models
8 for the use of AI, that you have a body or maybe a collection of regulatory
9 agencies that have some input. Because as you mentioned, the ethical use
10 of --

11 MS. WALLER: Ethical, yes.

12 CHAIR HANSON: -- that is really critical, right? So how that
13 gets applied and how those -- the way the questions that we're asking of AI
14 get screened and so forth, is this -- and I've seen in some cases with
15 regulatory bodies and others that there are some -- I keep using the word
16 model because model gets used all over the place. There are some
17 frameworks maybe for governance concepts. Is that something that OAS
18 and CRCPD have an interest in developing amongst yourselves or in
19 collaboration with NRC about how we might apply this to the NMP?

20 MS. WALLER: I don't believe we've even had that
21 discussion. So that's probably something that we would need to meet and
22 discuss. And we're actually talking about AI stuff this morning as we were
23 waiting to meet with you. So it's definitely something that's on our radar.

24 CHAIR HANSON: Yeah, yeah. Well, I'm also really
25 interested in this idea -- and again, these are things that I'm kind of getting
26 up to speed on myself about the way in which AI models can be

1 self-referential, right?

2 MS. WALLER: Yes.

3 CHAIR HANSON: They feed off of the same data again and
4 again. And they kind of regress to a mean or kind of a set of rote answers
5 rather than getting the kind of insight that you might hope that they get. I
6 wonder if this is another area where the NRC and OAS and CRCPD might
7 collaborate because if you look across the entire country, right, there are
8 20,000, I think, materials licensees, give or take. NRC has about 10
9 percent of those if the numbers are kind of right in my mind as opposed to an
10 individual state which might have -- again, if my math is right -- an average of
11 five or six hundred materials licensees themselves. That's a big difference
12 between those data sets.

13 MS. WALLER: Yes.

14 CHAIR HANSON: Is that also something that maybe
15 individual states are thinking about this? Or are you all thinking about it
16 collectively?

17 MS. WALLER: You know, I think it's just grown so much in
18 the past, like I said, 18 months that I think everybody is still trying to wrap
19 their minds around it and just trying to figure out how to use it and how to
20 regulate and maintain the data you're getting from those. And I think at this
21 point, it's just new. But it is something that us as organizations and
22 individual states need to start working on.

23 CHAIR HANSON: Okay, great. Yeah, please.

24 MS. BRUEDIGAN: So if I may on that topic. So all of the
25 alphabet soups, all of the organizations are discussing AI. Everyone has a
26 new committee on it. We don't know what each other is doing.

1 And so that's one of the things I posed at a meeting. I was
2 with ICRP last month in Germany. And I asked the question, how are we
3 going to figure out what are we collectively doing? What are we crossing
4 over and duplicating efforts on?

5 And so there's going to be a survey developed to try to find
6 out what's everyone working on. I think most folks know it's here. We
7 have to address it. But we don't know where to go. And so yes, CRCPD
8 would very much like to partner with the NRC. I believe OAS would as well
9 on trying to develop that.

10 One of the questions that I had as we were talking about AI
11 earlier, is web-based licensing going to have an AI component that will help
12 us look for trends earlier than what we might spot as individual states? It
13 may be one little nugget here and another one from another state on a
14 simple mention on a report that might develop something that we would
15 notice earlier than what we would have caught as humans. So thank you.

16 CHAIR HANSON: Even more intriguing. Thank you.
17 Yeah, I really appreciate that. Ms. Sanderlin, I'll finish up with you on the
18 training issue. Look, for my part, I really like the idea of states, we've
19 trained them to train kind of other states. And people can interact
20 collectively. I'm interested in the answer to this question about the funding
21 and so on and so forth.

22 But I guess -- and a question that Commissioner Wright
23 asked which I think is a very good one too about the efficacy or the
24 effectiveness of different kinds of training modes I think is also a really, really
25 important question so that we can either modify the programs that we have
26 to make them more effective or just go with the modes that work best. But

1 here's my question for you. Do you have a sense of how much -- given
2 what the NRC is doing now and assuming that the NRC didn't start suddenly
3 do more training, do you have a sense of how much kind of state-based
4 training is needed to kind of meet the demand out there?

5 MS. SANDERLIN: I personally do not. I feel like Steve
6 probably has a better insight maybe or Keisha or anybody else at this table.

7 MR. SEEGER: I don't know if I have a good insight. I just
8 know that with turnover that that really is where it is. When you get a lot of
9 turnover, then you need more training. And there's only so many spots and
10 classes available.

11 And then when a state delivers it, the funding would really
12 help with other states being able to -- like, Tennessee, we have so many
13 states right around us that they were able to come. And they would've sent
14 more. But the funding was an issue.

15 CHAIR HANSON: Yeah, that's -- well, that's helpful, right?
16 And I think in terms of how many train the trainers we have, is it 10 states, is
17 it 15 states? And how much -- I know that has some other things to do with
18 training, volume, and so forth.

19 But we've had such a -- I think a productive and positive
20 collaborative working model on so many fronts. If we can continue to
21 develop that on the training front as well on whether capacity building or
22 funding or whatever, we can -- good. Thank you.

23 All right. We have reached the end of our time together. I
24 want to thank again everyone for being here. I want to thank my colleagues
25 for their thoughtful remarks and the discussion and look forward to having
26 you in the building today.

1 And thank you all again. Thank you for SECY for the support
2 for the meeting. And, with that, we are adjourned.

3 (Whereupon, the above-entitled matter went off the record at
4 11:24 a.m.)