

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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THURSDAY,
MAY 18, 2023

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The Commission met in the Commissioners' Hearing Room,
at 10:00 a.m. EDT, Christopher T. Hanson, Chair, presiding.

COMMISSION MEMBERS:

- CHRISTOPHER T. HANSON, Chair
- JEFF BARAN, Commissioner
- DAVID A. WRIGHT, Commissioner
- ANNIE CAPUTO, Commissioner
- BRADLEY R. CROWELL, Commissioner

ALSO PRESENT:

- BROOKE P. CLARK, Secretary of the Commission
- MARY SPENCER, Acting General Counsel

OAS and CRCPD LEADERSHIP:

- KEISHA CORNELIUS, Environmental Programs Specialist

IV, Radiation Management Section, Land

Protection Section, Oklahoma Department of
Environmental Quality (OAS Chair-Elect)

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

AUGUSTINUS ONG, Administrator, Radiological Health
Section, Division of Public Health Services,
New Hampshire Department of Health and Human
Services (OAS Past Chair)

STEVE SEEGER, Manager, Chattanooga Field Office,
Division of Radiological Health, Tennessee
Department of Environment and Conservation
(OAS Chair)

JEFF SEMANCIK, Director, Connecticut Department of
Energy and Environmental Protection, Radiation
Division (CRCPD Past Chair)

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)

P R O C E E D I N G S

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10:01 a.m.

CHAIR HANSON: Good morning, everyone. It's great to be with you. I'm convening the Commission's Public Meeting with the Organization of Agreement States, or OAS, and the Conference of Radiation Control Program Directors, or CRCPD. In this meeting, we'll hear from these two organizations on their views of materials policy and regulatory issues that are of interest to them and to the NRC.

It's a great pleasure to have these meetings. The relationship that the NRC has with both organizations is really vitally important, and I hope that's demonstrated by our enthusiasm and willingness to attend OAS and CRCPD meetings every year. And I get a little bit of joy out of this. I think this is maybe Commissioner Wright's favorite meeting of the year, and it comes through, and I think you'll get to see that in his remarks. But I know we all also really appreciate you all being here.

With that, I'll ask my colleagues if they have any comments they'd like to make. No. Okay.

Well, we're going to get rolling. I understand we're going to start with you, Steve Seeger, who is the manager of the Chattanooga Field Office for the Division of Radiological Health at the State of Tennessee. And then I understand you all will just kind of proceed through. You'll make your remarks, and we'll talk about all the things you have to talk about, and then we'll have questions from the Commission.

So with that, Steve, off to you.

MR. SEEGER: Thank you so much, Chairman. Can you hear me? Thank you so much, Chairman Hanson, and thank you,

1 Commissioners, for inviting us today. On behalf of both OAS and the CRCPD, I
2 just want to open our presentation here and thank you for the opportunity to
3 speak with you on behalf of all of our interest shared across the National
4 Materials Program.

5 The states' partnership with the NRC and the National
6 Materials Program is a critical piece to the effectiveness of our shared missions
7 of protecting the public, workers, and the environment across the many aspects
8 of radioactive material in the nation. OAS and the CRCPD share common
9 priorities in radiation protection and we work collaboratively to promote
10 coordinated messages, and we try to reflect each organization's perspective in
11 a shared platform. And you'll see that today our coordinated discussions of
12 topics is an example of these efforts, and so, as they share the discussions of
13 these topics from both the OAS and CRCPD, it will be presented by the Board
14 members and Board leadership from each organization but is a combined
15 presentation style.

16 Today, you're going to hear from the chair, the past chair, and
17 the chair-elect from each organization. I'm going to start our first discussion
18 with updates and activities for the National Materials Program.

19 I am Steve Seeger from the state of Tennessee, the
20 Radiological Health Program, and I'm also the current OAS chair. And do we
21 have slides or -- okay. And we can go to the next slide. And the next slide after
22 that. Okay. Thanks. And then the next after that.

23 Well, currently Agreement State programs are responsible for
24 nearly 90 percent of the material licensees nationwide. This will only continue
25 to grow toward the states. The NMP is prepared to support further shifts in
26 regulatory responsibilities. There are challenges, namely the dedication of

1 state resources to support national activities. That said, the NMP has made
2 progress over the years.

3 The NRC provides opportunities through working groups,
4 rulemaking, establishing priorities, and supporting frequent communications. I
5 want to extend a special thanks to Kevin Williams for meeting and
6 communicating with the OAS Board on a regular basis. We must continue to
7 build on this progress to further strengthen the National Materials Program and
8 our co-regulatory partnerships. Each of us bring unique expertise and lessons
9 learned that can be shared for more effective regulation for our country's
10 radioactive materials.

11 Next slide. Pictured here is the current navigation page.
12 NRC staff, contractors, and especially the co-champions are working towards
13 an interactive platform for communication across the NMP. This will be a
14 resource for historic information, guidance, upcoming events, and any other
15 useful information for the NMP members.

16 Next slide. Every year, NMP leadership meets to review our
17 goals and priorities. Members from the NRC, OAS, and CRCPD discuss
18 objectives, measure progress on past priorities, and ensure future tasks align
19 with our overall mission. This includes innovation for IMPEP. We have an
20 IMPEP working group which was formed and is currently meeting to better
21 leverage technology and streamline our reviews.

22 Next is technology enhancements. Technology can impact
23 the entire NMP. Web-based licensing continues to evolve for those that are
24 utilizing it, expanding NMP's licensing and inspection capabilities.

25 Jeff will discuss workforce development and resources
26 sharing later in his presentation, but we need to focus on recruiting, training,

1 and retention of our current NMP staff. The NMP relies almost exclusively on
2 the training provided by the NRC, and we thank you for that ongoing
3 commitment to the critical mission. Finally, we want to develop metrics on a
4 broad scale that can demonstrate the NMP's capability in meeting its mission.

5 Next slide. As I began my presentation, the NMP is made up
6 of over 40 different regulatory partners, and we are still expanding. Though
7 each of our programs have unique strengths and weaknesses, through
8 collaboration, we will improve in our roles as regulators.

9 This slide provides a few examples of how NMP members
10 come together to support one another. First, communication sharing. This is
11 necessary to discuss industry trends, new technologies, incidents, or lessons
12 learned, and to request assistance. With regard to IMPEP, we work together to
13 improve the NMP's overall performance. With NRC and state members serving
14 on IMPEP reviews, we increase regulatory knowledge and consistency across
15 our programs. Finally, by contributors. The NMP is vast and diverse and we
16 thrive when everyone can contribute. We achieve this in ways already
17 mentioned but specifically through working groups, centers of excellence,
18 commenting on regulation and guidance documents, and by participation in
19 meetings.

20 Next slide. I'd like to end by highlighting a few of our past and
21 upcoming events. CRCPD just held our conference last week in Houston,
22 Texas, and next year they will hold their conference in Jacksonville, Florida,
23 and that will be May 20th through the 24th. For OAS, we met last August in
24 Dallas, Texas. We will be holding our next meeting in Seattle, Washington
25 August 7th through the 10th, and the weather should be really good that time of
26 year. And the hotel is really nice for staying at. It is on the top of a hill, so

1 leaving to go walk around town is good but coming back is a challenge.

2 The co-champions, Duncan White and Santiago Rodriguez,
3 have hosted a number of virtual meetings for NMP members. These are called
4 Champion Chats, and participation levels are great. These chats provide an
5 opportunity to engage on topics of interest between the NMP partners to allow
6 participation from staff at any of our organizational levels. I want to extend a
7 special thank you to Duncan and Santiago for organizing these chats.

8 The NMP also meets more formally through government-to-
9 government meetings, usually to discuss a particular policy or regulatory matter.
10 These have proven an effective means to disseminate information and to
11 engage with our NMP partners.

12 That is all for my part, and thank you again for this
13 opportunity. And next up, I'll turn it over to Pat Mulligan, the CRCPD past chair
14 from New Jersey, and he will be speaking on CRCPD initiatives and
15 accomplishments.

16 Thank you.

17 MR. MULLIGAN: Thanks, Steve. Good morning,
18 Commissioners, and I want to echo Steve's comments. We really do
19 appreciate the opportunity to be here and provide you with updates from our
20 organizations and, clearly, the level of support that you've shown us throughout
21 the day, taking time out of your busy schedules, demonstrates how important
22 this is to you, and we really appreciate that.

23 So, again, I'm Pat Mulligan. I am the Program Director for
24 Radiation Control in the state of New Jersey. I am the past chair for CRCPD; I
25 rotated off last week. So I'll be providing you an update on some of the
26 initiatives and projects we've been involved with over the past year to give you

1 an idea of just the highlights of some of the progress we've made over the past
2 year.

3 You can go to my first slide or second slide, I think.

4 Each year, the Board identifies five of our goals and
5 objectives to become priorities for the year that we focus on. And last year, as
6 the chair, we picked out five, and I believe that we've made a lot of progress
7 towards completing those goals. First was be proactive in handling new issues,
8 and that's clearly demonstrated and I'll go through a few, but we've got a
9 number of new committees and tasks force to handle emerging issues and new
10 technologies within CRCPD, and we work collaboratively with all the federal
11 agencies in handling those new issues and get support from them.

12 Promoting opportunities for participation and committee
13 activities. Again, we've got a number of new committees. We put calls out for
14 participation on those committees, and we get great responses. All of our
15 committees now are fully staffed and active, so it doesn't take long once we
16 spin up a new committee to get folks that are willing to volunteer to participate.

17 Providing training opportunities. I know that we leverage
18 training opportunities significantly from NRC, and we appreciate the opportunity
19 to get our new staff trained. And so we look forward to making sure that that
20 process continues. But we also have a committee that is dedicated to
21 identifying training across all modalities and we're trying to put together like a
22 one-stop shop so that people can look through CRCPD and find the training
23 that they need to enhance their daily operations. And then continued enhanced
24 relationships between CRCPD and OAS. I know that, collaboratively, we
25 worked with OAS and with NRC on a number of issues. One of them over the
26 past year, the source security rulemaking and then, right now, we're got a new

1 committee that is addressing materials licensing, so we're looking to get some
2 work done. So the collaborative effort remains strong between all of our
3 organizations.

4 Next slide, please. We've done a lot in the international
5 community, too. We've just, last year in October, extended our practical
6 arrangement with the International Atomic Energy Agency, and we've been
7 doing a lot of work with them. In the previous agreement, there were three
8 areas that we focused on: NORM; radon; and radiation protection of patients,
9 especially for new and emerging technologies. This year, we're focusing on two
10 new areas, and that would be radiation protection for non-food commodities
11 and then also radioactivity in normal food. So we're going to take a look at that
12 with the international community, and so, hopefully, we can come up with some
13 projects where we can get some outputs so that, internationally, we can get
14 some consistency for those issues.

15 Next slide, please. We've also participated in the IAEA on the
16 safety standards report. I know that Ruth McBurney, our executive director,
17 and Dave Allard participated in revising the Safety Report Series Number 34,
18 which covers sealed and unsealed sources. And we've also worked with the
19 IAEA on the topical session for radiation safety in non-food commodities. Lisa
20 Bruedigan from our program and Kevin Williams, on Thanksgiving Day,
21 attended that meeting last year in Vienna, so we appreciate them giving up their
22 holiday to represent us.

23 Next slide, please. We've also recently participated in a
24 series of three basic safety standards workshops. We had representation,
25 there was one in South America, there was one in Europe, and then there was
26 one recently in Africa, and CRCPD had representation at those workshops.

1 And those workshops were to address issues for existing radiation exposure
2 issues nationwide or worldwide, including radon, NORM, and others. So they're
3 working towards coming up with some consistent guidance internationally for
4 basic radiation safety standards.

5 Next slide, please. I'll go through some of the committee
6 work. One committee that we're particularly proud of is our ROSS program, the
7 Radiological Operations Support Specialist. And that's to promote a cadre of
8 subject matter experts in health physics to share in the event of response to a
9 radiological emergency. We know that no state or area or region is going to
10 have a sufficient number of people, so we're trying to get a cadre of people that
11 we can pull from to supplement our response efforts. And so they've been
12 doing a lot of work to try to help the ROSS program become more state-run.
13 We recognize that we can't continue to operate as an organization and hold it in
14 one place, so we're putting more of the responsibility for developing those
15 programs in each state. We've identified state ROSS coordinators that are
16 going to help grow and maintain the number of ROSS's in each of those states.

17 And we expect that, by the end of this year, we'll probably, nationwide, have
18 between 300 and 400 ROSS specialists that can assist, so that will be a
19 significant resources in the event that there's a response required or any type of
20 radiation emergency.

21 Next slide, please. We've been working diligently on our
22 exemption process for DOT. We've revised both of our forms, one for
23 radioactivity in scrap and the other for radioactivity in solid waste. Those forms
24 are now fillable. We got input from the Department of Transportation. We also
25 got input from the industry, as well. So now we're all on board with the
26 standard form that we can use online that makes life a lot easier. And both of

1 those renewals are due this year, and we are on track for getting special
2 permits renewed with the Department of Transportation, so there won't be any
3 gaps in transportation of materials.

4 Next slide, please. We've done a lot of work in the past year
5 on our Suggested State Regulations Council. They've really been doing some
6 great work to get all of our suggested state regulations up to speed. We
7 recognize that Part C, licensing of radioactive materials, needs a major
8 overhaul, and we're starting to work on that. We're developing a guidance
9 document on Part N, which is for TENORM. Rather than providing suggested
10 state regulations, since states are so different on TENORM issues, we're going
11 to try to provide a high-level overview of TENORM so that states can follow that
12 and adapt to their own specific needs.

13 On Part X, we just finished a major overhaul which was long
14 overdue, and that's now finished. The interesting thing about Part X was it was
15 the first time that the CRCPD used a public input process to get feedback from
16 our constituents, colleagues, and the industry on that document, which we used
17 the NRC as a model for that and I think it worked pretty well so we're going to
18 try to incorporate that into our future updates of suggested state regulations.

19 And then Part G, we're in the process of updating that to
20 incorporate all the NRC changes to 10 CFR 35 since it was last updated in
21 2003. So we're getting there. We're getting all of our suggested state
22 regulations up to date.

23 Some of the other things that they've accomplished is now
24 they've got all of their forms for the suggested state regulations online, so that's
25 good for us. And I think one thing that's beneficial to both organizations is they
26 developed a document to crosswalk our suggested state regulations with the

1 NRC rules so that it's easily referenced when we get into our suggested state
2 regulations back to the NRC's regulations, so I think everybody is finding that
3 really helpful and it was a great tool that was developed in the past year.

4 We've also got a full cadre of people for our RATS
5 Compatibility Tracking Workshop, and what that does is just make sure that our
6 suggested state regulations are compatible with the NRC regulations. So that
7 committee is working to make sure that we're aligned. And we've developed
8 and implemented a system for consistent review so that we don't fall behind on
9 updating any of our suggested state regulations. So that was a major
10 accomplishment.

11 And I do want to mention kudos to the NRC for the way that
12 the SLO conference was handled this year. I think that, you know, it originally
13 came out that there wasn't going to be one and some folks spoke up, and there
14 was an immediate response. And I think that says a lot about how well the
15 NRC listens to the stakeholders, and there was immediately a public meeting
16 and a decision made, and that all happened within a couple of weeks. I was
17 really impressed with the way that that was handled, so excellent job. Thank
18 you.

19 And that concludes my comments, so I'm going to turn it over
20 to our next presenter, Auggie Ong from New Hampshire.

21 MR. ONG: Hi. Good morning, Commissioners, and thank
22 you for the opportunity for us and for myself to come to this meeting to provide
23 you with the emerging technologies, especially in the area of fusion where, in
24 fact, the Agreement State members, for those who do the preliminary licensing,
25 not having the license already in place for the emerging technology of fusion.

26 And that being said, I have volunteered to provide you with

1 the understanding coming from the Agreement State members that the kinds of
2 trials and tribulations that they have gone through in order to begin the licensing
3 of this new kind of a technology and, so far, is only simply proof in concept.
4 That being said, the potential for the future energy protection in this country is
5 so great that we cannot simply ignore the fact that there are numerous
6 challenges facing both in terms of scientific understanding of fusion, how to
7 generate that amount of plasma confinement, which certainly is not the topic of
8 discussion. But that being said, there are so many challenges right now that
9 still have to be overcome in order to make that technology available in a
10 commercial environment.

11 That being said, please, the first slide. And that's my topic.
12 And moving on to the second slide, please.

13 So if you take a look at the diagram illustration, that's almost
14 like a very simple pictorial description of what the facility using the fusion
15 technology is able to do in order to generate the electricity. Simple illustration
16 but the engineering problem is associated with the middle portion, and that is
17 how you're, in fact, able to confine the plasma in such a way as it can be an
18 ongoing commercialization of that aspect of it. And there are so many
19 engineering challenges in order to make that happen. And this is simply the
20 way of demonstrating, in fact, instead of a nuclear reactor using fission of
21 materials, we are using deuterium and tritium in this case. So that being said,
22 there are other illustrations, part of the illustration that shows you that it can be
23 made self sufficient, meaning the input of critical materials, such as tritium,
24 which is offhand right now, only 25 kilograms available. And the large
25 consumer of that world inventory is the ITER reactor right now at this point.

26 So moving on, next slide, please. And this simply, just for

1 those who have understanding of nuclear fission process, this is simply an
2 illustration of using deuterium, which is on the left side -- I mean, the deuterium
3 is on the right side and the tritium -- sorry. I'm looking with my glasses. I see
4 three and two look very similar. My apology, folks, all right.

5 So 2H , the superscript 2H is obviously the deuterium, and the
6 subscript 3H is tritium. That being said, then how do you, in fact, causing these
7 two isotopes of hydrogen to come together in that space such that then it could
8 interact and form a new radionuclide, I mean not radio but another element,
9 which, in this case, is helium and, of course, the production of neutron that
10 would be also part of the product interaction.

11 So one thing to keep in mind, though, all right, why deuterium
12 and tritium are being used because these are the two isotopes of hydrogen that
13 could interact in a confined pressurized environment at the lowest temperature
14 possible, and that is a hundred million degrees Celsius. There are other
15 potential radionuclides, a little bit heavier, to come together, but then we are
16 talking about the temperature necessary for that interaction to take place could
17 read the two million all the way to a billion Celsius. All right. So that's why the
18 engineering possibly in these two isotopes is much easier.

19 All right. That being said, then let's move on to the next slide,
20 please.

21 All right. So here is one of the pictures of Tokamak reactor.
22 And I just want to say that, for the Agreement State members, we would not
23 want the word reactor to be used or associated with the fusion devices. The
24 reason why, you have to understand, too, a lot of our constituents are very
25 concerned with fission nuclear plant, nuclear reactors. So in order to avoid that
26 kind of confusion for our general public, we'd rather use the word devices so

1 that then there's no negative association with the term itself that would generate
2 that worrisome radioactive material uncontrolled release into the general
3 environment, thereby causing damages, economic damages, and also extreme
4 public exposure from the uncontrolled release. So by using the word device,
5 then simply we would do away somewhat from the negativity associated with
6 the fusion technology.

7 But in any case, so the whole point about this slide is that, for
8 the technology to be practical, all right, or doable is that the Q, which is the
9 physics letter to designate the net input, the energy that is required to put into
10 the system and generally able to get excessive energy out of the system, all
11 right, the Q will have to be equal to one or greater. Just the whole point about
12 the Q. And right now, for practicality of doing anything like that, we have
13 reached Q equals to one, so that's why it's a proven concept. So far, we have
14 reached that milestone, but to make it practical, so to speak, but not
15 economically practical but practical in terms of able to persist with that
16 technology, Q has to be equal to five. And then for commercialization, all right,
17 which is, so far, is somewhat beyond what our capabilities are able to do, Q has
18 to equal to ten to make it commercially viable. You have to put in the money.
19 You have to capitalize all the money put into installing the plant and making it
20 workable, Q has to reach ten in order for people to start making money, for the
21 companies to make money.

22 All right. Let's move on then to the next slide. So, so far, as
23 you know, back in December, the news that came out that got everybody
24 excited, all right, and that is the National Ignition Lab in Lawrence Livermore
25 Laboratory able to demonstrate that their device, which is not intended to use
26 really for commercialization but the proof of concept that, in fact, they're able to

1 achieve a series of high-energy lasers into a confined space to generate the
2 pressure and temperature to cause the DT reaction, and they're able to
3 generate the Q equals 1.5. All right. That's what the newspapers said and
4 that's what their website said.

5 But what's not being said, and we have to understand the
6 problem with this, is that, for those who want to, before moving on to the next
7 slide, I just want to point out the amount of -- back to the previous slide.
8 Forward one slide. Yes, stay there for a little bit because I just want to mention
9 to you what's the equivalent the layman person can understand is the amount
10 of energy that was produced by that laser, all right, for the fusion is 3.15
11 megajoules. And what is that equivalent? That is equivalent to four 100-watt
12 incandescent lamp on for one hour. That's how much energy that was able to
13 be produced, 3.15 megajoules. But that being said, it's only four light bulbs for
14 one hour.

15 All right. Move on to the next slide, please. Thank you.

16 And so here are some of the points are somewhat ignored,
17 and that is the overall total amount of electricity that was used to energize the
18 lasers is hundreds of megawatts. So that, in itself, is really to show you that, in
19 fact, there are still a lot of things that need to be ironed out. Just simply using Q
20 value is not enough, all right, because there are so much more of the other
21 energies that need to put in in order to make that happen.

22 Move on to the next slide, please. So the more important part
23 that may be of interest to the Commissioners, and that is, so far, the agreement
24 states, they have taken the initiative of doing the licensing of these kind of
25 emerging devices.

26 Next slide, please. And here are some of the -- this is not a

1 complete list by no means, but these are the devices that are now in this
2 country that are being installed in these demonstration projects across the
3 country. And you notice that, for the most part, here are a few examples that
4 are on your slides. And the projected, hopefully, they're able to achieve what
5 they want, for example the Avalanche Energy which is promised to produce 5
6 kilowatts electricity, electric. That's what the We stands for, watts electric. And
7 there's a reason why it's a We instead of simply W. But that being said then, all
8 the way up to the one that's in Danvers, Massachusetts that was relocated from
9 another part of Massachusetts, and that is the Commonwealth Fusion Systems
10 that's promising to produce 200 megawatt E.

11 Next slide, please. So here, in fact, the NRC has settled on
12 the manner in which the current structure of the 10 CFR will be able to allow
13 guidance and rules or regulations to enable the agreement states to continue
14 onward to license the new technology, and that is the 10 CFR Part 30. All right.

15 Finally, the NRC settled on that, and that provides the necessary framework to
16 allow the licensing programs to start working on any of the licensed applications
17 that are using this kind of technology. So I'm glad, and that was one of the
18 concerns from the Agreement State members who may have business
19 approaching their Agreement State partners to thinking about licensing the
20 technology. But now, with Part 30 that's already in place, it eventually will carve
21 out a separate portion of Part 30 to accommodate the fusion technology. But
22 that being said, that framework is now beginning to take place.

23 Next slide, please. So here are some of the Agreement State
24 members who have experienced, some are experiencing the kinds of difficulties
25 and some of the problems that have overcome, you know, to do the licensing of
26 the fusion technology. So in any case, they have examined the necessary,

1 what is the source of tritium that they're getting it from and the storage capacity,
2 how much would they eventually need. So instead of allowing the businesses to
3 say we need so much more of tritium for our devices, the agreement states
4 have come up with plans to escalate the possession limit as they are able to
5 demonstrate, in fact, they will continue to need more and more. So without
6 giving them the highest amount, instead giving them enough limits on that
7 tritium possession in order to allow for the demonstration of their project to take
8 place and that, in fact, it still would not be too little to somehow inhibit the
9 technology from going forward.

10 So the other issue that has come up to the Agreement State
11 members who are licensing the fusion technology, and that is the training
12 issues. All right. Of course, training of other aspects that are required to
13 become competent, inspectors and licensing, in this area, too, that is now a
14 growing concern because the health physicists within the Agreement State
15 programs, they don't really have the necessary physics background, nor the
16 understanding enough of the technology, to really approve or disapprove the
17 technology because it's not just one type of technology. They have multiple
18 technologies in order to allow for fusion process to take place, so there could be
19 multiple types. But then for understanding of this kind of technology and not
20 some of the others, then there needs to be a training of competence and the
21 experience necessary in order for the approval process to be in an orderly
22 fashion without inhibiting the business application going forward, nor is it
23 something that's going to be deficient such that then it would create a risk by
24 improving the licensing without understanding what's that impact to the
25 environment possibly, to the exposure to the employees because there are
26 other processes taking place within the fusion reactor, fusion devices, that

1 could compromise the health and safety of the employees.

2 And, of course, because of the technology involved, it does
3 produce neutrons. And, certainly, that kind of experience with neutron
4 exposures would be critical to the understanding of what are the hazards
5 associated with the technologies are, so the health physicists who are
6 reviewing the licensing process or the inspectors of those facilities would have
7 the understanding of neutron exposures and what are the necessary
8 dosimeters or dosimetry of the people who are exposed. So that, in itself,
9 would require NRC possibly to provide that kind of training of neutron
10 dosimetry.

11 And, finally, the last slide, please. Second to the last slide.
12 And that is the Agreement State recommendations to the NRC under the
13 National Materials Program, and that is, so far, it's all preliminary in terms of
14 licensing and license of the technology, but we feel that they are still years
15 away in terms of having any commercialization of this technology. That being
16 said, then we have time for us to come together to provide that step-up scaling
17 factor in terms of training and the necessary experience that could be gleaned
18 from the technology so that we could share with the NRC folks the needs and
19 what are the issues that are coming up and what can be done to solve that
20 issue.

21 And the whole point is that for the Agreement State members,
22 those who are already licensing the technology, the recommendation is that the
23 NRC, the Agreement State program, and also the industry to really start
24 proactively come together before the finalization of the license itself for the
25 technology. And so the recommendation is that come together early,
26 interacting more frequently, to anticipate the issue that may arise from granting

1 the application, so that then it could all work more smoothly so that then the
2 license approval process would be easier with the full understanding of all the
3 partners coming together.

4 And thank you. The last slide is really to ask questions if you
5 have any. Again, thank you for the opportunity for doing a presentation.

6 And the next presenter is Jeff, who was the past chair of
7 CRCPD and, hopefully, the connection has been made. Jeff.

8 MR. SEMANCIK: Yes. Thank you, Auggie. All right. Good
9 morning. My name is Jeff Semancik. I'm the Radiation Control Program
10 Director for the state of Connecticut, which is soon to become the 40th
11 agreement state, and the former past chair of CRCPD. I'd like to thank the
12 NRC staff for accommodating my virtual participation, and I do send my regrets
13 for not being able to attend in person.

14 So this morning I'll be discussing efforts underway to help
15 assist our members in meeting critical staffing challenges. Our recent survey of
16 members revealed some key findings regarding staffing challenges. Eighty-five
17 percent of our members are currently facing staffing challenges; 59 percent
18 expressed concerns about a lack of subject matter experts; and 74 percent
19 showed interest in sharing staff for training, inspection, and other tasks.

20 Next slide, please. To address the needs of our members,
21 CRCPD has established a working group on health physics workforce
22 development and coordination. Chaired by Sarah Sanderlin from New Jersey,
23 the group includes federal resource individuals including Joe Nick from the
24 NRC. We have made progress since these slides were developed and now
25 have four members and five advisors representing programs from across the
26 country. The working group's primary focus is on leveraging our members to

1 address short-term staffing needs. This is crucial for maintaining continuity of
2 operations in our state radiation control programs and ensuring the health and
3 safety of our citizens. The group aims to identify available resources, establish
4 processes for resource sharing, streamline credential verification, and maximize
5 staff development opportunities.

6 Next slide, please. In fact, resource sharing is already taking
7 place, but standardizing and streamlining the process will further enhance its
8 efficiency. We are benchmarking current resource sharing arrangements and
9 learning from existing practices. For example, some agreement states are
10 successfully leveraging partnerships to complete evaluations of shield sources
11 and devices. Another state has reached out to its neighbors to coordinate
12 opportunities for on-the-job training for new inspectors that are needed to
13 complete their qualifications.

14 Likewise, the New England Radiological Health Compact has
15 established statutes that enables resource sharing among its six states,
16 defining commitments, liability conditions, and processes for requesting and
17 ensuring personnel with radiation protection expertise.

18 Next slide, please. Reciprocity in the recognition of training
19 and qualifications is going to be crucial for successful resource sharing. While
20 this can be done on a case-by-case basis, and, quite frankly, is right now,
21 standardizing this process will facilitate the use of shared resources and
22 improve auditability. We aim to develop a system that ensures qualifications
23 are easily verified and recognized within the Integrated Materials Performance
24 Evaluation Program, or IMPEP.

25 Ideally, we could develop a system that makes it both easy to
26 verify qualifications and for the IMPEP team to verify qualifications of all staff.

1 In some recent discussions, the NRC representative to our board, Kevin
2 Williams, suggested that we might be able to leverage the current NMP efforts
3 in reviewing qualifications to develop an online approach to share inspector
4 qualification similar to the way licenses could be verified in the License
5 Verification System, LVS, and we would certainly welcome such a system.

6 Next slide, please. So a simple example of resource sharing
7 that can take various forms might include requesting remote lectures or training
8 for subjects in which a state lacks experienced staff. It could be sharing staff
9 for newer infrequently performed inspections and to support on-the-job training.
10 For example, as Auggie talked about fusion being developed in certain states,
11 well, as those fusion deployment expands, this might include pre-licensing visits
12 or on-the-job training for fusion-related activities with resources for leading
13 states. And, finally, we might be requesting topical experts from the NRC or
14 other agreement states to support the licensing of new technologies.

15 Next slide, please. We're also exploring ways to make
16 members available, resources visible and easily searchable for those in need,
17 integration with existing resources like the National Materials Program Centers
18 for Excellence and the Health Physics Society will be considered.

19 Next slide, please. Ultimately, our goal is to develop a system
20 that caters to the needs of both the NMP and the broader scope of our
21 programs, including NORM, x-ray, radiation-producing machines, and MQSA.
22 We are committed to creating a unified approach that benefits all our members.

23 Thank you. And with that, I'll turn it over to the next presenter.

24 MS. CORNELIUS: Thank you, Jeff, and good morning,
25 Commissioners. My name is Keisha Cornelius. I'm with the Oklahoma
26 Department of Environmental Quality, and I currently serve as the OAS chair-

1 elect. I want to thank you for meeting with us today and for taking the time out
2 of your schedules to discuss radiation protection issues that are very important
3 to the National Materials Program.

4 I'll be discussing rulemaking and policy efforts this morning.

5 Next slide.

6 OAS and CRCPD recognize and appreciate the efforts of
7 NRC over the past several years to improve the rulemaking process. The OAS
8 director of rulemaking is co-chair of the standing Committee on Compatibility
9 and a member of the Common Prioritization of Rulemaking. This allows OAS to
10 be involved in the rulemaking process at the very beginning. This continued
11 collaboration on innovative approaches to rulemaking have produced numerous
12 enhancements that provide opportunities to streamline the process while
13 maintaining the quality and effectiveness of the rules.

14 As the NRC continues to work on enhancements to key areas
15 of the rulemaking process, we encourage the continued focus on the
16 importance of stakeholder input and involvement. OAS and CRCPD recognize
17 that there are many opportunities for collaboration on rulemaking, and both
18 organizations strive to make the most of these opportunities. We also
19 recognize and appreciate the efforts that NRC has made to be inclusive of the
20 state perspective and the many opportunities to provide feedback through
21 participation in working groups, task forces, and the opportunity to comment on
22 rulemaking.

23 In 2022, 11 items were sent to the states for requests for
24 comment. Six items received comments and a comment letter was sent to
25 NRC. Currently, in 2023, three items were sent to the states for requests for
26 comments and two comment letters were sent to NRC. There is still one item

1 pending where comments have been requested, and they are due next month.

2 Next slide. These are just a few of the examples of the
3 rulemaking that OAS has sent comment letters on. We appreciate the many
4 opportunities we have during the rulemaking process to provide feedback.

5 Next slide. As NRC continues to work toward rulemaking
6 enhancements in the coming years, we encourage you to continue to look for
7 opportunities to engage state stakeholders in the process to ensure the
8 development of timely and effective rules. This becomes even more important
9 as the number of agreement states continues to grow.

10 Next slide. Rulemaking compatibility is an issue where many
11 agreement states continue to have issues. This is evident in the number of
12 states that continue to not be compatible in the legislation regulations and other
13 program elements during IMPEP. Rulemaking is such a multi-faceted process
14 for many states. The process can take many years, even if there are no issues.
15 The issues that arise are sometimes not a direct effect of the program efforts to
16 pass rulemaking. There can be problems with having quorums for a council,
17 not having members appointed to councils, and governors taking time to sign a
18 rule.

19 OAS proposes using a risk-informing compatibility process for
20 rulemaking compatibility. We understand the appropriateness of a faster
21 adoption time line, which is three years, for major rulemaking, such as the
22 recent changes to 10 CFR 35, the medical rules. But making a three-year
23 required adoption process for miscellaneous corrections is not necessary since
24 it does not make a program not compatible if they do not adopt those rules.

25 To help with state compatibility, OAS also proposes having
26 approved compatible license conditions accompany major rulemaking. This

1 effort can help states that cannot pass rules be compatible in a timely fashion.

2 Finally, I would like to discuss some major rulemaking
3 developing currently, which is the Category 3 quantity source security
4 rulemaking. In the Government Accountability Office July 2022 document,
5 Preventing a Dirty Bomb: Vulnerabilities Persist in NRC's Controls for Purchase
6 of High-Risk Radioactive Materials, there were two recommendations made to
7 the NRC for executive action by the chairman of the NRC. The first stated that
8 the NRC should immediately require that vendors verify Category 3 licenses
9 with the appropriate regulatory authority. The second recommendation stated
10 the NRC should add security features to its licensing process to improve its
11 integrity and make it less vulnerable to altering or forging licenses. For both
12 these recommendations, NRC agreed with the recommended actions and
13 intend to include steps to eliminate the vulnerability through the rulemaking
14 process.

15 Next slide. The proposed rule was sent to the agreement
16 states for comment in October of 2022, and OAS sent a comment letter on
17 November 10th, 2022. The applicable rule is scheduled to be adopted by
18 October of 2023, and the NRC usually allows three years for agreement states
19 to adopt and implement new regulations through their respective state
20 rulemaking process. OAS anticipates an abbreviated adoption period for this
21 rulemaking.

22 In order to facilitate state compatibility with this proposed
23 rulemaking, OAS drafted a license condition to be approved by NRC. The
24 license condition approval was denied by NRC because the final rule has yet to
25 be determined so that compatibility can be determined. OAS would propose
26 that a compatible license condition accompany the final Category 3 rulemaking

1 so that programs can implement changes in an abbreviated manner. OAS and
2 CRCPD are anxiously awaiting the final rule.

3 I would like to thank you for your time, and I would welcome
4 any questions at the end. And now I will turn it over to Rikki from Idaho.

5 MS. WALLER: Thank you, guys, for having us. I'm Rikki
6 Waller. I'm with the Idaho Bureau of Laboratories, a non-agreement state, so
7 we appreciate your help in what we do in keeping our residents safe.
8 I'm going to be talking about emerging issues that we have that are coming out
9 and efforts to do collaborations in the future on these.

10 The first one I'd like to talk about is the Check-Cap. I know
11 Kevin Williams spoke about this at our conference last week, and it's just
12 another way for people to do a colonoscopy without having to go through the
13 actual colonoscopy. It's a capsule that's swallowed, and there's detectors
14 placed on the back of the patient, and it produces images that are saved. And
15 then, at the end, when it comes through, when it comes down for it to be
16 expelled, they get a notice.

17 The problem we have with this is the people that are
18 marketing the Check-Cap don't have any plans to have these collected by the
19 patient. They're supposed to be just expelled into the sewer system, and that's
20 one of the problems that we have with this is you don't know how many people
21 are using them, where they're at, where they're going. And a lot of people in
22 sewage treatment facilities don't have a lot of training in radiation safety.

23 So that's our big concern with that. And several states in the
24 country, their programs have been contacted by the Check-Cap people about
25 getting approval for this in the states.

26 So the next one that we have that's really becoming big these

1 days is the use of isotopes on household pets. A lot of people really enjoy their
2 pets more than probably their families, so they're looking for ways to keep their
3 pets around longer, especially their pets that are experiencing cancers. And so
4 a lot of that comes down to safety of not so much of the pet but of the pet's
5 family because, you know, you take your dog to the vet, he has a procedure,
6 you're going to want him close to you because, you know, he's not feeling well,
7 but if he has seeds in him or if they've given him, for example, Iodine-131 for
8 thyroid issues, I actually had somebody in my state call me about that, a
9 veterinarian. So this is coming around more.

10 But you're going to want that pet next to you, and it's probably
11 not the best idea, but people, are they going to listen? Are the pet owners
12 going to listen? What about the pet waste, how is that going to be disposed
13 of?

14 And so that's a lot of things that we need to kind of look
15 forward to because there's going to be more of this happening with pets and
16 isotopes in the future, and a lot of that is going to be, well, is the veterinarian
17 going to inform the patient's pet parents how to dispose of the waste to keep
18 them kind of isolated and away from the family. You know, little kids are always
19 crawling around on their families' pets, and that's even more important to keep
20 the little ones away from the pets when they come back from their appointment.

21 Next slide. The brachytherapy biologically targeted
22 radiotherapy in animals is an emerging technology that's really starting to come
23 to the forefront. So like I just said, this is something that we need to just kind of
24 be aware of and plan ahead for.

25 On to the next one. DOT lost misplaced material tracking.
26 Material shipments have been, they don't call them lost, they call them

1 misplaced, and they can be misplaced for several weeks. And we have talked
2 to the DOT about this, and they're willing to work with us. The problem that
3 they have on their end is they have two employees in the entire Department of
4 Transportation that has any radiation experience at all. So we need to have
5 some type of, I think, conversation to make this a little more important. Those
6 shipped isotopes, especially if it's an isotope that's needed by a certain time in
7 order for it to be an effective treatment for a patient.

8 And the DOT is very slow to intervene, but, like I said, they
9 only have the two employees that have any experience with radiation. So
10 maybe that could be a training issue on their end, as well.

11 So the next part, this is my last topic and this is one that has
12 recently come out, and that is AI and radiation protection. And people like to
13 say that AI is coming, but, in our reality, AI is already here. And like anything
14 with technology, it has its benefits and it has its problems, as well. A lot of this
15 can be used to monitor radiation levels in real time and also one really good
16 application of AI is getting radiation treatment planning. It takes the -- let's go to
17 the next slide. One of the benefits of AI is it takes the human error out of the
18 equation and ensures that everything is done correctly.

19 Also, some used in radiation protection may be vulnerable to
20 cyber attacks, which is the con of this. Just like anything with technology you
21 have, it does all these great things, but then, when it goes bad, it has the
22 potential to go really bad with cyber attacks and breaches, cyber security
23 breaches.

24 And then there's the legal liability concerns, such as who is
25 responsible in case there are errors. Would that be an operator, or would that
26 be a programmer? We really need to establish clear guidelines to address the

1 ethical, regulatory, legal, and social implications of AI in radiation protection.

2 So to address that, CRCPD is forming a task force on AI
3 because AI is a reality and the capabilities are rapidly advancing. So we're
4 forming a task force to evaluate the impacts of AI on radiation protection. The
5 charges have been drafted. We're in the process of establishing membership
6 and advisors to this working group, and we plan to coordinate with CISA, the
7 Cyber and Infrastructure Security Agency, to be contributors to this working
8 group. And our end goal on this is to provide a white paper and
9 recommendations on the use of AI in radiation protection.

10 And here's a fun fact. All those slides, they were actually
11 generated by Jeff Semancik with the use of AI.

12 And that is all I have. And on behalf of OAS and CRCPD, I
13 would like to thank you guys for your time and for listening. And we just
14 appreciate being able to have this meeting. Thank you.

15 CHAIR HANSON: Thank you, Ms. Waller, and thank you all
16 for your presentations. And thanks for Jeff for joining us remotely today.

17 We're going to begin questions with Commissioner Caputo.

18 COMMISSIONER CAPUTO: Good morning. Thank you all
19 for being here. I agree with my colleague, Mr. Wright. This is always a great
20 meeting to hear everything that's going on in the states, and so thank you for
21 taking the time to share with us.

22 Auggie, it's always nice to see you again. You and I have
23 good conversations on fusion, so thank you very much for your presentation
24 today. But I also want to take a moment to just congratulate Ms. Cornelius and
25 Ms. Waller. Thank you for the leadership roles that you're playing, and it's
26 always good to see women leaning into leadership when it comes to radiation

1 protection in the nuclear field. So I really, really appreciate all the work that
2 you're doing. It's great to see you here at the table.

3 I'm going to start with one observation. Our Agreement State
4 program has long been established. It's clearly thriving. Three more states are
5 going to join. But that means the pool of licensees that we, ourselves, are
6 overseeing is shrinking, and so the cost of maintaining this framework is, as the
7 Agreement State program becomes more popular, the burden is split among
8 fewer and fewer licensees, and so that's a cost burden I think that we, as an
9 agency, really need to examine about just the viability of continuing to have a
10 shrinking pool pay for the entire regulatory burden.

11 I also want to take a moment to thank both NRC and
12 Agreement State staff for work in providing support to the agreement states that
13 have been experiencing some challenges in recruiting and retaining personnel
14 over the last year. I understand that other agreement states, and we heard a
15 bit about this already, and the NRC staff have supported agreement states
16 having these challenges by providing some training, mentoring, sharing
17 expertise, in particular in the areas of licensing, financial assurance, and sealed
18 sources. So thanks to the NRC staff and Agreement State staff. I'm thrilled
19 that everyone is working so well together to meet these challenges.

20 And it also touches on one issue that I continue to be
21 concerned about, which is just a shortage of health physics professionals. So
22 Mr. Semancik, you mentioned on slide 33, you talked about the Workforce
23 Development and Coordination Committee and some of the activities put in
24 place to facilitate sharing of resources and ideas on what can be done to help
25 regulators work together. But can you provide your thoughts on what needs to
26 be done to stimulate an actual, an increased supply chain of health physics

1 professionals?

2 MR. SEMANCIK: Yes, I can share my personal opinion. As I
3 indicated, you know, right now we're focused on kind of that resource sharing.
4 You know, it seems to me, across the country, there's kind of a couple of paths
5 to consider. One is the number of health physics programs is certainly
6 struggling in the university level, and we need to make sure that we're doing
7 what we can to kind of stimulate those programs. At the same time, because of
8 that, I think we also need to be looking at how do we bridge folks from other
9 programs or backgrounds and bring them up to speed in the health physics
10 knowledge that we need.

11 So, for example, in environmental protection agencies, we
12 certainly have a larger number of people with environmental degrees. Is there
13 a way to identify the gaps that could be bridged to bring people over from those
14 fields into the other.

15 And then I would say, you know, again, in my opinion, the
16 third one would be to look at maybe, not looking at full four-year degrees but
17 maybe two-year degrees. There's a lot of local community colleges and
18 associate's programs that provide good training. This is the path that the
19 nuclear power industry is using to try to feed their health physics pipeline, as
20 well, and maybe it will provide us, again, some targeted background with that.

21 But I think that's, you know, a lot where it goes. You know,
22 obviously, we can talk about pay and other issues that we all have to deal with
23 in the states, and that's also a factor. But I think it's a bigger factor that just a
24 lot of folks don't know about this when they're looking at careers and trying to
25 pick where they're going, and so we might have to be a little more creative on
26 picking our source for those and adapting our training to match the source by

1 subsuming everybody is coming in as a degreed health physicist.

2 COMMISSIONER CAPUTO: All right. Thank you very much
3 for that. Mr. Seeger, as you noted, the National Materials Program continues to
4 expand. The agency is looking for ways to improve the program and prepare
5 for the future. Mr. Seeger or anyone else who'd care to comment, where do
6 you see opportunities where we can improve the program?

7 MR. SEEGER: I think mostly with communication. It's been
8 really good with NRC and OAS and the Agreement State program, and just the
9 main thing is getting good people, like we've been talking about, trying to share
10 resources and how we can get states, when they have issues, to reach out and
11 let other agreement states or NRC help, you know, get those programs back up
12 to speed or whatever issues they're having. Like, if they have issues with their
13 latest IMPEP, if they can reach out to other states and use some expertise from
14 other states or NRC. I think that would help a lot.

15 COMMISSIONER CAPUTO: Okay. And you also mentioned
16 revising the IMPEP process to be more risk informed. Can you just describe to
17 me a little bit more about the challenges you see in the current process and
18 where the opportunities might be to improve our risk informing?

19 MR. SEEGER: Well, Keisha is on a working group now. She
20 might be better to answer that if she wants to.

21 MS. CORNELIUS: I'll take that. I think sometimes in the
22 IMPEP process they lean too far into numbers and not exactly how the state is
23 doing. I think taking some time to really delve into what is really making the
24 state compatible and what is really the risk with the activities that we regulate.
25 And the example I have is in the rulemaking process. If you haven't, I know that
26 the CFR is opened twice a year and there are certain small corrections that are

1 made, and if you haven't adopted that as a state, does that necessarily make
2 you not compatible? You're still compatible with the major rulemaking.

3 So having some leeway with things like that, I think, would go
4 a long way. And seeing if you're not doing something as a state, what is the
5 actual risk that has to the regulated community and not just be so focused on
6 numbers but actually the work that the state is doing.

7 COMMISSIONER CAPUTO: Okay. Great. Thank you for
8 that. Ms. Waller, you mentioned AI, and it's, like you said, it's everywhere. I
9 have to admit my kids and my husband and I sat around, put it up on the big
10 screen at home, and started posing some questions. It was a fascinating
11 experience. Of course, my husband and I had read it in the paper and said,
12 whoa, what's this all about, let's look at this and play with this. And, of course,
13 the first thing out of my son's mouth was, oh, yes, we were doing that in school
14 a few weeks ago.

15 So it is out there. It can be a tremendous asset. NRC staff
16 recently issued a strategic plan focused on it, so have you folks, are you aware
17 of that plan? Have you looked at that? Is that something that you're going to
18 factor in to your review and decision-making on this?

19 MS. WALLER: I am going to refer to Jeff Semancik on this.
20 He is our AI king, so, Jeff, can you help us out?

21 MR. SEMANCIK: Yes. While we haven't looked at it in detail,
22 Commissioner, I think we're aware of the strategic plan. We're just trying to, I
23 think that's probably part of the early charter with the task force is to look at
24 what guidance is out there from multiple federal agencies, but the NRC, we've
25 got FDA, CDC, and then kind of use this as our organization technical expert to
26 kind of help us out a little bit.

1 So I think we'll certainly incorporate what we've looked at with
2 that, but we haven't, you know, really used it in detail yet to formulate things.
3 So we're just in that beginning stage.

4 COMMISSIONER CAPUTO: So in looking at this for state
5 agencies, this is not just about AI in the work that you're doing with us. This is
6 involving other federal agencies and other departments within the state, so this
7 is really broader than just our effort.

8 MR. SEMANCIK: Yes, absolutely, because we want to make
9 sure we're benchmarking those efforts across the agencies, as well.

10 COMMISSIONER CAPUTO: Okay. Thank you.

11 MR. ONG: One thing, Commissioner Caputo.

12 COMMISSIONER CAPUTO: Oh, sorry. Auggie.

13 MR. ONG: Talking about AI, because I just want to make a
14 concluding remark, whether it's ready for prime time. And that was, originally, I
15 was going to intend to use AI to generate my PowerPoint presentation, so I
16 opened up the AI GPT account, all right, and I start off just to test the system
17 whether, in fact, it was able to generate what I needed to do my presentation,
18 and that is, you know, emerging technology, plus AI.

19 So that being said, my first question was what is the function
20 of NRC's 10 CFR Part 35. The answer coming back to me was that NRC is a
21 regulatory agency for this country to regulate nuclear power plant license, so
22 Part 35 is the rule or regulation that regulates the licensing of nuclear power
23 plants. So when I saw that answer, I said, no, I cannot use this to generate my
24 slides. So thank you. It's not ready yet, I think, despite all that hype.

25 COMMISSIONER CAPUTO: Well, and, at some point, I
26 suppose it may run headlong into the clarity of our regulations and how easily

1 they're interpreted by AI. But thank you for that.

2 CHAIR HANSON: Thank you. Commissioner Crowell.

3 COMMISSIONER CROWELL: Thank you, Mr. Chair, and
4 thank you to all of our presenters today. This is my first Commission meeting
5 with our state partners, so I appreciate being here today, you being here today
6 and getting me up to speed a little bit more on how the state programs work. In
7 my life, immediately preceding joining the NRC, I was a state regulator in my
8 home state, Nevada, where I headed the Department of Conservation and
9 Natural Resources, so I have an affinity for what you do and appreciation for
10 what you do and that you all are doing more than, you know, you can
11 reasonably get done and are probably not getting paid enough either.

12 That being said, I need a little bit of clarity here on how the
13 agreement states work. And is CRCPD, are all states members of that, even if
14 they're not Agreement State members? Okay.

15 And then what is the difference in experience for, say, you,
16 Ms. Waller or Jeff for Connecticut who is looking at becoming an agreement
17 state. Like, you seem to get great value out of this partnership. What's the
18 incentive to become an agreement state or the incentive not to become an
19 agreement state?

20 And, Ms. Waller, if you want to jump on that first.

21 MS. WALLER: Well, to be honest, our radiation control
22 program in Idaho is very disjointed. We have strictly machines, ionizing
23 radiation-producing machines. Radon is somewhere else, and we don't really
24 have materials. We do have a liaison to INL that works for the state. And as
25 far as that, that's pretty much all we have.

26 I think the staffing issue is probably one thing that would be a

1 deterrent to becoming an agreement state. Truly, the way our governor thinks,
2 I'm surprised that we are not an agreement state because he's very states'
3 rights and very feds needs to keep their hands out of Idaho, so I'm really
4 surprised that we're not an agreement state.

5 COMMISSIONER CROWELL: It's funny you say that
6 because I think the same way about Nevada that we are an agreement state,
7 despite an overwhelming sentiment of similar kind of as in Idaho. But in my
8 experience, as a state regulator, I know that, in the state of Nevada, we
9 wouldn't have the capacity to do a lot of these things. I don't think we would
10 have the capacity to regulate fusion, for instance, and we'd have to rely on
11 others or the NRC to do that; or, as, you know, on some of the delegated
12 programs through other federal agencies, like EPA, it also comes with enough
13 money that you can hire and maintain staff to implement those programs. I'm
14 getting the sense that way the NRC model works an independent agency that's
15 fee based, the money used to support the Agreement State program isn't
16 sufficient to, like, hire as many staff as you need to manage and run those
17 programs. Is that fair?

18 MR. SEMANCIK: Commissioner, I would just kind of indicate,
19 you know, Connecticut looked through what it takes to become an agreement
20 state. We were able to work with the NRC to understand what kind of license
21 fees were coming in for licensees in the states, resource requirements to do
22 that. And we think we can certainly staff our Agreement State program and run
23 it for less than the money coming in from license fees, even giving the licensees
24 a small discount in that fee.

25 So I think part of it is a financial analysis. We certainly looked
26 at that. Part of it is making sure we have kind of that compatibility across

1 federal with other states in our program that kind of prevents us from kind of
2 running a set of regulations that may be a little bit different. And then we looked
3 at, we think, our ability to interact with licensees in the state creates a kind of
4 mixture. We have the right interaction with our licensees to understand their
5 business is better able to respond. You know, certainly for a small state like
6 Connecticut, there's no licensee we can't get to within two hours. If we have
7 questions on a license, if we have questions on inspection, we can get right in
8 there and be able to take those actions.

9 So we think it's an enhancement to the safety and security for
10 the folks in Connecticut. We think we can help be efficient with our licensees.
11 And then we also think that we can get a cost, you know, we can make a cost
12 favorable for the state. So that was the analysis that, when we put in before we
13 decided to sign the letter of intent on getting that done.

14 COMMISSIONER CROWELL: Understood. Thank you.
15 That's helpful. On fusion specifically, you know, when the Commission voted
16 recently on the framework, in my vote, I had mentioned, you know, potential
17 concern for the capacity of states not being equal in terms of regulating fusion.
18 And I appreciate the slide on how you share resources across states and, you
19 know, I'm wondering if that is, you know, going to be sufficient for a framework,
20 like the complexity of fusion, or if there's going to be the potential for real
21 disparity in regulatory capacity amongst agreement states to regulate fusion
22 and if that's going to create an imbalance where fusion developers maybe align
23 themselves towards states that have more robust programs or maybe the other
24 way around with less robust programs because maybe it's an easier regulatory
25 framework to negotiate.

26 Has there been discussion or concern about that?

1 MR. ONG: Yes, in fact, if I may address that issue. And that
2 is, in fact, what's taking place right now. There was a few, especially Wisconsin
3 and Massachusetts, who shared the knowledge necessary to review fusion
4 technology licenses. And, in fact, they have now proactively addressed that
5 issue of sharing resources to become areas of experts for fusion technology so
6 that any of the other agreement states who may not have the necessary
7 knowledge, nor the experience in licensing the technology, there are now
8 established resources available.

9 And so, for my part, I have already reached out to a couple of
10 the agreement states that do have fusion technologies and what are the issues
11 that they face when they license these technologies. So that being said then,
12 any of the Agreement State members, too, who come across the fusion
13 technology application, then, therefore, they will be able to reach out to the
14 Agreement State members who have established licenses already in their
15 current state.

16 So, therefore, that kind of knowledge will be shared with a
17 white paper that's coming out from CRCPD and also now that, even in our own
18 agreement state, organization of agreement states, have now begun to
19 establish these areas of expertise or centers of excellence, thereby providing
20 that kind of resources to other agreement states who may not have that kind of
21 capability to begin to review licenses. So we will share the resources among
22 both to our NRC partners and to the agreement state folks who are now facing
23 this kind of conundrum of licensing technologies that are beyond the
24 capabilities of the particular agreement states who are, for the first time, having
25 to deal with the fusion technology license.

26 So we are there at the beginning. So they will grow as the

1 technology grows.

2 COMMISSIONER CROWELL: Got it. Thank you. And then
3 my last question for whomever feels like they want to field it, one of the
4 challenges is that each state is organized, you know, differently in terms of how
5 their state departments and divisions are organized. And, oftentimes, the
6 jurisdiction of the NRC, be it on the, you know, reactor side or the material side,
7 falls within scope across various places, you know. Like, I see representatives
8 here from environmental divisions within states and then from, like, public
9 health or health divisions within states. Some states, those two things are
10 together; other states not.

11 Does OAS play a role in helping bridge that divide and make
12 sure states are talking to themselves across those jurisdictional, you know,
13 intra-departmental coordination for states to make sure there's a fulsome
14 picture in looking at radiation protection?

15 MR. ONG: If I may address that, that is true. The
16 coordination does take place, even though on a monthly basis under the
17 National Materials teleconferences where the Agreement State members bring
18 issues for discussion. So that being said then, any of the differences among
19 the radioactive materials programs that we do come together to talk about it,
20 not just in the annual conferences but certainly during the monthly calls, too, so
21 we could understand if there are major differences that would then cause some
22 fissure within the national and federal programs, and that has not happened.
23 All right. So we are in communication, and the teleconferences are very active,
24 meaning there are many, many partners who are listening in and who contribute
25 to the discussion.

26 COMMISSIONER CROWELL: Thank you. And I do plan to

1 attend the OAS this year and looking forward to it --

2 MR. ONG: Thank you.

3 COMMISSIONER CROWELL: -- walk up a tall hill a few
4 times, so I appreciate that.

5 CHAIR HANSON: Thank you, Commissioner Crowell, and
6 thanks again for everybody being here.

7 I wanted to kind of pick up on this notion of the National
8 Materials Program potentially getting up to 50 states and thinking about that
9 now and how that would work. And I know the NRC staff have been working on
10 this issue, as well, and kind of exploring a lot of issues, but, you know, we have
11 you all here and you have all of us here, so I wanted to kind of open it up to the
12 group and get your thoughts about, you know, what we, as a commission, but
13 also just the National Materials Program need to think about as we consider
14 that hypothetical case of getting up to 50 agreement states, how support needs
15 to change in various ways, et cetera. So I'll let anybody --

16 MR. ONG: Yes, if I may volunteer to answer that question.
17 And the reason why I want to volunteer on that is because, as you know, Huda,
18 who is behind me, and certainly she's the chair to the emerging issue and the
19 strategic planning for the National Materials Program. Her group has really
20 examined exactly that kind of question where what would happen to the
21 National Materials Program where NRC now controlling fewer and fewer of the
22 licenses, reactor material licenses; and, therefore, from the projected model,
23 eventually, all right, if more and more agreement states, more and more states
24 becoming agreement states, the remaining few, then, therefore, what happens
25 to the NRC space. And that, as it turns out, would still be equivalent, in terms
26 of number of licenses under NRC control, would be equal to California.

1 But that being said then, the issues that confronts all of us,
2 especially NRC because you have your own budget limitations, too, how much
3 can you afford, given that fewer licenses to support your program in addition to
4 all of the Agreement State programs, even the newer agreement states that are
5 planning to come onboard, the resources that are going to be demanded on
6 NRC would be even greater. All right. The financial burden is going to be
7 greater, and the cost sharing, is that a possibility with the agreement states not
8 able to be financial equal partners with NRC to then hear we're demanding
9 more resources from NRC; therefore, your budget is going to be bust, all right,
10 to support the Agreement State program, what is the agreement state able to
11 do in order to support its own training program. That's the biggest contributing
12 factor to the budget. Where is the expertise? And the expertise right now is
13 within NRC to provide all that top-down training to the agreement states who
14 may, for the most part, lack the capabilities to become trainers.

15 But, eventually, that problem will have to be confronted, and
16 that is the Agreement State members need to come up with ways to become
17 trainers without having solely rely on NRC. So, therefore, that may be an issue
18 that we will be confronted soon enough.

19 CHAIR HANSON: Yes, please, I wanted to ask, as OAS chair
20 or chair-elect, excuse me, and, Rikki, also, I know you said you might not
21 become an agreement state, but just, you know, for the sake of hypothetical, I
22 wanted to hear from both of you.

23 MS. CORNELIUS: I think OAS is excited to have more
24 agreement states come on. And as we have more agreement states, the
25 amount of collaboration between NRC and agreement states has to increase
26 because all of the new technologies and most of the licenses will reside with the

1 agreement states. And the states are seeing it first. The states will have more
2 expertise with the equipment that's coming out because they're seeing it first.

3 Yet, the rulemaking must come from the NRC because that is
4 who the states have their agreement with and that's whose rules we must be
5 compatible with. So it's going to make the collaboration that we have and the
6 agreement state participation in these working groups and task force and the
7 rulemaking groups increase.

8 But we would still need, because of the money issues, we still
9 need NRC to provide training and things like that. We will still continue to need
10 that.

11 CHAIR HANSON: If I could just follow-up on that, I want to
12 make sure I understand what you're saying. It sounds like kind of more support
13 resources, not resources necessarily money but in terms of people who can
14 capacity build in state programs but also timely rulemaking from the NRC, right?

15 MS. CORNELIUS: Yes, yes.

16 CHAIR HANSON: So being able to kind of undertake multiple
17 rulemakings at a time in order to get those out to the states. Do I have that
18 right?

19 MS. CORNELIUS: Yes. And having more state people help
20 with those rulemakings because that's the people that have seen the
21 equipment.

22 CHAIR HANSON: Excellent.

23 MS. CORNELIUS: They have the resources to be able to
24 help with that rulemaking.

25 CHAIR HANSON: Yes, yes. Okay. Very helpful. Ms. Waller.

26 MS. WALLER: I agree with what Keisha said. Training would

1 be the big one. And a lot of the problem for us would also be personnel, finding
2 somebody qualified to do that type of work.

3 CHAIR HANSON: Okay. Anyone else? Okay. Thank you.

4 Pat, Mr. Mulligan, I think this is for you. I wanted to hear more
5 about the ROSS program and how that's working functionally. Let me see if I
6 can find my question here. I wanted to hear, I guess, about kind of the
7 development and implementation of the task force in particular and how that,
8 you know, what were the drivers on that, kind of what was the impetus. Are you
9 getting significant interest on the part of more states? Kind of what's the, both
10 what's the origin of this and kind of what do you see as the trajectory?

11 MR. MULLIGAN: I think, at least initially, the impetus for the
12 program was a recognition that we just don't have enough health physics
13 professionals nationally to fill the gaps that we're going to have should there be
14 a large-scale nuclear event. We're just going to run out of health physicists
15 locally very quickly.

16 Recognizing that need, you know, we formed a committee to
17 start developing what the qualifications would be for a person to step into that
18 role if you needed one. And so they developed this program to qualify people
19 as radiological operations support specialists, and that was in conjunction with
20 both NRC, and FEMA was heavily involved in that, as well, to come up with the
21 qualifications, reviews, and the credentialing for that. That's been built into the
22 EMAC system, as well, so that it's a recognized asset within the resource
23 sharing aspect of any response.

24 So we've passed all of those hurdles, and now they're in the
25 process and it's run by, you know, counterterrorism, CTAS, runs the training
26 program now. And what we're looking for, at least initially, it was let's get as

1 many people from state programs that are already sort of qualified to be, you
2 know, higher-level ROSS specialists involved so we can build up a training
3 team so that they can pass that knowledge on.

4 So that's where we started was picking the low-hanging fruit
5 to getting those folks in, and now we're really reaching out further than that. We
6 recognize that, you know, just qualifying and credentialing state personnel is
7 really not what we want to be because, if there's a large-scale event, those
8 people are going to be not allowed to go anywhere, you know. If there's an
9 event in Pennsylvania, the governor in New Jersey is not going to let me go
10 anywhere to support that.

11 So we're really reaching out through the Health Physics
12 Society, through our CBRN units, through our civil support teams, and the
13 medical community, as well, to look at where other expertise lies that we can
14 bring into the fold. So we're training a lot of those people now to bring them in
15 because those are really the people that can support the response from an
16 external perspective without taxing any one organization's resources, as well.
17 So we're really looking to branch out into that.

18 CHAIR HANSON: I see. So was this partly, it sounds like,
19 I'm hearing reciprocity in there maybe between states, but maybe that's not
20 even the most important quality. It could just be the qualification on this. Yes,
21 go ahead.

22 MR. SEMANCIK: If I could, please, because I am trained in
23 the process. But this came out of 9/11 and the national planning and the
24 presidential planning directives. We looked at a couple of scenarios,
25 specifically dirty bomb and nuclear detonation. And one of the gaps identified
26 was not having enough radiological expertise.

1 But where we are right now is this is fully integrated into the
2 national qualifications system. They're already recognized as FEMA types, and
3 so using any other process that you would use to request resources from other
4 jurisdictions via, as Pat indicated, EMAC, we could make requests across those
5 lines.

6 Right now, we're up about 300 people trained and, quite
7 frankly, right now we just don't have as many classes as we have people willing
8 to do it. But the goal ultimately is to have each state with multiple type ROSS's
9 available kind of running independently. RAND just recently did a study, and
10 that was kind of one of the recommendations coming out of the study is to
11 make it state-level kind of control and to work on that.

12 So we're working to get states. I think we have about of
13 ROSS trained, and I think about 38 states, maybe even more now. But we are
14 working on quite a number, and we integrate them into national level exercises,
15 state level exercises, local exercises at this point.

16 CHAIR HANSON: Great. Thanks very much. Commissioner
17 Baran.

18 COMMISSIONER BARAN: Well, thanks again to all of you for
19 being here. We really appreciate your partnership.

20 Jeff, maybe I'll just stick with you for a minute if you're
21 answering the AI questions. I also found that discussion of AI and nuclear
22 medicine really interesting, and I had been looking at the strategic plan that
23 Commissioner Caputo had mentioned, and it's, you know, I think intentionally,
24 like, a broader document. It's not focused on nuclear medicine in particular.

25 And maybe this question is premature if you all are just
26 setting up the task force now, but the question I had in my mind was are there

1 things you all think NRC should be doing now that we're not? Because I think,
2 with a little bit more background here, I think, on the reactor side, there's a
3 sense that kind of the applications in this area are maybe a little bit down the
4 road, but it sounds like in nuclear medicine the future is now. And I'm just
5 wondering are there things that we need to get on right away in that space.

6 Rikki, if you wanted to weigh in, or Jeff or both.

7 MR. SEMANCIK: Yes. I would think, you know, I think your
8 initial inclination is correct. It's probably a little bit ahead of where we are right
9 now in the task force. But, you know, our thought was we need to do
10 something right now, at least at the policy level, on this and kind of there were
11 certain ethical implications that we want to make sure we're ahead of.

12 And so I think we're kind of at that stage of just what are the
13 main principles for our use and integration of AI. And it goes through a number
14 of things, right? It could be anything from medical treatment planning, but it
15 could be as simple, you know, as Auggie indicated, you know, how do you
16 counter narratives, false narratives that are created by AI because it lies
17 brilliantly at times. And so we need to make sure we understand that.

18 And so I think the first one is just going to be some kind of
19 policy-level stuff, are we ready for AI use in these areas or not. And if there is
20 some AI use, how is it noticed and how is it notified to people receiving on that
21 and, you know, for inspectors and regulators, how do you manage that at this
22 point.

23 So I think we're very early in these stages. We just kind of
24 voted on this the last board meeting, but, certainly, I think our recognition is that
25 it's moving fast and we need to at least get some general guidance out to our
26 members on recommendations on how to best handle it.

1 COMMISSIONER BARAN: Great. Well, I think that's great
2 and I thank you for doing that.

3 Keisha, thanks for your presentation on the Cat 3 source
4 security rulemaking. I think that's a really important rulemaking. You talked a
5 little bit about getting compatible license amendments figured out in advance.
6 Can you talk a little bit more? I hadn't focused on that area in terms of
7 implementation as much. Can you talk a little bit about how that would work
8 and what the benefits of it would be?

9 MS. CORNELIUS: Lots of states have problems passing
10 rulemaking. It is so multi-faceted that it can take years and years and years.
11 And when you only have three years, you struggle with compatibility. But if you
12 can put a compatible license amendment in those licenses that it affects, then
13 you can become compatible immediately until you have time to pass that rule,
14 and then you can amend it and take that off. And that would help so many
15 states be compatible with rulemaking easier than it is to pass a rule.

16 COMMISSIONER BARAN: And has that been done in other
17 rulemakings in other areas, or is this a new concept?

18 MS. CORNELIUS: It has been done, but the states come up
19 with their own license condition and they can put them on there to be
20 compatible. But if one comes with that rulemaking that's already gone through
21 compatibility and is already approved by the NRC, that would expedite that and
22 the state wouldn't have to make their own.

23 COMMISSIONER BARAN: Have you all, in your coordination
24 with the NRC staff, have you talked about that concept? Have you started
25 thinking through, maybe that would be a little premature, but started thinking
26 through what that would look like so that you had kind of input on whatever

1 language that would be there?

2 MS. CORNELIUS: For the Category 3, OAS actually drafted
3 one and we sent it in. But it was premature because the final rule has not come
4 out, so you can't determine compatibility with that. But it should really come
5 from the rulemaking group because they have the most knowledge about that
6 particular item. So we are hoping and we have let NRC know we are hoping
7 that when that comes out that an appropriate license condition is added so that
8 states can become compatible as quickly as possible.

9 COMMISSIONER BARAN: Yes, very good. Well, the
10 Commission is focused on this rule. I know you had a letter that came in last
11 year. Any views you all want to share about the draft proposed rule or the GAO
12 recommendations?

13 MS. CORNELIUS: I think, Pat, you drafted a letter from
14 CRCPD, if you want to talk about that.

15 MR. MULLIGAN: Again, I think that the proposed, the draft
16 rule addresses all the issues and all the concerns. Ultimately, I think the
17 remaining question that we had was are we going to get that implemented
18 quickly enough in order to close those gaps as much as we can because we
19 see them as, you know, security type issues obviously. While the dirty bomb
20 risk maybe from Category 3 is low, it's certainly not something that you want.

21 So we were looking to make sure that we could implement
22 certain aspects, like Keisha was talking about, of that rule nearly immediately,
23 like the ability to verify licenses very quickly and the requirement to do that
24 without a whole rulemaking process. So we believe that the rule addresses all
25 of the issues. It's the implementation and how quickly we can close those gaps
26 once the rule is made final from a state perspective.

1 COMMISSIONER BARAN: Well, thank you so much for
2 thinking ahead and trying to think through, even now while we're in the
3 rulemaking process, how we implement and how implement efficiently.

4 I know, and this is a general question for anyone who wants
5 to weigh in, I just want to check in about web-based licensing and how that's
6 going in terms of additional states having interest in it over time. I know it's
7 been kind of a trend over the years to have states move to web-based
8 licensing. Any update on that and how that's going and what the challenges
9 are? Just a general status check on that.

10 MR. MULLIGAN: I can tell you, from my own state
11 perspective, the issues that we run into and we would like to be able to use the
12 web-based licensing, but the system that we had in place initially is just so
13 embedded across multiple disciplines in our state that it's impossible to kind of
14 rip that apart and use it. I mean, it's the Radiation Protection Program. It goes
15 into Treasury. It goes into other, you know, Department of Labor. And the
16 system that we have in place just stretches so far, it's difficult to pull those
17 tentacles back and reconnect them somewhere else, you know, without causing
18 a whole lot of other issues.

19 So that's one of the things that we experience. We have
20 nothing against the web-based licensing system. It's a great system. It's just
21 we can't get enough traction within our state to get people to change the way
22 we do business.

23 COMMISSIONER BARAN: Okay. And, Auggie, maybe I'll
24 just finish up with a question on fusion. I really appreciated the conversation
25 you were having with Commissioner Crowell about the coordination and
26 collaboration among the agreement states, particularly those where they were

1 very active in this space. Do you have, you know, do folks have thoughts about
2 how do they envision the collaboration going forward with NRC? So if we end
3 up with a fair bit of the licensing happening in the agreement states, what kind
4 of interactions do you want to have with us?

5 MR. ONG: And, certainly, the emerging trend is that, from my
6 perspective, is that the agreement states now tend to look elsewhere in terms
7 of getting the necessary expertise and also in terms of how, in fact, here I have
8 a license application, how do I go about to issue this license.

9 So from my experience, I think it's the agreement state who
10 has the license application seeking agreement state members, I mean
11 contiguous states maybe or outside of that group, to ask do you have a similar
12 license application, what steps do I need to go through to get the approval
13 process in place, to make sure that my program has approved the license for
14 the right reasons with the right conditions in place since you have already done
15 this work already, so show us what you did so we can learn from it, and then
16 we'll write that license with the approval process with great confidence that, in
17 fact, this is a legitimate approval without missing any of the deficiencies that
18 may have overlooked because we have not sought out state members who
19 have these kinds of licenses.

20 So that's how I see it. That's the trend that's moving on. And
21 for the other, reaching out to NRC, that would be for areas that's behind our
22 control, beyond our understanding, and certainly we're still looking forward to
23 NRC agency to provide that leadership, that guidance. And especially, talking
24 about guidance, it is the guidance that you guys come up with that provide all
25 that foundation for us to carry out our programs.

26 So being able to produce those licenses for nuclear medicine,

1 nuclear materials for use, certainly you guys are still in charge and taking the
2 leadership role.

3 COMMISSIONER BARAN: Okay. Great. Thanks, everyone.

4 CHAIR HANSON: Thank you. Commissioner Wright.

5 COMMISSIONER WRIGHT: Thank you, Chair. And this is
6 my favorite meeting of the year. It really is. You know, the first day that I got
7 here, I didn't realize just how connected we were with the materials side of
8 things, especially in the medical realm, you know, being a cancer survivor. So I
9 became a fan right away and have not missed a meeting, don't want to miss a
10 meeting, and want to support you in every way that I can. And I can tell you
11 that, from the NRC's perspective, we've got great people, John Lubinski and
12 Kevin and Duncan and Huda and the others, they are passionate about this and
13 they believe in this and how you can do your job better than we can cheaper,
14 you know. It's very important, it's very important to states like Idaho that might
15 want to take a look at this, right, Rikki? So I just look forward to anything that
16 can come out of this that we can help move the ball forward for you, which also
17 moves it for us.

18 And with that, Rikki, I'm going to start with you. You were
19 very nervous coming into this, but you've done a really good job, so
20 congratulations on that.

21 MS. WALLER: Thank you.

22 COMMISSIONER WRIGHT: You know, I'm reminded, Daniel
23 Boone, many, many years ago, he was asked if he was ever lost when he was
24 out exploring the wilderness of the New Frontier, and his response was, no, I've
25 never been lost, but I have been bewildered a few times. And I kind of feel like
26 this in the tracking lost things, right? Most of the time, we end up, you know,

1 recovering them, right, and finding them. But in your opinion, do you have any
2 suggestions, I guess, or do you think there are any process improvements here
3 in the tracking system that could be instituted? Do you have any --

4 MS. WALLER: I don't. There's so many facets involved in the
5 issue just with the tracking, and I'm not sure. Pat, can you offer anything up?

6 MR. MULLIGAN: I don't know that I have a solution. I know
7 what some of the issues are, and one of them is on the shipping. I mean, 99
8 percent of things go through FedEx and they're the ones that sometimes
9 misplace things. But we've heard from DOT, if you push them too hard, they'll
10 just stop doing that, and then what does that do for us?

11 And so there's a balance that needs to be created. I think the
12 frustration that states have is we get our licensees and the manufacturers
13 calling us because the licenses reside with us saying where's my material. And
14 so when we reach out to DOT, it's very difficult to get sponsors.

15 And so what we're looking for, and this was, like, an emerging
16 issue, a future collaboration, I think maybe together NRC, DOT, and agreement
17 states and CRCPD can work together to come up with a better process for, I'm
18 not saying we're going to force them to find it faster but just to get information
19 on what they're doing to try to find it within their facilities. So we're looking for
20 help. I mean, that's what we're looking for because there's a frustration from
21 the state when you call and call and call and you've got material that's just
22 nobody knows where it is. It's a concern.

23 COMMISSIONER WRIGHT: The problem with being the last
24 is sometimes they've asked questions or at least versions of the questions you
25 were going to ask, so I don't want to re-plow a lot of ground. But, Auggie, I
26 can't resist. First off, ChatGPT has nothing on you.

1 (Laughter.)

2 COMMISSIONER WRIGHT: You were talking earlier, Auggie,
3 about, obviously, fusion, and I appreciate that, your presentation. And I've had
4 a past as an elected official on the state level, a little different than what my
5 colleague here had. But a lot of this, we kind of see things the same way from
6 that because of that experience.

7 So I do know that all states aren't the same. They don't do
8 things the same way, and they don't have the amount of resources or money
9 allocated to do what they need to do. So as it relates to fusion, am I hearing
10 you correctly that are you thinking that, in the end, there's going to be
11 consistency between state approaches on this, or do you see problems?

12 MR. ONG: I see problems if NRC does not take the
13 leadership role in this. And what I mean by that, all right, and that is the
14 licensing guidance that you guys come up with. That is the foundation of
15 consistency within the license under NMP.

16 That being said, I think NRC is already actively anticipating
17 what needs to make sure, even different technologies that may be installed in
18 the agreement states, but once your foundation will set up, solidify, that then
19 becomes the basis for the consistencies that will be promulgated throughout the
20 NMP going forward into the future. So the foundation has to be established by
21 the NRC.

22 And just as Keisha already mentioned, the NRC is the
23 rulemaking body. Once you make the rule for fusion under Part 30, from my
24 understanding, NRC already planning out to carve a special section, a sub-
25 section within that 40.30 to accommodate fusion. And along with the rule, you
26 will have 50.59, I believe of identifying and find X that will have that fusion

1 technology guidance for approving the fusion technology, despite the fact of
2 different types of technology that are being anticipated in order to generate the
3 workable device.

4 So that being said, NRC, take the leadership role, and we will
5 be there with you under the partnership, such that then the rulemaking is not
6 solely generated by NRC but that, through the partnership, NMP partnership,
7 the rule will be consistent, will be practical, and will certainly provide that
8 consistency across the program.

9 COMMISSIONER WRIGHT: So I wanted to kind of plow this
10 ground a little with you for a second, and anybody here can plug in on this. But
11 I kind of wish we had a staff person up here today to go here. You know, we've
12 heard in panels earlier this year, not your panels but on other panels on fusion
13 that we've had in the last year or so, we've had the rep from Wisconsin who's
14 been very active, right. And one of the things that we recognized is that you all
15 got more experience on fusion than we do, right? You all got a lot more.

16 So if we're going to be the rulemaking body, right, and we've
17 got to get up to speed and we've got to do what we need to do to get there and
18 put those things that you just talked about, Auggie, do you have any particular
19 concerns on technical readiness right now for either where we're concerned as
20 an NRC or the states? And if so, you know, what are those things or where
21 would you say you all need to go here or we need to go there?

22 MR. ONG: And that is, if I may take the lead then in this
23 case, and I do see deficiencies even with the agreement state programs that
24 have licensed the technology. And that is we are not trained in terms of being
25 medical physicists, all right, or engineering specialists to understand the
26 technical challenges that are being posed to the program reviewers or even to

1 the inspectors because this is something so new, per se, that our own physics
2 background, education, necessary to understand the technology, the risks
3 involved, or simply we're going to accept the applicant's assurance that, in fact,
4 it's a safe technology, environment is protected, and that our employees are
5 totally safe from radiation exposure.

6 So by simply relying on their expertise and for the lack of our
7 own expertise, that is an issue that needs to be confronted. Right now, the
8 technology hasn't reached that point yet that will create hazards for approving
9 the application, but we need to have built up, even though we have a lot of
10 vacancies, folks are retiring, and, especially, if I may use an example of the
11 Washington program and that is Washington has several, as my slide already
12 illustrated a lot of fusion technology resides in Washington state. But here in
13 your own IMPEP findings, because lack of expertise, all right, people have
14 retired from the program, the vacancies have still not been filled up to the
15 capacity, and you lost historical knowledge of expertise. So you have emerging
16 technology in Washington state right now, but there are no equivalent number
17 of people to do the inspections, to review the license applications, such that
18 then that is the area of concern for both the OAS organization but certainly to
19 NRC purview in terms of the National Materials Program. Who are in the
20 Washington state program that's able to substantiate the safety of those
21 devices that are now being installed as demonstration projects in your state.

22 COMMISSIONER WRIGHT: Okay.

23 MR. SEMANCIK: If I could just add a few things on it just
24 because I also chair the E-47 Committee for CRCPD and commercial nuclear
25 power, and we've got a working group. Megan Shober from Wisconsin is on
26 our team. I think that's how you were mentioning.

1 Just a couple of things with that. You know, number one, one
2 of the things that we have noticed and recognized is that the fusion deployment,
3 I mean, our licensing experience is going to kind of scale with the fusion
4 deployment, right. We're not seeing a go build a big fusion facility, you know.
5 We're talking about getting into the prototype phase, the demo phase, and then
6 moving it over to commercial deployment. So we're seeing some of that
7 licensing experience scale with that, and we're going to try to capture that to
8 kind of help improve it.

9 We do some cross-state cooperation that Auggie mentioned
10 that's helping out that. There is some reliance on vendors, but we also are
11 looking into our national lab system, DOE, some of those others that have more
12 experience in tritium and the neutron side of that that can support us with a
13 technical evaluation. And then an approach some of our members are also
14 taking is to look at third party evaluators in the interim is kind of a gap to make it
15 go.

16 But, ultimately, it's on us, as the states, to make sure that
17 we're coordinating and sharing experience, that we're not, you know, issuing
18 things that, because if we don't have the technical expertise to do that, then we
19 shouldn't be issuing licenses in those respects.

20 So, I mean, I think there's some of that there. We're going to
21 look at peer reviews and things to help out with each other as we kind of work
22 through this process and build a system that, you know, that works for us going
23 forward.

24 COMMISSIONER WRIGHT: Chair, if you would just indulge
25 me for just one more half a minute or so to make a comment and offer some
26 support. So, Patrick, I know you're doing a lot of international stuff, and some

1 of you are doing that, as well. One, we appreciate that. I just want to be sure
2 that you're getting support that you need from the NRC, and, if you're not,
3 please let us know in those areas internationally where all of you all might be
4 working.

5 And then if there's any other area that, anything that we're
6 doing, have done, or that might need re-calibrating or maybe a little different
7 approach, a fresh approach to, if you could please reach out and let us know
8 and don't wait until the annual meeting to do so.

9 We appreciate you very much and wish you the best in what
10 you're doing, and I like working with you. I really do. You all, you're inspiring to
11 me. So thank you.

12 CHAIR HANSON: Thank you, Commissioner Wright. All
13 right. Well, we've reached the end of our time together. Thank you all very,
14 very much for your presentations and your participation. And, of course, we
15 highly value the close and collaborative relationship we continue to have
16 through our National Materials Program and other programs in the agency.

17 So with that, I'm going to gavel us out, and I think we're going
18 to take a picture. So thank you all again.

19 (Whereupon, the above-entitled matter went off the record at
20 11:56 a.m.)

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