UNITED STATES

NUCLEAR REGULATORY COMMISSION

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MEETING WITH THE ORGANIZATION OF AGREEMENT STATES (OAS)

AND THE CONFERENCE OF RADIATION CONTROL PROGRAM

DIRECTORS (CRCPD)

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TUESDAY,

FEBRUARY 8, 2022

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The Commission met via Videoconference, Christopher T. Hanson, Chairman, presiding.

COMMISSION MEMBERS:

CHRISTOPHER T. HANSON, Chairman

JEFF BARAN, Commissioner

DAVID A. WRIGHT, Commissioner

ALSO PRESENT:

ANNETTE VIETTI-COOK, Secretary of the Commission

MARIAN ZOBLER, General Counsel

CONFERENCE OF RADIATION CONTROL PROGRAM DIRECTORS (CRCPD):

ANGELA LEEK, Chairperson (IA)

KIM STEVES, Past Chair (KS)

PATRICK MULLIGAN, Chair Elect (NJ)

ORGANIZATION OF AGREEMENT STATES (OAS):

AUGUSTINUS (AUGGIE) ONG, Chairperson (NH)

DAVID CROWLEY, Past Chair (NC)

STEVE SEEGER, Chair Elect (TN)

P-R-O-C-E-E-D-I-N-G-S

10:01 a.m.

CHAIRMAN HANSON: Good morning, everyone. I convene the Commission's public meeting with the Organization of Agreement States, or OAS, and the Conference of Radiation Control Program Directors, also known as CRCPD.

In this meeting we'll hear from these two organizations on their views on the materials policy and regulatory issues that are of interest to them and to the states.

We always welcome an opportunity to meet publicly with our state partners. As my colleagues have noted again and again in recent Commission meetings, nuclear safety is a team sport and certainly our partners in OAS and CRCPD are an integral part of the team particularly when it comes to the Nuclear Materials Program. We'll cover those and a lot of other issues this morning.

And I'd like to just note what a pleasure it was to join my colleague Commissioner Wright at the OAS meeting in Philadelphia this past August and I saw firsthand the important relationship that exists between the NRC and the states. And even in these trying times coping with the pandemic close coordination, collaboration, and communication among our regulatory partners to assure safe and secure issues of radioactive materials nationwide as we'll hear about today has been exceedingly evident and I look forward to our discussion.

Before we start I'll ask my colleagues if they have any remarks they'd like to make.

(No audible response.)

CHAIRMAN HANSON: No? Okay. With that we'll proceed in the order that's listed on the public meeting announcement, and we'll begin with Ms. Angela Leek from the Iowa Department of Public Health.

Ms. Leek?

MS. LEEK: Great. Thank you so much, Chairman Hanson, and thank you, Commissioners, for inviting us today. On behalf of both the CRCPD and the OAS I just want to open our presentation here and thank you for the opportunity to speak with you on behalf of all of our interests shared across the National Materials Program.

The states' partnership with the NRC and the National Materials Program is a critical piece to the effectiveness of our shared missions of protecting the public, workers, and the environment across the many aspects of radioactive material in the nation.

Next slide, please? Oh, we are on the correct slide. Please stay there.

The CRCPD and the OAS share common priorities in radiation protection and we work collaboratively to promote coordinated messages and we try to reflect each organization's perspective in a shared platform. And you will see that today. Our coordinated discussion of topics is an example of these efforts, and so as they share the discussions of these topics from both the CRCPD and OAS it will be presented by board members and board leadership from each organization, but as a combined presentation style.

Today you're going to hear from the chair, the past chair, and the chair-elect from each organization, and so as you introduced, I am Angela Leek, the chairperson for CRCPD. And I'm joined by Kim Steves,

who's our past chair from Kansas, and Pat Mulligan from New Jersey, who is our chair-elect. And from OAS we have Auggie Ong, who is their current chairperson from New Hampshire; David Crowley, who is their past chair from North Carolina; and Steve Seeger, who's the chair-elect from Tennessee. Each of us will introduce ourselves as we transition through the slides as well.

Next slide, please? I'm going to start our first discussion with the priority area that we have regarding our health physics workforce. Again I'm Angela Leek. I serve as the Radiation Control Program director for the State of Iowa and I'm the current chairperson for CRCPD, and I want to talk about our HP resources and the technical resources that are critical to our ability to protect our public and to maintain our program in each of our states as well as across the National Materials Program.

Across the radiation protection community all of the organizations in the federal entities as well as the health physics society and other professional organizations are recognizing acutely that there's going to be a significant percentage of our technical personnel assets that are eligible to retire, and this is currently outpacing the number of individuals that are entering the profession. This is in part caused from a smaller number of available nuclear engineering and health physics programs, but also coupled with reduced student enrollment.

And this contributes to a trend toward a smaller and less experienced cadré of radiation protection personnel that will be available to fill critical roles across the entire radiation protection community and undeniably the work that the National Materials Program does to ensure protection of use of the material is one of those critical areas that will be impacted.

The NRC for many years has supported efforts to foster

educational opportunities and early career placement through the University Grant and Student Fellowship Program. More recently the NRC has worked to expand eligibility in this program to include health physics in addition to nuclear engineering and also allowing students to meet their service commitment either through state or NRC employment. We appreciate the efforts of the NRC to work on this and we are partnering with the NRC to try to manage some of the interim issues while we work to increase the HP workforce through this important work.

Next slide, please? Recognizing the fact that we'll be competing for and recruiting from the same and increasingly limited pool of technical resources, the NRC and the CRCPD in conjunction with the OAS, and hopefully the Health Physic Society as well, are collaborating through organizing a work group under CRCPD's jurisdiction and this newly established work group will be called the Health Physics Workforce Development and Coordination Committee.

This is going to be chaired by a CRCPD member, but also co-chaired by an NRC staff person. And we hope to recruit members to help us work through these issues with two major priorities: We want to identify opportunities for mentoring and training staff across the states and the NRC and try to document pathways to more easily integrate and utilize resources from other states, from the NRC, and across all of our jurisdictional boundaries, both to help grow the expertise of our staff, leverage specific centers of expertise, and also to help us out if we find ourselves in a position where staffing of critical assets is reduced.

Next slide, please? These priorities are outlined in charges, and so our work groups come together with charges. And we've

started with these four to try to develop a process for sharing experienced staff in a resource-deficient environment, try to work through some of the legal connectivity agreements, and set up some streamlined -- maybe kind of in the same vein as a reciprocity type of a condition.

We also want to facilitate growth opportunities for health physics skills and identify educational opportunities where maybe staff can go and visit another radiological program or the NRC to learn some of the skills that might be needed for some of the specialized type of licensing and inspections that we do.

We also want to identify any issues that might arise from credentialing or reciprocity and try to identify mechanisms that might be used to advertise for opportunities and really outline where those resources can be most effectively shared. And we want to maintain an awareness of these resources across the state, local, and federal programs that are available to leverage this.

For example, a group will work to identify ways to catalog where there are centers of excellence, and that's one of the programs that the OAS is working on identifying across the National Materials Program. And if we can catalog and provide a road map for where these exist and how others who might be outside of that jurisdiction can tap into those resources we hope that will help to foster a larger community of shared assets as well as provide information for newer radiation control program directors or individuals entering the workforce here in our National Materials Program who might not be as connected with the existing resources or individuals who might know how to tap into these resources.

It should be recognized though that the National Materials

Program is already really good at leveraging our assets and sharing across our partnership, but really it is important that as we bring new people in to the positions that we're sharing this knowledge and making it easy for them to integrate in with our existing community.

We are appreciative of the NRC's ongoing commitment to support training in an inclusive national materials approach as has been done for the decades and we appreciate that moving forward. And we also look forward to exploring how these new initiatives and these work group activities can help to proactively address the looming shift in the technical radiation world.

As this workforce committee kicks of I look forward to sharing some successes with you next time we meet and appreciate the ongoing commitment and support and coordination from the NRC.

Next slide? Next up is going to be Auggie Ong from the OAS.

So I'll turn this over to you, Auggie.

MR. ONG: Thank you very much, Angela.

And good morning, Commissioners, and thank you for the opportunity that you have provided our organization, and especially the Organization of Agreement States, too, to have this opportunity to provide you with the updates that -- the ongoing coordination between the NRC working groups and our own organization, the OAS.

So that being said, just to remind everybody that the progress report that I'm going to provide the update to the Commissioners and to the attendees is that this is now Phase 3 of a multi-year project. And we already completed Phase 1 under Aaron McGraw and also partially Phase 2.

So at the completion of the Phase 2 we have moved onto more critical changes under the Phase 3 project. That being said, this project is now headed by Leira Cuadrado, who is senior project manager from the Materials Safety and Tribal Liaison Branch within the NRC organization.

So the whole purpose of the Phase 3 is concentrating on revising and taking a look at all the inspection reports, inspection protocols that are used by both NRC inspectors and also by our own OAS materials programs where we have commonality in terms of inspecting the various types of license and license activities. So that being said, under Phase 3 then we are now concentrating on what are those critical activities that would give rise to a greater risk of use of radioactive material and the security of those radioactive materials and sources.

So that being said, then that's the whole purpose of revising the inspection protocols and that is to really concentrate on the riskiest activities and take a look at how well the licensees are managing the use of that -- the radioactive materials and how risky it is for both the users and the general public and also the security of sources whereby it's more paramount now than ever before. So that being said, all the IPs that we have now -- are revising is concentrating on those riskiest elements, riskiest activities. And any of these lesser risky activities would be delegated to the appendix which I will describe a little bit more later.

So the purpose is really finding out whether in fact inspections are doing what it's need to be done; that is, to ensure the safety and the safe use of radioactive materials, safety for both users and also the general public, and also the security of the materials. And we are now using our past experiences with the inspections that are being collated between the

NRC inspection groups and also the OAS materials inspection groups whereby can we learn from what we have done in the past? Can we do anything better moving forward? And finally, then some of the issues dealing with the safety will certainly be much more relevant now going forward under the National Materials Program.

Next slide, please? So as I mentioned before, the whole purpose of the inspection program, inspection protocols that are now being revised is to identify those elements that are of risk, risky activities, and making sure that these risky activities would be correctly identified thereby to help inspectors to concentrate on areas that are more important and spend less time that are of activities that are somewhat insignificant, but not having any greater impact in terms of protecting the users, protecting the general public, and security of the materials.

So it is important then to have that -- of those activities are correctly identified that are now be able to provide the necessary inspection protocols to both the NRC inspectors and to the Agreement State inspectors so that then there will be a commonality in terms of -- regardless of various states doing the inspections or NRC doing inspections. There will be a commonality in terms of performance and expectations of the results of the inspections and thereby having the same kind of ability to evaluate are we working together effectively?

Are we able to have the commonality between both NRC inspectors and the Agreement State inspectors thereby providing that confidence that is needed to the NRC management and also to the Agreement State management that in fact yes, we are able to capture the riskiest activities, we're able to identify those activities that would be the most critical

aspects of the inspection and those are covered so that then that provides us enough confidence that moving forward inspections are done correctly and any of the issues are correctly identified thereby providing the necessary evaluation that yes, the National Materials Program does provide enough of the inspection protocols, the commonality between the NRC groups and the agreement groups thereby everybody's working together as a team?

Next slide, please? So as an example, on this slide some of the inspection protocols that have now been revised. All right. As you can see they're dealing with the various types of uses of radioactive materials and sources. And of course this is only partial, but this is the completion of part of the Phase 3 whereby these inspection protocols have now been revised and the riskiest activities have been correctly identified. The less risky activity have been delegated to the appendix whereby that would help the inspectors, both NRC inspectors and the Agreement State inspectors, that the activities that inspector ought to be able to spend more time in order to make sure those riskiest activities are correctly identified and correctly inspected.

And any of the lesser activities would then still be visit if there is -- somewhere there is a question as to whether in fact there are any issues dealing with the management of the activities or somehow the failure of one critical issue thereby leading to -- leading the inspector to -- well, if there's a safety issue involved, let's take a look at the other activities that may then have some relevance or some significance to the overall inspection of the entire licensee.

So that being said, these inspection program have been, like I said, revised and now have been submitted to the Agreement State folks to

make comments, make any additional changes or recommendations whereby those comments and recommendation would be brought back to the working group to revisit, to consider seriously, and to revisit if any change is necessary to finalize the inspection program and the inspection procedures.

Next slide, please? So the whole purpose of the updates is to provide the NRC Commissioners and the management that we are working together as a team, both NRC partners with OAS working groups. We are working together. In fact, to demonstrate in fact there is coordination, there's communication, there's back and forth that we -- that NRC is considering the OAS comments seriously and the same thing with the OAS whereby OAS is still relying on the NRC to provide the necessary leadership so that then we could work as partners together. So that is important.

And finally, of course then the -- we are under the discussion how -- well, if the comments have been considered seriously and changes are made to the draft of the inspection protocols, what would be the time frame whereby these IPs would now be finalized, then promulgated to both NRC program and also to the OAS Materials Program whereby now the inspectors, both newer inspectors with less experience and the more seasoned inspectors, both within the NRC and also the Agreement States, where they will be able to find true value to the revisions that are made to the inspection protocols. So that is under discussion right now. And there is some time frame that's already been considered.

Next slide, please? So under the National Materials Program, as you know then we are now -- have completed the charter -- not completed -- finalized yet, but certainly the charter that to visit the future of the National Materials Program. Because obviously the NRC's sphere of control

is getting smaller, and that's obvious. And also the OAS still has the bulk of the licenses that are various types, same as NRC, but now with the greater control overseeing the activities of radioactive materials in this country we are now approaching something like more 40, if not more, in the near future whereby the sphere of NRC is getting smaller and OAS is getting larger.

So that being said, then what the National Materials Program would look like 5, 10, 20 years from now? So that being said, then with the formation of this working group, both with the active participation of NRC partners and also Agreement State representatives on the same working group to visit this issue, what are we going to -- what do we want from the National Materials Program? How are we going to visit the -- in terms of leadership, training, the various types of, how should I say, the coordination that's necessary in order to makes sure it's still a cohesive program for the next 5, 10, 20 years from now?

So that being said, again I'm glad very much that NRC has reached out to OAS and OAS is very, very appreciative that in fact that kind of coordination now exists whereby now we have a working team, a very effective team under the leadership of Huda Akhavannik, if I may pronounce your name correctly, have enact with the NRC intergovernmental liaison person and also project manager under NMSS and NIST Programs.

So that being said, there are more than 20 folks that are now working on the National Materials Program to visit what the future of NMP is going to look like.

So next slide, please? Well, thank you very much, Commissioners, for your attention and for the other attendees attending this portion of the presentation. And may I introduce Kim Steves, who is from Kansas, and she will provide you with the latest updates and also the

discussion on waste monitoring, source recovery, and disposal. Thank you very much for your attention.

MS. STEVES: Okay. Thank you, Auggie. As he said, my name is Kim Steves and I am the director of the Radiation Control Program for the State of Kansas. Proud to say we have been an Agreement State since 1965. And I'm also the past chair of the CRCPD board of directors.

I'm talking today about unwanted radioactive materials, which is an ongoing challenge for our states. There are many varied waste issues with which our states are dealing on a routine basis. Some examples of this are unwanted and abandoned sources, medical waste where patients go home after nuclear medicine treatments, naturally-occurring radioactive material or technologically-enhanced naturally-occurring radioactive material, NORM or TENORM, and foreign-origin radioactive material.

Our states deal with many varied issues associated with disposal of unwanted radioactive material including these materials showing up in landfills or at scrap yards and challenges finding places where it can be disposed and money to pay for the disposal. Disposal of this radioactive material is sometimes addressed inconsistently across our states.

So my purpose in discussing this topic is not anticipation that we can solve the challenges today, but rather to raise awareness as it an issue that the state radiation control programs are dealing with on a daily basis and to inform you of the activities being accomplished by the CRCPD in this area.

Next slide? So one challenge is landfills and recycling facilities. States find that NORM and TENORM, medical waste, and sometimes licensed material, which could be lost or stolen, is showing up at

landfills and recycling facilities. With regards to NORM and TENORM and medical waste different states have different laws with regards to disposal of radioactive material at waste -- in waste at landfills and states are often not consistent in how waste issues are addressed or who the regulatory authority within the state is. For landfills it's typically not the National Materials Program which has oversight. Landfills also have differing capabilities to detect and identify radioactive material. Some can detect, as in yes or no there is radioactive material, and fewer can identify a specific radio isotope such as iodine-131. Our states are regularly receiving phone calls and requests for assistance from landfills and recycling facilities about unwanted radioactive material and what to do with it.

Naturally-occurring radioactive material and especially TENORM are often the culprit found at landfills and recycling facilities. Transportation of NORM and TENORM waste occurs between states, but states may handle it differently. Though we understand that TENORM is not a focus of concern for the NRC, it is an issue of significant interest across the states and especially those with oil and gas industries.

Some of the issues our states are dealing with pertaining to TENORM waste are the same that we address for other types of regulated radioactive materials: Harmonizing regulations to the extent possible, communications with members of the public, ownership and financial assurance, clean up of legacy sites, and disposal.

Next slide, please? The CRCPD has been working to assist states with issues associated with the disposal of sealed sources that can be disposed of as low-level radioactive waste. In the 2007-2008 time frame we did a pilot project in Florida which was very successful.

Approximately 2,500 sources were disposed.

One important lesson learned from that was that the state financial services were very cumbersome and each state would do contracts differently. That is why we contract disposal with licensed waste brokers through the CRCPD specifically now.

And issue in 2008 was the closure of the Barnwell to out of compact low-level radioactive waste. This shut down disposal pathways for more than four years until the opening of the Waste Control Specialists low-level radioactive waste facility in 2012. This opened up a new pathway for disposal to all states and territories.

Another item which helps in our success on this issue is the revision of NRC's Branch Technical Position on Concentration Averaging and Encapsulation from 2015. This allows the low-level radioactive waste sites to be able to accept higher activity packages for disposal up to the Class C limits with acceptable justification, which helped us to manage the process.

All these activities evolved into the SCATR Program with CRCPD, which I will discuss further in an upcoming slide.

Next slide? The disposal of higher levels of radioactive material is an ongoing challenge because of the limited places that will accept it and the high cost. In the next slides I'm going to briefly mention the two programs in which the CRCPD participates to provide support to states: SCATR and the Orphan State Recovery Project, OSRP.

In addition it's important to mention a white paper by the CRCPD E-34 Committee for Unwanted Radioactive Material which was recently published on our CRCPD website. This white paper covers disposition of foreign-origin radioactive material. The purpose of this paper

was to analyze the impact and possible solution for foreign-origin radioactive material in the United States which require final disposition.

Sources manufactured in the U.S. are able to have final disposition at the DOE Waste Isolation Pilot Plant, WIPP facility, however those sources with foreign-origin material are not accepted for disposal at this facility. It is challenging to estimate the size of the foreign-origin rad material problem in the U.S. because the majority of these sources which were brought into the United States were below the NRC Category 2 limits and not tracked in the National Source Tracking System. Reasonable estimates based on the data which was collected by our committee show this to be a significant issue.

The white paper provides possible solutions to secure this at-risk radioactive material in the United States including congressional action which is needed to allow the use of WIPP to dispose of all transuranic materials containing foreign-origin material.

Next slide, please? As I mentioned previously, I do want to discuss the Source Collection and Threat Reduction, or SCATR Program. The Department of Energy National Nuclear Security Administration, NNSA, and the CRCPD maintain a cooperative agreement to support sealed source consolidation and commercial disposal at the state level. NNSA funds disposal activities through a cost sharing which is 30 percent and possibly up to 50 percent for higher activity sources. The licensee is still responsible for some of the cost of disposal of this material.

CRCPD administers this program through coordination and contracting with waste brokers for packaging, transportation, and disposal. The goal is to collect and commercially dispose of sealed sources no longer

in use which could individually or in aggregate be used maliciously.

This program is very successful. To date under the SCATR Program we have collected and disposed of more than 32,000 sources, almost 1,500 curies, plus an additional over 34,000 industrial radiography sources. It's very successful over the years to ensure the safe disposal of these materials, but we know there's a lot more out there. Currently one of our areas of focus is working with Cesium Irradiator Disposal Group at DOE, Department of Energy, on that project.

Next slide? With regards to the CRCPD Orphan Source Recovery Project, as you know an orphan source generally refers to unwanted or uncontrolled radioactive materials, often a sealed source of radioactive material contained in a small volume. Some of the possible characteristics of an orphan source are that it's in an uncontrolled situation or where the responsible party cannot be identified, or where the licensee is incapable of providing for the safe disposal of this material, or in possession of a person not licensed to possess the material, or possibly where the state radiation control program took possession to mitigate a radiation threat.

An example of orphan sources are measuring and controlling devices containing radioactive materials that were improperly disposed of as scrap metal. Many of our states have had this occur, and I can vouch that Kansas had this occur very recently.

The work the state radiation control programs have done with their scrap recycling facilities to help them prepare to identify and deal with radioactive materials, even though it's typically NORM or TENORM but can also be these licensed lost or stolen sources, also benefits this program when the materials do fall under the Orphan Source Recovery Project.

CRCPD has had an agreement and funding from the NRC for several years to assist state programs in disposing of orphan sources, and we continue to provide support for that program.

Next slide? So waste and the disposal of unwanted radioactive materials is an ongoing issue for our states. As I stated in the beginning of my presentation, my purpose by discussing this topic is not anticipation that we can solve the challenges today, but rather to raise awareness as it is an issue that the state radiation control programs are dealing with on an almost daily basis and to inform you of the activities being accomplished by CRCPD in this area.

Thank you for your time and I believe the next slide will turn it over to David Crowley.

MR. CROWLEY: All right. Thank you, Kim.

Good morning, Chairman Hanson, Commissioner Baran, and Commissioner Wright. Thank you for meeting with us today to honor the partnership that exists between our organizations and to ensure alignment on the future of the National Materials Program, or NMP.

For those who do not know me, I am David Crowley, past chair of the Organization of Agreement States, and interim chief to the North Carolina Radiation Protection Section. In my portion I will be reviewing recent NMP activities.

Next slide, please? To start Agreement State programs continue to grow. It seems like only yesterday that Vermont and Wyoming entered into agreements making 39 Agreement States. Now both Connecticut and Indiana are working to become the 40 and 41st Agreement States. Currently Agreement State programs are responsible for nearly 90

percent of materials licensees nationwide. This will only become more skewed toward the states.

Is the NMP prepared to support further shifts in regulatory responsibilities? The idea of the NMP is not a new one. In fact, it has existed for a couple of decades now. Challenges to the state space in early the 2000s continue to be a challenge today, namely the dedication of state resources to support national activities.

That said, the NMP has made small incremental progress over the years. The NRC provides more opportunities for state members to collaborate through working groups, rulemaking, establishing priorities, and supporting frequent communications. The creation of the co-champions has really brought the NMP into focus for our members.

I want to extend a special thanks to Duncan White and Terry Durston. These individuals have been critical to the ongoing engagement and information sharing between co-regulators. They're evolving the NMP from a mere whisper of old pilot projects into an identity that we can all relate to. There was even a new emblem created this past year, pictured on the slide there, to symbolize the NMP.

We must continue to build on this progress to further strengthen the National Materials Program and our co-regulatory partnerships. Each of us brings unique expertise and lessons learned that can be shared for more effective regulation of our country's radioactive materials.

Next slide, please? Every year NMP leadership meets to review our goals and priorities. Members from the NRC, OAS, and CRCPD discuss objectives, measure progress on past priorities, and ensure future

tasks align with our overall mission. This past year we settled on five categories. These include innovation and developing more risk-informed approaches. For IMPEP this could be updating SA-100 program implementation to better leverage technology and streamline our reviews.

Auggie has already discussed some of the changes and ways that we're risk-informing our inspection programs. And we are looking at using a similar approach to evaluate adoption of certain program elements such as regulatory or compatibility changes for states.

Next is risk, or rather minimizing it by addressing timely and relevant topics. Steve will discuss some of our efforts to share lessons learned throughout the COVID-19 public health emergency. Other topics we continue to evaluate include fusion energy, extravasations, general licensing, and any other emerging issues.

Technology and using it maximize our regulatory effectiveness. Enhancements to technology can impact the entire NMP. For instance, changes to the state communication portal. Web-based licensing also continues to evolve for those that are utilizing it expanding the NMP's licensing and inspection capabilities.

Next people. A little of what Angela has spoken to. But we need to focus on recruiting, training, and retention of our NMP staff. The NMP relies almost exclusively on the training provided by the NRC to grant the foundational knowledge necessary to our members. Thank you for that ongoing commitment to that critical mission.

Additionally, we can take advantage of our strengths across the NMP by creating centers of excellence. So far the NMP has formalized a center for emerging medical technology and is in the process of establishing

one for the Sealed Source and Device Program. We will create more of these as we identify additional needs throughout the NMP.

Finally, we want to develop metrics on a broad scale that can demonstrate the NMP's capability in meeting its mission.

Next slide? As I hinted at in the technology bullet above, I would like to draw your attention to the NMP's website. Pictured here is the current navigation page. NRC staff, contractors, and especially the co-champions are working towards revising this page to deploy an interactive platform for communication across the NMP. The page will be a resource for historic information, guidance, upcoming events, records of past events, and any other useful information for NMP members.

In the past there were forums hosted to allow discussion by co-regulators, but those have not been available in many years. This NMP website will include an area for state and NRC staff to log in and discuss time-relevant issues in a safe and non-judgmental space. By including the entire community we can see who else out there may have pervious experiences and lessons learned leading to better future results when facing similar scenarios. For example, if a new technology is deployed in one jurisdiction, sharing it through this platform might reveal that others are currently working through the same technical challenges.

Together we can accomplish more and better meet our safety missions, however this relies on reliable and trusted communication between partners. We hope that the enhanced website will provide the conduit to make that happen.

Next slide? As I began my presentation, the NMP is made up of 40 different regulatory partners and we are still expanding. Though

each of our programs have unique strengths and weaknesses, through collaboration we will improve in our roles as regulators. This slide provides a few examples of how NMP members come together to support one another.

First, communication sharing. This is necessary to discuss industry trends, new technologies, incidents, or lessons learned, and to request assistance.

With regard to IMPEP we work together to improve the NMP's overall performance. With NRC and state members serving on IMPEP reviews we increase regulatory knowledge and consistency across our programs.

Finally, by being contributors. The NMP is vast and diverse and we thrive when every one can contribute. We achieve this in ways already mentioned, but specifically through working groups, centers of excellence, commenting on regulation and guidance documents, and by participation in meetings.

Next slide? I'd like to end by highlighting a few of our past and upcoming activities. For CRCPD they held their first virtual conference this last May, 2021, and they will hosting an in-person meeting this coming year in Tucson, Arizona. And that is May 16 to 19.

For OAS we met last August in Philadelphia, Pennsylvania. For the first time we held a hybrid conference and as a result we almost doubled our average attendance. We will be holding our next meeting in Forth Worth, Texas August 15th through 18th. Your own Region IV staff are helping to host this year and we very much look forward to it.

Our intention is to stick with the hybrid offering to retain the increased engagement that we saw this past year.

The co-champions have hosted a number of virtual meetings for NMP members. These are called Champions' Chats and the participation levels have been great thus far. These covered topics such as IMPEP, the public health emergency, remote inspections, information sharing during incidents, communicating of enforcement actions, and most recently misplaced sources during shipments.

The chats provide an opportunity to engage on topics of interest between the NMP partners and to allow participation from staff at any of our organizational levels.

The NMP also meets more formally through government to government meetings usually to discuss a particular policy or regulatory matter. This has included new medical technologies, developing fusion regulatory frameworks, and also more standard rulemaking activities. They have proven an effective means to disseminate information and to engage with our NMP partners.

Finally to bring things full circle from the beginning, quite a lot has changed in the last two decades for the NMP, thus we have established a working group to evaluate and make recommendations to the future structure of the NMP, and Auggie spoke a little bit this as well in his part. This is just in the beginning stages, but we very much look forward to the group's final report which should be available in a little over a year from now.

That is all for my part and I look forward to any questions. Thank you again for this opportunity. Next up we have Patrick Mulligan, CRCPD's chair-elect from New Jersey, and he will be speaking on rulemaking and policy efforts.

Patrick?

MR. MULLIGAN: Thank you, David.

Good morning, Commissioners. I am Pat Mulligan and I work for the State of New Jersey and serve CRCPD as chair-elect. I do want to thank you for meeting with us today and am grateful for the time you set aside out of your busy schedules to discuss radiation protection issues that are so important to each of our organizations. I am going to discuss rulemaking and policy efforts this morning.

The CRCPD and OAS recognize and appreciate the efforts of the NRC over the past several years to improve the rulemaking process, especially the work it has done by the Rulemaking Center of Expertise. The continued work on innovative approaches to rulemaking have produced numerous enhancements that provide opportunities to streamline the process while maintaining the quality and effectiveness of the rules. As the NRC continues to work on enhancements to key areas of the rulemaking process we encourage the continued focus on the importance of stakeholder input and involvement.

Both CRCPD and OAS recognize that there are many opportunities for collaboration on rulemaking throughout the process and both organizations strive to make the most out of those opportunities. We also recognize and appreciate the efforts that the NRC has made to be inclusive of the state perspective and the many opportunities to provide feedback through participation on working groups, task forces, and other rulemaking teams. As the NRC continues to work toward rulemaking enhancement in the coming years we encourage you to continue to look for opportunities to engage state stakeholders in the process to ensure the development of the timely and effective rules.

Next slide, please? The CRCPD is working to become more agile and responsive to NRC rule changes through the work of the Suggested State Regulation Council. The SSR Council develops draft rule language for states to use as templates for the implementation of radiation protection rules and regulations. The process is collaborative and we strive to ensure consistency across state programs. The Suggested State Regulation Council created a Compatibility Tracking Working Group to create a more agile process for evaluating and addressing NRC regulatory amendments. The goal is to ensure prompt evaluation of rule compatibility and make suggested edits and recommendations for suggested state regulation updates within 60 days.

The NRC's interpretive rulemaking process can be an effective and agile mechanism to provide a timely and effective response to critical needs regarding applicability of a rule. There are a number of variables that influence how state programs can operate in various regions of the country that can raise questions regarding the applicability and implementation of rules and regulations.

The NRC interpretive rulemaking process provides a mechanism to clarify the language in a rule or offer advice on implementation when these discrepancies arise. This process is a valuable way to provide additional guidance to state stakeholders without the need to go through the cumbersome rulemaking process. The interpretive rule allows for clarification of language and compatibility options for effective application of regulatory requirements and can be quite effective.

Next slide, please? To illustrate the implementation and outcomes of the interpretive rulemaking process I will briefly discuss two

examples. Last year the Nuclear Regulatory Commission withdrew a proposed interpretation of its very low-level radioactive waste regulations that would have permitted licensees to dispose of waste by transferring it to entities who hold specific NRC exemptions.

The proposed interpretation was withdrawn based on the NRC staff's assessment that the proposed changes may not benefit the regulatory framework. That assessment was certainly influenced by the public comment including feedback from OAS. And this is a good example of how the interpretive rulemaking process can work quite efficiently and effectively and in the best interests of the stakeholders.

In the case of the two-person rule related to industrial radiography we believe that there are opportunities for improvement. Because of the length of time between the initial petition for rulemaking and the time the interpretive rule was issued the outcome was perhaps not ideal. From the time the petition was filed to the day the public notice was issued there were multiple changes in leadership, both at OAS and CRCPD, and the original basis for the rulemaking petition may have been lost.

Over time, experience, and lessons learned regarding the interpretation and applicability of the two-person rule changed of perspective of state regulatory agencies. In the end by the time the petition was acted upon the state regulatory perspective had evolved and the original basis for the rulemaking petition no longer existed.

Collectively I think we need to explore innovative ways to reevaluate and reassess rulemaking petitions that do not get a high priority for action and may be dormant for extended periods of time so that when resources are applied for rulemaking that the need is still applicable.

And I'm going to go on and I'm going to briefly mention two additional rulemaking topics that are actively receiving attention from the NRC. First, the Commission recently issued their decision on the reevaluation of Category 3 source security and accountability. The original paper that served as the genesis for this decision was the result of an NRC and OAS Working Group established in 2016 to address general licensing topics. The paper also served as the basis for continued work on a holistic review of a general licensing program by NRC, OAS, and CRCPD.

Last year the OAS board asked CRCPD to create a working group to look at the recommendations the General Licensing Working Group pulled together since 2016. CRCPD was asked to identify best practices and compile ideas that Agreement States could implement to address some of the issues identified in the General Licensing Program structure. They also tasked us with looking at important areas where regulatory changes may be considered.

Now that the Commission has provided direction on the issue to staff, both OAS and CRCPD encourage continued close collaboration to evaluate the impacts of the Commission decision on the recommendations developed by the General Licensing Working Group and whether to reconsider regulatory changes. The CRCPD working group will work in conjunction with OAS and NRC on how to best proceed with the decision framework provided.

And finally, the Nuclear Regulatory Commission's proposed rule on emergency preparedness for small modular reactors and other new technologies originally published in the *Federal Register* in May of 2020. Both OAS and CRCPD provided comments to the NRC on the proposed rule

during the public comment period. We understand that NRC staff recommendations do not require the establishment of emergency planning zones for these technologies, therefore no requirement for coordination with off-site response organizations.

We recognize that the level of risk for small modular reactors and other new technologies will be less than that for current generation light water reactors. We agree that a graded approach to off-site emergency preparedness is appropriate for these technologies and we do support the concept that the EPZs sites may be determined based on the level of risk and consequences of the range of postulated accidents. However, we do have serious concerns for those approaches that result in EPZs that are limited to the site boundary and have no off-site emergency response involvement.

EPZs and emergency plans are provided to provide defense-in-depth for low-probability, high-consequence events and are meant to provide a well-defined methodology to reduce potential public exposures to unnecessary radiation. While the probability for significant releases of radiation for these technologies may be low, it's not zero. And we believe that the establishment of emergency plans that include off-site participation is warranted.

The processes and knowledge required to assess fission product releases are complex and we cannot overemphasize the critical need for experienced off-site response agencies to be ready if there would ever be a need for independent assessment of an accident at a nuclear power plant regardless of whether it will exceed a PAG.

State and local agencies are responsible to communicate impacts and risks of emergency events to their citizens and communication is

the key to effective public messaging. There should be a requirement for these facilities to support maintenance of these key minimum aspects of nuclear power plant response and we would be happy to discuss our position in more detail with the Commission should you like to do that.

I would also like to thank you for your time. We welcome any questions at the end. And I will now turn it over to Steve Seeger from Tennessee. Thank you.

MR. SEEGER: Thank you, Pat.

Good morning, Commissioners and thank you for the opportunity to share these important topics here today. My name is Steve Seeger. I'm from Tennessee and I'm the OAS chair-elect. I will wrap up the last of our topics here today and I will be discussing the COVID-19 pandemic and success through disruption.

Next slide, please? At the beginning of the COVID-19 pandemic the NRC used its existing authority to consider granting relief from specific regulatory commitments through exemptions from regulatory requirements, amendments to license conditions or technical specifications, and enforcement discretion under certain circumstances.

Next slide, please? The NRC issued the following guidance documents outlining the regulatory options to seek regulatory relief that might be necessary during the COVID-19 public health emergency.

On May 21st, 2020 guidance issued where a licensee could suspend the use of licensed material and place material into safe storage.

On May 27th of 2020 guidance was issued pertaining to radiological emergency response plans during COVID-19.

On July 1st, 2020 inspection guidance during transition from

COVID-19 mandatory telework for the Nuclear Materials and Waste Safety Programs.

Next slide, please? OAS knew that many states had questions and were wanting to make sure that they were handling inspections correctly during the COVID-19 public health emergency, so OAS provided the following guidance for consideration by state programs while formulating their policies, but also to aid licensees in identifying how things are addressed in the various state programs. The Champions' Chats have also been a big help for states during the COVID-19 pandemic.

Next slide, please? So radioactive material inspections have been impacted by the COVID pandemic is several ways: In many cases the licensee has imposed limitations on entering their facility.

Some health care facilities at times are so overwhelmed with COVID that they have requested inspections be postponed due to the prevalence of COVID in the facility and the lack of sufficient staff to handle the patient load.

Some licensees are requiring everyone entering their facility to show proof of vaccination prior to entry and the states don't -- and some states don't have the ability to require inspection staff to be vaccinated.

Some licensees require everyone to wear masks while inside their facility and some inspectors claim to be unable to wear masks due to certain health conditions.

It has been common to announce inspections since there are so many possible limitations to entering these facilities due to COVID. We have seen the emergence of both completely virtual radioactive material inspections as well as what some are calling hybrid inspections, virtual being entirely by remote means using whatever platform works; examples are Zoom,

FaceTime, GoTo Meeting, Teams, Webex, etcetera, and hybrid being a combination of remote combined with an abbreviated on-site physical inspection.

Hybrid inspections generally involve initiating the inspection by phone and/or video-conference. Interviews can often be conducted by phone or video-conference and many of the records can be provided and reviewed remotely. This approach seems to be working in most cases and reduces the impact on the licensee. It can also reduce the risk to the inspector. The platforms being used still allow the inspectors to see the facility and how they are doing their process and procedures.

Virtual inspections generally require more than one phone call and more than one virtual meeting to complete the inspection. Although hybrid inspections are sometimes awkward inspectors have provided a lot of positive feedback now that they are getting used to the process. Licensees have also expressed appreciation due to reduced time impacted.

Next slide, please? I'm sorry. I didn't mean to go to this slide. Sorry.

And so some IMPEPs are also being affected by COVID-19 and some of them are being done virtually. This has helped IMPEPs to continue in those states that might have high COVID cases and where most staff are working remotely. Virtual IMPEPs do lack the in-person aspect of getting to know the team and the state program staff which might help a team to get a better idea how everything is going and being in person does make it easier to talk with each other.

In-person and virtual IMPEPs have been successful during COVID-19.

Next slide, please? Thank you to the NRC, CRCPD, and

OAS for the continued coordination across the National Materials Program. This coordination has helped the National Materials Program to move forward in a positive direction.

Next slide, please? So this completes our presentation of topics and on behalf of the OAS and CRCPD we would like to thank the Commission for the opportunity to have this discussion and we look forward to addressing any of your questions.

CHAIRMAN HANSON: Thank you very much, Steve, as well as Angela and Auggie, Pat, and David and Kim for all of your presentations. We'll begin questions this morning with Commissioner Wright.

COMMISSIONER WRIGHT: Thank you so much, Mr. Chairman, and good morning to each of you. Thank you for your presentations as well.

I really look forward to this meeting each year, maybe not as much as I look forward to attending your meetings each year and I look forward to seeing you again at those meetings this year as well.

When I joined the Commission back in 2018, much of the discussion focused on the development of the Nuclear Materials Program and the desire to form a more meaningful partnership as co-regulators, because it hasn't always been in a great way.

I'm really excited to see how much progress that's been made since 2018 when I started. And I really value the partnership and I know the NRC Staff has been working very hard and very closely with you and I just think that's great.

So, Steven and Patrick, I want to congratulate you on your selections as Chairs Elect and I look forward to working with you as you go

through your journey to obtain the most prized positions in your organization, which is that of past Chair.

So, we have a lot of work to do between now and then and I look forward to walking besides you as you go down that road. Angela, good morning to you, I'm going to start with you but I'm going to allow people to chime in if they feel the need.

The shortage health physicists is an ongoing issue and just so you know, we heard about the Staff's activities to address this shortage at the Nuclear Materials Users Business Line meeting last month here at the NRC.

We've also spoken about it several times at previous meetings with OAS and CRCPD and I've heard the same feedback as well from the Health Physics Society.

So, the NRC and states have put some programs in place to maybe try to help address the shortage.

For example, the NRC has a grants program that offers cross-training to the NRC's technical training center and we've started discussions with you all on shared resources.

So, the question is have we started to see any relief based on those programs and is there anything more we could be doing to address this issue?

MS. LEEK: Thank you, Commissioner Wright, for that question and I'm happy to take the lead on this to try to address that question.

I think honestly we haven't even seen the bubble of the impending change in our workforce availability yet.

I don't have the data in front of me but I know the Health

Physics Society is working on where are all the radiation professionals, and they have some data they've been compiling about projected timelines and the track of the amount of health physicists and other technical resources that would be available at various times throughout our future.

So, I do really believe we're being proactive right now. We're feeling some of the exodus at the moment, we're seeing a lot of retirements coming but I honestly think we're going to see even more coming through.

And even if we have the volume of bodies available, even if we get the pipeline going and we're enticing people to join our very fun profession, from my perspective, I think the level of expertise we'll have or the experience that people have had will be different in our workforce.

And they're going to need more support, they're going to need opportunities for experiences that don't exist as readily as they did back in the 1950s, 1960s, 1970s, and we're going to need to figure out how to help those individuals reach the level of excellence that many of our more seasoned and retiring personnel will be taking with them.

So, I think we'll be seeing it coming.

I think the reason that our Workforce Development Committee is being formed at CRCPD is to try to come up with some interim solutions if we do find ourselves in the position where we have limited resources or even limited expertise, that we make it easier to tap into and share those resources as we work through maybe the dip that's coming and get ourselves back on track with the efforts that are happening with the grant program and the university program.

COMMISSIONER WRIGHT: Does anybody else want to

comment?

MR. ONG: Yes, Commissioner Wright. This is Auggie Ong representing the OES and I'm the current Chair.

In any case, OES has now reached out to the Health Physics Society whereby any of the notification from CRCPD that the vacancies are available in the various agencies and programs, I channel those vacancies and the possibilities of those jobs to the HP Society, the Health Physics Society, whereby those jobs would be made available for any of the members at the HPS that are interested in working in the state programs in their respective states.

Here are the jobs that are available, so that then I'm trying to help as much as I can to channel the possible candidates that are certainly well qualified, because they are HPs, to those state programs.

So, in addition, in the near future OES and I will certainly reach out to the American Respiratory Radiological technologists and again, those professionals who already have the necessary training that some may be interested in switching their careers to instead of simply operating X-ray equipment, they would be interested in doing field work and doing inspections, doing any of the regulatory requirements that would be in their respective state radiation control programs.

MR. CROWLEY: And if I may real quick, Commissioner, just an example of how we're using our current resources, I spoke to the Centers of Excellence and the sealed source and device one hasn't I believe been completely formalized yet.

My own state has taken advantage of sharing other state resources, NRC resources, and using our reviewers to help assist other

programs and vice versa.

And so when we've had shortages of trained staff within our own internal programs, we can lean on other states and partners in a way to continue moving forward with the work that's at hand.

So, I think that's a really good way to highlight some of the partnerships across the programs as well.

COMMISSIONER WRIGHT: Thank you for that, because one of the things is there are existing people out there that maybe we can exchange, do trades and those kinds of things.

Because we have a lot of people leaving, they're still being trained, I know that, which raises a lot of questions in my mind.

How do you get more people in the pipeline and is there more outreach that we can do, or funding opportunities available to get more people interested to get into atract to school and other incentives out there to keep people in government positions really.

So, I look forward to working with you on this issue going forward. Patrick, in the time I've got left I want to go quickly to you. Pat, thank you for sharing your views on the rulemaking process.

Some of the comments you made are on point, so thank you for that. It sounds like we've made some progress in increasing state participation and we're doing some of the earlier stages in the rulemaking process.

To me, obviously early engagement is the key on anything, right, and consistent communication as well. So, I'm glad we both recognize that as being key to success. One area I think we can do better is in the notice of interpretation, or the NOI process.

This is relatively a new process for us. You mentioned two NOIs related to the low-level waste and the two-person rule, both of which would have impacted the agreement states.

And my understanding is the NRC was not aware of the extent of the concerns from the agreement states before the publishing of the NOIs.

What can we do at the NRC to improve communication and coordination in the process there to ensure that agreement states' positions and circumstances are considered before we issue interpretations?

MR. MULLIGAN: I think we have a lot of the processes in place right now. I believe there are a lot of Work Groups and compatibility taskforces put together for various issues as they become relevant or maybe resources are applied.

So, I think there are some of those mechanisms in place and there are rulemaking teams that collaborate between NRC, OES, and CRCPD.

But I think that early on in the process, once the notice is developed, before it's issued we need to touch base.

Is this relevant? Is this applicable? Is this something that we need to do today?

I think particularly for the case of the two-man rule, what happened was so much time had passed between the time that the petition was picked up and the time that the notice went out.

And like I said, we have so much turnover in our organizations I don't know there was anybody left that understood what the original basis was for that rulemaking.

And so I think went to go back when we pick these things up and before we proceed to a notice, we need to make sure they're relevant, they're applicable and that we're essentially on the same page as far as where we need to be for making the rules.

I'm not sure exactly when that happens, I know internally there's processes in place that once you start the ball rolling they're hard to stop. And you're kind of focused in your lane about what you need to accomplish to get that notice out.

And sometimes you forget to look at who is in the other lane. So, we don't want to make the process more difficult by stretching it out because you need so much collaboration before you even get to something that's put out there.

But I think there needs to be that sanity check, like is this something we're ready to go with, are there big issues, do we have to have discussions?

COMMISSIONER WRIGHT: One, I appreciate your comments there and one of those things that we are striving for at the NRC, and I know Staff is really trying to do this as well, constant improvement.

Anything that we can do to make it more effective, more efficient, but that doesn't happen in a vacuum so we really need your input and we need it to be timely input too.

If you see something going awry you've got to speak up and let us know. So, thank you for that and, Mr. Chairman, with that, I'll turn it back over to you.

CHAIRMAN HANSON: Thank you, Commissioner Wright.

Pat Mulligan, I appreciated your opening the door on the

emergency planning zone rule, and if I could I'd like to walk through it and dive down not just with you but other members of the group this morning.

As you mentioned, the final rule is before the Commission for consideration and I went back and looked at the comments in some detail that CRCPD as well as individual state agencies provided on the rule.

And I found them really helpful. And as I was doing that, I became really interested in teasing out the technical aspects as well, on the one hand, and the policy aspects on the other.

And of course, in emergency planning this is really an area where these two things kind of come together. I do want to focus on one thing. CRCPD as well as the State of Iowa provided comments and in their comments they mentioned of course the emergency planning zone itself, but also the ingestion pathway zone.

And of course, as you know, the rule suggests that when the emergency planning zone is the site boundary, that is at zero, there wouldn't be an IPZ either.

And I'm interested in getting feedback from a technical standpoint, your thoughts about the determination of an ingestion pathway zone.

And that's open for anybody, that isn't necessarily...

MS. LEEK: Sure, I can jump in since you said Iowa, so I will try to take the first stab at this and the perspective that we were coming from that comment.

So, with the ingestion pathway zone, obviously that is a level of contamination that would require us to assess the food products and the other things that could be ingested as a result of a radiation release.

And I think the basis of the comments that we're making even with an emergency planning zone that is within the site boundary, there will be contamination offsite.

So, the basis that's being used for determining that is the EPA PAG manual levels of where a PAG would be exceeded.

And so while that is the current standard for making protected action recommendations and it would drive a lot of the actions that we would take, it doesn't mean there wouldn't be a lot of contamination pretty significantly offsite.

And our population and their perception of radiation are going to be asking questions about this reading they can now get in their neighborhood. Even though it's below PAGs, they're going to have lots of questions.

And we're afraid that without support to ensure the offsite agencies, both in the emergency phase, even though it's not going to need protected actions, but on the converse, proving zeros or assuring our public that it is a relatively manageable amount of radiation that doesn't require an action offsite is just as important as it is to say that a protected action is necessary.

And so we may find ourselves with offsite response agencies that have never had a nuclear power-plant in their jurisdiction, never dealt with a fission release before, and not have those networks and those coordinations for those assessments for other types of field monitoring in place as effectively as we've built up and have seen very strong emergency preparedness communities around our existing nuclear power-plant.

So, I think that's the basis. We recognize the risk is low but

that doesn't mean the public isn't going to be just as interested in the contamination that's in their community.

CHAIRMAN HANSON: Thank you, Angela. Pat or Kim or others?

MR. MULLIGAN: Yes, I can offer just a few additional thoughts. Right now, and the thing that I've been struggling with the most from a technical perspective is that number one, as far as I know, there are no approved reactor designs yet.

None of them are operable. The assessment for what is a credible emergency or event at one of these plants has been left up to the applicant to determine.

And so everything that we've looked at from this perspective, where it's going to be below the PAG, is I'm not going to say a whole part but it's somewhat theoretical and I think it's premature to decide that there's no EPZ that's required prior to the technology actually being developed, implemented, tested, and the credible accidents looked at.

So, beyond that, I do think that I agree with Angela, if you're looking at a decision point and you're limiting it to the EPA PAGs, I think from a state perspective it's a little short-sighted because there are things we would be concerned about and things we might be able to do at, say, half of the PAG, at 500 millirem, or 100 millirem.

You can certainly still save dose to the public at those levels by taking some action but you need to have the offsite response agencies with the ability to assess that through modeling and through experience and expertise that we have for those types of sites and reactors in place to make that determination.

So, while I believe that, again, the risk is low, consequences may be high and certainly public interest is going to be high and concern.

And I believe there are some things we should probably do and we've proven to pipeline regardless of whether or not a PAG could be exceeded offsite.

MR. CROWLEY: And I'll add real quick for you, Chairman, my thoughts on this are it's a twofold problem. One is the technical aspects and I think we can all appreciate and understand that piece of it.

The second comes in a little bit to what Angela spoke about to the communities and the communication and will they have trust that what we say is in fact the case?

Is it safe to have those reactors operating in their communities?

So, I think the utilities, as we move forward and as we look at this rule and approval of it, one way or another, are we setting ourselves up to succeed in actually building and operating one of these plants with the rule?

Will they grant us that social license where it's accepted by the people and actually it can be brought into a community.

I think right now especially is a trying to time, a lot of people are hesitant to trust facts and science and things. And even though we as the technical experts know one thing, we will have that barrier to get over.

So, I think being very transparent too and communicating these things and if that means following similar action to what we've done with larger-scale fission plants, perhaps we carry that because that's what's worked and has been trusted.

So, just a few other thoughts.

CHAIRMAN HANSON: Thank you, Dave. I want to touch on a couple of points here. All of your comments have been very, very helpful.

To your point, Pat Mulligan, I think it's incumbent on applicants to actually prove to us in their application that site boundaries is actually technically justified. It's not a default for advanced reactors.

So, to your point, the emergency planning zone is going to be maybe different by each design and I do agree that, at least at this point, the conversation is kind of hypothetical.

I guess my follow-up question then to each of you is historically, licensees have paid for that offsite emergency response planning. And I certainly understand and I'm very sympathetic to the need for ongoing state and local engagement in this.

But I guess my question is then are you as state agencies open to other kinds of funding mechanisms that the Federal Government might come up with?

So, if a licensee, again, hypothetically, has a reactor design where it's technically justified that they have a site boundary then if that funding doesn't necessarily come from the licensee but comes from some other program through FEMA or the Department of Energy or some other mechanism, would that be acceptable as long as it supported the offsite response capability that we've been discussing?

MS. LEEK: Thank you, Chairman, I'll jump back in here again with a comment on that. I think that fundamentally the states are positioned to work within and accept any funding stream that would help to support this.

I think the focus of this and the desire of the community and the Federal Government is to move and treat capabilities across all hazard spectrums.

And so we've been looking at other funding resources and opportunities.

Obviously we've had a form of funding that has come through the utilities that states have become very used to. And it's difficult to make a shift and actually put the risk assessment into the current THYRA process.

Many times radiation incidents, because they are of such low probability, they are not designated very high in certain jurisdictions so they may not get designated to tap into those funds.

There are other restrictions as far as resources through some of the Homeland Security Funds and have very specific direction as far as securing the cities and designations of those entities.

So, we can end up with a disparate ability to utilize some of those resources and funds in the current structure that's in place.

So, I do think the states would be open to having access to other funds, I just think we need to either look at the existing funds and find ways to maybe make a stronger checkmark in some of those funding streams.

Because if you have one of these reactors, you automatically get higher on the list of prioritization of these assets or these funds, if they're not directly funds that cover for this type of reactor.

So, I do think there are options and there are many possibilities we could look at but we definitely have to look at them. We can't assume they exist now because states have struggled with tapping into those

right now.

CHAIRMAN HANSON: Thank you. If my colleagues will just bear with me here, I just want to sneak in with one more question. I'm hoping both Commissioner Wright and Commissioner Baran will find it useful.

Right now under the framework, because we have for large light-water reactors we have a ten-mile emergency planning zone, etcetera, FEMA reviews the emergency plans for those plants and I guess I'm interested in your views on even, again hypothetically, to Pat Mulligan's point, for a site boundary EPZ, whether FEMA --

Even in the site boundary, those reactors will have some kind of emergency response plan presumably. Whether FEMA should still be in the role of reviewing that plan even when the EPZ is zero.

Anyone?

MR. CROWLEY: It's kind of like our position on the funding as well. As long as it's being done or can be guarantee one way or the other, I think we could end up being satisfied, at least our position as stated regulators.

It doesn't need to be FEMA, it doesn't need to be NRC. Everyone is comfortable if you continue with the same but I think we would of course be open to either way that would work.

We could look further into that if need be.

MR. ONG: If I could just make a side note, Commissioner Hanson, and that is in terms of licensing of these reactors, be it more advanced nuclear reactor or even the fusion reactor becoming aligned within the next 20 years.

That being said, it's part of the licensing process whereby in

order for an applicant to get the license approved, the applicant still has to provide where are the boundary zones, where are the emergency planning zones whereby that would then be able to reassure both the stated agencies and the general population within the area whereby the plant would be located.

In order to get everybody to have a buy-in in terms of allowing the application to be approved. So, that being said, the negotiation will always be taken place.

What would the licensee be applicated in order to provide that kind of assurance to cover any small, albeit low probability of that failure, to continue the material whereby it's now released beyond the site boundary.

So, that being said, there's still going to be ongoing issues and the state certainly will be very reluctant, if I may add, in this kind of environment to tap into the state general fund in order to buy that assurance to the communities that in fact there will be emergency planning zones, there will be substantial personnel to be able to respond to the possibility of the low-probability events.

That being said, then certainly if the Federal Government is able to provide some funding source so to speak to help out the states, thereby then everybody will have a stake in terms of getting the technology implemented.

And for the state government this country's future.

So, everybody will have a stake in this eventuality. Thank you.

CHAIRMAN HANSON: Thanks, Auggie, I really, really appreciate it. I've run way, way over my time at this moment and I really want to thank Commissioner Baran for his patience on this.

And I know we'll have an opportunity potentially to follow up this afternoon with some more discussion on this point. And with that, again, thank you Commissioner Baran and I'll hand it over to you.

COMMISSIONER BARAN: Thanks, Chairman, it's been a great discussion. I don't mind waiting an extra few minutes, it's been very good.

I really appreciate all of the insights you all have shared and, really, we value the partnership we have with all of you.

My sense is it's really as good as it's ever been, maybe better, in recent times and I think we're all benefitting from that. Pat, thanks for your comments on the two-person rule discussion there.

As I try to think through what can we do better next time, in this case the reinterpretation was issued on June 1st and it took us back right away. And NRC asked us to have the public comment period follow the notice of reinterpretation rather than precede it.

And this meant the Agency couldn't consider the comments before making a final decision. I think that did not really work well. I think the lesson I would draw is agreements made comment, the public comments should be considered before the decision is made and not after.

I think that's really going to significantly reduce our risk of doing something that ends up not making a lot of sense.

I don't know if you have thoughts about that or if your colleagues have any thoughts about that but to me, that from a process point of view is the thing that could be easily changed that would have probably made all the difference in this case.

MR. MULLIGAN: I certainly agree with you,

Commissioner.

Public comment prior to implementation is always the best practice I believe and we've seen it work in other rulemaking, not just with NRC but other organizations as well.

Everybody benefits from getting that input prior to taking an action.

That's first, and I think second too, beyond that, when things are put on hold for a while because the priority is low, I think when we pick them back up again they should be filed on the back-burner with a little bit of history so that when we pick them up again, we make sure we take the time to ensure they are still relevant topics and that the condition still exists, that whatever petition or rulemaking effort was based on.

So, I think that's first, make sure it's still relevant. Then we get the public information and then we take an action to make a decision.

COMMISSIONER BARAN: That's a great point.

I'd like to ask about something that Kim touched on with her discussion, which is financial assurance for the disposal of CAT1 and 2 byproduct material sealed sources.

Under NRC's current regulations, many CAT1 and 2 sealed sources are not required to provide financial assurance for decommissioning.

That means no decommissioning funding plan and no financial instrument in place to cover the eventual transportation and disposal costs.

This is because the current regulatory threshold for the financial assurance requirement is very high. For example, one of the most commonly used radionuclides is large-sealed sources of Cesium-137 as we

all know.

27 curies of Caesium-137 qualifies as a Category 2 quantity, which subjects the source to physical security and source tracking requirements. But a licensee isn't required to meet financial assurance requirements unless it's 100,000 curies of Cesium-137, which is quite a bit more.

The Commission recently decided to proceed with the rule to extend the current financial assurance requirements to all CAT1 and 2 byproduct materials sealed sources tracked in the national source tracking system.

I don't know, Kim, if you want to talk about it, or Auggie, can you talk a little bit about the level of support among the agreement states for this rulemaking? I know that's been a long-time coming to get rolling on this.

Let's do that check-in now. How are you all feeling be this? Is this something you think is a good idea?

MS. STEVES: I'll let someone from OES take that.

MS. LEEK: This is Angela Leek, I'm going to jump in here real quickly.

From the CRCPD's suggested state regulations perspective, we have a little bit of history in this topic and have been working on this over the last few years.

There has been an interest across the states to figure out ways to better support. Because as Kim did mention, often times states are left with those open sources or the disposal of a source that hasn't otherwise been required to be financially assured by their licensee.

So, we have been working on suggested state regulations

and have had Committees working on this, very much in line with what has been coming out of in the idea of the sealed sources and the higher-category activity sources.

However, there was some interest by states to go a little bit lower into almost a generally licensed device arena, not quite, and there's a little bit of discrepancy there on the states.

So, I would say from the feedback we've gotten through that process, which is not yet finalized, and now this new initiative is out we're going to work to make sure we align our SSR efforts with what the NRC is working through in discussions, so they align and we're ready for compatibility at some point in the future.

However, I think from the comments we've received from all of our states, there is a general support for doing some effort to require financial assurance, whether that's a full decommissioning plan or not I think can be varied on the level of actual risk from a sealed source versus lower activity sources.

However, the higher activity sources I think you'll find a consensus that we agree.

As you get down into lower activities or less risk, it gets grayer so finding that level of where to draw the line might be the difficult part but I do think you'll find some consensus across the states in agreement for extending some of those financial assurance requirements.

COMMISSIONER BARAN: Auggie, do you want to add anything?

MR. ONG: Definitely, thank you for the opportunity to do so. I can only use New Hampshire as an example.

We do understand that the mom and pop businesses that somehow are no longer able to have enough financial assurance so to speak for eventual disposal of those sources.

And that being said, what we have done in the past and still are doing so is that for any of the material licensees who ship out low-level radioactive waste, New Hampshire charges a certain percentage of that volume.

And the whole purpose of that is to provide a standard loan fund thereby that could be used and tapped if necessary to properly dispose of those abandoned sources.

So, what it means is that certain licensees will become, so to speak, have a stake in ensuring that, eventually, the state does not get stuck, sort of speak, funding the entire disposal cost of those abandoned sources, where now the state will certainly contribute certain parts to that fund.

But the licensees that do ship out low-level waste will also be partners in terms of helping the state to securely dispose of those abandoned sources.

So, that is one mechanism and I don't know of other states doing similar things without having to tap into scattered programs or looking for referral government to provide the necessary funding or to dispose of these abandoned sources.

We're going to be at the start of this rulemaking and that's going to give us a lot of time to interact with all of you and get your ideas and feedback. We're really looking forward to making progress on this with all of your help.

Briefly, another topic on fusion that got brought up a little bit

today, we're seeing more interest in fusion technologies and the development of a regulatory framework for fusion.

I know that our partners from Wisconsin and California are on the fusion Work Group with the NRC Staff. I realize we're still early in the process of thinking through options for the regulatory framework.

Angela, at this point, does CRCPD have thoughts about the appropriate role of states in regulating fusion reactor technologies?

MS. LEEK: Thank you for the question, Commissioner Baran.

I think we have a Work Group, Jeff Samansick is the Chair of the Work Group that's doing a lot of the efforts to stay on par with what discussions are happening as this is evolving.

As far as the role of agreement states and the licensing, I think I would defer to the agreement states and hopefully David will bail me out on this to give a little bit of that feedback on what the OES would believe as far as the agreement states rule in this type of regulatory structure.

CRCPD is continuing to keep focus and make sure that we are compiling all of the relevant information so that as this proceeds we can help to support comments as they come through.

MR. CROWLEY: I'll jump in there. Thank you, Angela, for that point of view from CRCPD in their effort.

So, as far as fusion goes, we see a lot of different stakeholders with respect to this and I think a lot of the things that we hear from the state perspective is to not lose sight that fusion could mean more than just power reactors, right?

So, we have potentially isotope production or different

industrial and research uses of fusion technology. And sometimes those get attributed more closely to, say, an accelerator facility but it is in fact a fusion process that's going under or taking place.

So, if the NRC passes either regulatory language or a framework that goes forward in such a way, a lot of states might have issue with all those other technologies being broadly swept up.

So, I think where we draw the line and how we delineate between things is important. Additionally, I think the industry and some states make a case that fusion can be regulated.

It's not a fission process, it's not going to have necessarily the same risks, it's not zero risk potential but it'll have different risks such that the state could regulate those reactors, even if they were on the power scale.

But the appetite from one state to the next to be able to take that on is going to be much different. Some states have very robust nuclear programs and other ones much more limited.

So, my opinion way before we get down the road here, is maybe we would see this as something that could be brought into our 274 type agreement. With the agreement state itself, does that state choose to take on regulating fusion activities or not?

So, just early on but I do really appreciate the coordination. We've had several meetings, both public and government to government, that have really helped bring some of these issues out for conversation.

COMMISSIONER BARAN: Thanks, Dave, I appreciate it. I have one last question related to greater than Class C low-level waste. There's a paper pending before the Commission about a potential GTCC rulemaking.

Aside from the site in Texas that is potentially interested in disposing of GTCC, has anyone heard interest from any other sites or states in accepting GTCC disposal?

I'm seeing a lot of shaking heads.

(Simultaneous Speaking.)

MR. ONG: Commissioner Baran, not that I'm aware of, so, certainly, if that question is posed to agreement states then we will certainly send out a survey to determine the interest of that disposal.

COMMISSIONER BARAN: Thank you, I appreciate it, and good to talk with you all, I think it's been a really good discussion, thank you. Thanks, Chairman.

CHAIRMAN HANSON: Thank you, Commissioner Baran, and thanks again to all the participants. As I said at the beginning, nuclear safety and security is a team sport and we're grateful for the incredible collaborative relationship we have with both OAS and CRCPD.

So, thank you all for being here and your thoughtful responses to all of our questions. Thanks to my colleagues. The great thing about having such good colleagues is a lot of their questions are some of the same questions I had.

We touched on I think really important topics today, workforce development and program sustainability. Fusion is certainly the issue of the day. Sealed sources security among a lot of other issues.

So, I want to thank everyone again this morning and with that, we're adjourned.

(Whereupon, the above-entitled matter went off the record at 11:43 a.m.)