

UNITED STATES
NUCLEAR REGULATORY COMMISSION

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BRIEFING ON RESULTS OF THE AGENCY ACTION REVIEW MEETING

(AARM)

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THURSDAY,

JUNE 10, 2021

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The Commission met via Videoconference, at 10:00 a.m.

EDT, Christopher T. Hanson, Chairman, presiding.

COMMISSION MEMBERS:

CHRISTOPHER T. HANSON, Chairman

JEFF BARAN, Commissioner

ANNIE CAPUTO, Commissioner

DAVID A. WRIGHT, Commissioner

ALSO PRESENT:

ANNETTE VIETTI-COOK, Secretary of the Commission

MARIAN ZOBLER, General Counsel

NRC STAFF:

MARISSA BAILEY, Director, Division of Construction

Oversight, Region II

GREG BOWMAN, Director, Vogtle Project Office, NRR

DAN DORMAN, Deputy Executive Director for Reactor

and Preparedness Programs

RUSS FELTS, Deputy Director, Division of Reactor

Oversight, Office of Nuclear Reactor

Regulation

KEVIN WILLIAMS, Director, Division of Materials

Safety, Security, State, and Tribal Programs,

Office of Nuclear Material Safety and

Safeguards

P R O C E E D I N G S

(10:02 a.m.)

CHAIRMAN HANSON: Good morning, everyone. I convene the Commission's public meeting to order.

Today the Commission will be briefed on the results of the Agency Action Review Meeting which was held on May 5th. The annual AARM provides an opportunity for senior agency staff to review the performance of both the licensees and the NRC's oversight processes and it is an integral part of how we fulfill our safety and security missions. I'm looking forward to the discussions today.

Before we get started, I do want to take this opportunity to recognize the staff for its ability to adapt our oversight programs to the pandemic challenges. You continue to ensure reasonable assurance of adequate protection of the American public, while taking into consideration the health and protection -- the health and safety of our inspectors and their families, as well as that of licensee staff. And through your agility, dedication, and professionalism, I think we landed in a pretty good place. How you continued to achieve our safety and security mission in this once-in-a-lifetime event was truly remarkable, and you should all be commended.

Looking into the future, I know the staff is also working on what our oversight should look like based on the learnings from the pandemic experience and as we've seen in recent Commission meetings, I know the Commission will have a strong interest in this as well. And we've already had some robust discussions on this front. And I look forward to continuing those. And as we do that, I want to express my appreciation for the staff's continued engagement on this effort and looking at lessons

learned and so forth right from the outset.

So, with that, I will ask my colleagues if they have any remarks they'd like to make? No? Okay.

We'll get started this morning hearing from our Deputy Executive Director for Reactor and Preparedness Programs, Dan Dorman, and then followed by staff panelists.

Dan, the floor is yours.

MR. DORMAN: Thank you and good morning, Chairman Hanson and Commissioners. The staff is pleased to be here today, as you said, to discuss the results of this year's AARM. The Agency Action Review Meeting process is governed by Management Directive 8.14 and provides a structured and repeatable process to evaluate the effectiveness of the Nuclear Regulatory Commission's oversight processes during the preceding year, and the appropriateness of NRC actions to address performance deficiencies for licensees within the Reactor Safety Program, including those under construction, and in the Materials and Waste Safety Program.

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This slide shows the specific objectives of the Agency Action Review Meeting. Senior management from the Office of the Executive Director for Operations, the program offices in NRC headquarters, and all four regional offices participate in the AARM, bringing together a vast collection of knowledge and diverse experience. For 2020, no operating reactor, reactor under construction, or materials licensee met the criteria laid out in Management Directive 8.14 to be discussed at the 2021 AARM.

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Several managers from the program offices and regions are with me today to talk in more detail about the results of the Agency

Action Review. Kevin Williams is the Director of the Division of Materials Safety, Security, and State and Tribal Programs in the Office of Nuclear Materials Safety and Safeguards. Kevin will be presenting on the fiscal year 2020 Nuclear Materials and Waste Safety Program performance and trends analysis.

Russ Felts is the Deputy Director in the Division of Reactor Oversight in the Office of Nuclear Reactor Regulation. And Russ will be presenting on the calendar year 2020 reactor oversight process self-assessment program results, the status of the reactor oversight program during the ongoing COVID pandemic, and an ongoing declining trend in inspection findings in the reactor oversight program.

Greg Bowman, the Director of the Vogtle Project Office in the Office of Nuclear Reactor Regulation, and Marissa Bailey, Director of the Division of Construction Oversight in Region II will be presenting on the calendar year 2020 construction reactor oversight process self-assessment results and will provide a construction update on Vogtle Units 3 and 4.

So with that brief introduction, I will turn the presentation over to Kevin Williams.

MR. WILLIAMS: Thank you, Dan.

Good morning, Chairman Hanson and Commissioners. I will be focusing on strategic goals and performance measures, nuclear material and fuel cycle events, abnormal occurrences, programmatic self-assessments and improvements, and COVID-19 public health emergency oversight action in the Nuclear Materials and Waste Safety Program.

The program includes a large number of licensees performing a wide variety of activities involving industrial, academic, and

medical uses of radioactive material, as well as fuel cycle licensees.

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The evaluation process is ongoing and includes identification of operational performance trends, significant licensee performance issues, and NRC program issues warranting management awareness. We also look at policy and processes to evaluate the need to enhance the programmatic elements based upon performance and generic issues. For fiscal year '20, there were no nuclear materials licensees that met the significant performance issue criteria.

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While the program met its performance goals, there were two occurrences related to safety that I would like to highlight.

The first event involved a patient who received radiation therapy treatment, and two weeks later the patient's physician informed the authorized user that the patient was pregnant at the time of treatment. The cause of the event was determined to be a weakness in the licensee's policy to address pregnancy limitations. The licensee has revised its pregnancy policy and preventative procedure.

The second event involved a gauge that led to the unintended exposure of radiation workers. The gauge rotary element and source tube separated from the gauge body. One of the workers placed the source in his pocket for an estimated 34 minutes. No adverse health effects were observed in any of the individuals and utilizing an EPRI effective dose equivalent program for exposure to hot particles, the effective dose equivalent was determined to be 490 millirems.

We discussed with the agreement states and agreed that this individual exposure did not exceed any AO threshold. While not an AO,

the event, this event highlighted a need for further coordination with the agreement states regarding event notification, self-assessment, and tools available for the agreement states to conduct dose assessments. As such, on May 26th, the NRC and the Organization of Agreement States held a government-to-government meeting to discuss enhanced coordination.

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The figure on the left of this slide shows the total number of nuclear materials events for each of the last ten years. The red bars are the total number of NRC events and the blue bars are the total number of the agreement states. For reference, the agreement states provide oversight for approximately 88 percent of materials licensees.

The evaluation of the event data over the last two years includes a statistically significant decrease in the overall number of NRC-regulated events. This trend is consistent with a decreasing number of NRC licensees as the number of agreement states increase, as well as COVID, the COVID public health emergency, but does not identify any risk that would warrant detailed investigation. In addition, we continue to share operating experience with the goal of decreasing the number of events.

The figure on the right of this slide shows the total number of fuel cycle operating experienced events over the last five years. The total number has varied around six per year, with a total of two for 2020.

One of these events involved radiation protection and offsite medical treatment of injured employees working in contaminated areas. And the other event involved radioactive material fire protection performance, which did not include any significant radiological issues.

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The annual assessment of this program also included a

review of the escalated enforcement actions for materials licensees and fuel cycle facilities. In fiscal year '20, the materials enforcement program continue to focus on maintaining consistency in our escalated enforcement actions. We also supported the Office of Enforcement in the revision to the NRC enforcement policy.

The escalated enforcement actions in fiscal year '20 include 26 NRC escalated enforcement actions. For fiscal year '20, the number of escalated enforcement actions for the Nuclear Materials and Waste Safety Program decreased by 14 in comparison with the actions issued in fiscal year 2019.

We have similar thoughts to the previous trends relating to COVID-19 public health emergency, and no additional investigation is warranted.

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The annual assessment of the Nuclear Materials and Waste Safety Program also included an evaluation of abnormal occurrences, or AOs. No significant performance trends or generic concerns were identified over the last 10 years. In the annual AO report the staff reported the following:

Nine events involving nuclear materials were identified as AOs during fiscal year '20; seven events involved agreement states, two involved NRC licensees. Eight of the AOs were due to medical events, and one was due to an unintentional human exposure.

Although most AOs are medical events, it is not an indication of a negative performance trend, given the number of medical AOs are small to the relative large number of activities involving the use of radioactive materials.

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Following the onset of the COVID-19 public health emergency, the staff communicated with licensees and agreement states to track any impact on the operations of facilities, understand the need for potential regulatory relief in materials facilities, and monitor site conditions for inspection planning purposes while maintaining reasonable assurance of adequate protection of public health and safety. All NMSS business lines met their CBJ inspection measures for fiscal year 2020.

For licensing actions, the NMSS business line provided outreach to licensees and held a number of public meetings to discuss the processors requesting regulatory relief, as well as to solicit information concerning the need for such relief. In coordination with other offices, NMSS issued a letter to licensees on April 7th of 2020 describing options and processes for regulatory relief.

The Nuclear Materials and Waste Safety Program has issued approximately 50 exemptions across all business lines to date. We also created an exemption through the NRC portal for licensees to request an exemption.

For inspections, the NMSS business lines employed a strategy of conducting inspections remote, remote with onsite follow-up, or onsite. The staff made inspection scheduling decisions with a focus on the safety of the staff, while maintaining reasonable assurance of adequate protection.

The business lines have formed working groups to better align activities, to maximize opportunities, and are closely monitoring the impact on inspection scheduling, and have implemented new internal processes for quarterly reporting to the business line leads.

For oversight activities, NMSS business lines are undergoing a phased approach for its COVID-19 public health emergency oversight assessment process. Phase A of this effort consists of evaluating feedback received through a survey of staff and external stakeholders.

Currently, the staff is initiating Phase B of this effort in which it will conduct a more comprehensive assessment of the implementation of the oversight program during the public health emergency.

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Along with the assessments, we initiated measures to ensure we are further risk-informing our processes and are including very low safety significant issue resolution into our processes. NMSS completed an internal enforcement program self-assessment related to the characterization of non-escalated enforcement in the area of certificate of compliance holders for transportation packaging and spent fuel dry cask storage systems. The staff determined that the enforcement policy is being implemented, violations are appropriately dispositioned, and recommended an update to Manual Chapter 610 for language consistency with the enforcement policy.

For nuclear materials users, WBL modernization includes WBL to ADAMS integration, along with document retrieval, which was completed in December of 2020. In addition, in fiscal year '21 we're going to be focusing on tracking IMPEP reviews, guidance development, working group activities, and data analytics and visualization. In addition, all NMSS business lines will be moved into WBL.

The decommissioning and low-level waste business lines is currently working to risk-inform its oversight guidance for materials decommissioning facilities and uranium recovery sites. The working group

already issued a risk-informed revision to Manual Chapter 2561 for reactors.

The business line is also working revisions to other Manual chapters to focus on performance-based concepts to the inspection guidance, and incorporating the Be RiskSMART principles into the guidance.

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Based on the review of event data, and assessment of key events, the staff concludes that the Nuclear Materials and Waste Safety Program is functioning effectively to protect public health and safety. There were no adverse licensee performance trends or significant nuclear materials issues. Going forward, the program will continue to focus on our four transformation areas of innovation, risk, technology, and our people.

Thank you. And I will now turn it over to Russ Felts.

MR. FELTS: Thank you, Kevin.

Good morning, Chairman Hanson and Commissioners. I'll be discussing the results of the 2020 Reactor Oversight Process Self-Assessment and status of the ROP during the COVID-19 public health emergency, plans for 2021 ROP self-assessment activities, and the declining trend we've observed in inspection findings since 2015.

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The purpose of the ROP self-assessment program is to evaluate the effectiveness of the ROP each year and to gather lessons learned to continue to improve the ROP. In 2020, the staff conducted a full range of ROP self-assessment activities and documented the result in SECY-21-0038.

There are three elements to the ROP self-assessment program, color-coded in the bullets on this slide.

The first element, in green, is to measure regional and

program office effectiveness and uniformity in implementing the ROP.

The second element, in blue, is to assess effectiveness of recent ROP changes and evaluate the NRC's response to significant licensee events or declining licensee performance.

And the third element, in black, is to perform focused assessments of specific ROP program areas, including the baseline inspection program.

The staff assessed four ROP program metrics as red for 2020, all due to the ongoing COVID-19 public health emergency, including a red metric for an incomplete baseline inspection program. The vast majority of the scheduled baseline inspection procedures were completed as scheduled in 2020, or were rescheduled to 2021 or '22. But some IPs were not completed at some reactor sites during 2020 because a few required onsite walkdowns, verifications, or observations were not done. The inspection procedures were considered incomplete even though most of the elements of the procedures were completed.

The staff completed program area evaluations of the four major program areas: inspection, assessment, performance indicators, and the significance determination process, determining all four areas to be effective. These evaluations fulfill the ROP program review required by the NRC's Strategic Plan. In 2020, the staff did not issue any deviations from the ROP action metrics.

Through all these reviews and assessments, the results of the 2020 ROP self-assessment show that the ROP is effective in reaching the goals of being objective, risk-informed, understandable, and predictable, as well as in supporting the agency's strategic safety and security goals in the Strategic Plan.

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During the COVID-19 public health emergency, the ROP continues to provide oversight of the nation's nuclear power plants. While taking precautions to minimize exposure to COVID-19, we conducted both onsite and remote oversight activities at operating reactors during the public health emergency.

In 2020, the staff completed approximately 150,000 direct baseline inspection hours nationwide, with a two-unit site averaging 2,700 inspection hours.

We continue to achieve reasonable assurance of safe plant operation. This is based on onsite resident inspector presence and monitoring of plant activities, as well as inspectors' discussions with plant personnel, their review of plant records, the observation of overall plant performance, including findings, performance indicators, events, and equipment performance, and satisfactory completion of inspection samples that were performed.

Because some samples were not performed, 38 inspection procedures, which is about 1 percent of IPs, were considered incomplete. And the baseline inspection program was, thus, not completed in 2020.

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The three elements of the ROP self-assessment appear again here, reflecting staff plans for 2021. Items specific to the 2021 plan include an effectiveness review of the changes to the definition of Column 3 of the action matrix; an effectiveness review of the recently implemented very low safety significance issue resolution process, or VLSSIR; an effectiveness review of the actions taken as a result of the Arkansas Nuclear One 95003 lessons learned; and consideration of COVID-19 lessons

learned, and ROP program guidance.

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Our next topic addresses the trend in NRC inspection findings since 2015. During last year's AARM Commission briefing, we discussed that the number of green inspection findings had decreased from 2015 to 2019. In 2020, that trend continued.

The staff has identified possible drivers for this trend in findings, including training for inspectors, and updated NRC guidance on backfit; cross-regional panels to review findings; increased NRC management oversight of the issue screening process; increased licensee engagement in the finding process; and updated guidance and inspector training on the minor/more-than-minor screening process.

It's also important to note that while the number of findings has decreased, the overall inspection hours and sample requirements have not significantly changed in the baseline program. Inspectors continue to monitor performance, communicate observations to licensees, and identify performance deficiencies that are entered into licensee corrective action programs for further evaluation, whether or not those issues are ultimately screened as inspection findings.

Staff's ongoing analysis of inspection findings has focused in part on understanding the potential driving factors for the trend, and their relative contribution to the trend, including to a recent survey of inspectors.

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The overall trend in inspection findings over the last five years has been influenced by many factors, but the general factor underlying the trend has been the shift over this time to emphasize risk as the driving focus in the inspection process, particularly in the inspection findings

screening process applied once initial concern has been identified by inspectors.

The staff has analyzed this decreasing findings trend for several possible data correlations. The trend is still evident when looked at on a per site or per unit basis, and it's still evident when only looking at plants that are currently operating.

The trend is not due to the decreasing number of operating units.

The trend is not primarily due to the closure of sites with a large number of findings.

The trend is not limited to specific baseline inspection procedures, is not limited to any particular ROP cornerstone, and is evident across all four regions.

Although there have been some improvements in industry performance in specific areas over the last 30 years, such as capacity factor and reactor trips per year, there has not been noted substantial improvement in these areas in the 2015 to present time frame. The number of scrams did drop in 2017 relative to 2015, but scrams have leveled off since then, while the number of findings has continued to decrease.

Looking at the relatively flat trend in self-revealed findings, the blue line, and the significant decrease in NRC-identified findings, the red line, since 2015, one can conclude that the decrease in NRC-identified findings overwhelmingly accounts for the downward trend in inspection findings. Based on the structure of the screening criteria applied to issues under inspector review, trends in NRC-identified findings are more susceptible to shifts in interpretation of inspection program guidance and the thresholds for what constitutes a finding.

Aside from inspection findings, the staff reviews data from numerous other indicators on a routine basis to identify potential emerging trends and verify the effectiveness of the ROP.

Performance indicators and other important assessment tools of the ROP that complement inspections, show no indications of degrading performance being missed by the inspection program.

In addition to unplanned scrams and performance indicators shown here, the staff also tracks other potential indicators of emerging problems, including safety system failures, complicated scrams, and accident precursors. All these indicators have remained steady, or slightly improved over the past five years, providing independent confirmation of performance.

The NRC staff continues to take appropriate actions in response to licensee performance, including performing supplemental inspections. We have confidence that the flexible risk-informed baseline inspection program, as executed by resident inspectors and regional inspectors, remains an effective and robust program to provide appropriate levels of oversight to ensure that licensees are operating power reactors safely and securely, and that adequate protection of public health and safety is maintained.

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In summation, the results of the calendar year 2020 self-assessment show that the ROP is still effective after more than two decades of implementation in reaching the goals of being objective, risk-informed, understandable, and predictable, as well as in supporting the agency's strategic safety and security goals in the NRC Strategic Plan to ensure the safe and secure use of radioactive materials.

The ROP self-assessment program is still actively seeking feedback from all stakeholders, internal and external, with the goal of further enhancing and continuously improving the ROP.

We now turn to Greg Bowman.

MR. BOWMAN: Thank you, Russ.

As Dan mentioned at the beginning, my name is Greg Bowman, and I am the Director of the Vogtle Project Office in NRR. I'm joined this morning by Marissa Bailey, the Director of the Division of Construction Oversight in Region II. I will be briefing you on activities associated with construction reactor -- with the construction reactor oversight process, and oversight of the two new units at Vogtle.

As with a normal ROP, we conduct an annual self-assessment of the construction ROP. The results of our calendar year 2020 self-assessment were provided to the Commission as part of SECY-21-0038. In conducting the self-assessment, we evaluated metrics and other data associated with the program.

During that period, Vogtle 3 and 4 were the only units under the construction ROP, and all performance metrics were met, and there were no action matrix deviations needed. We ultimately concluded that the program has been successful in meeting its goals and maintaining consistency with the principles of good regulation.

So, I am relatively new to the Vogtle Project Office. I joined just a little over a month ago. One of the things I noticed right away was in spite of the fact that the program is meeting all its objectives, this is a team between NRR Region II and our many partners that's constantly looking for ways to improve the program. Over the next couple slides I'll talk about some of the things that have really impressed me about this team

and the work they've done over the last year or so to make the construction ROP better, and to position the NRC for success in finishing our construction oversight of Vogtle 3 and 4, and smoothly transition oversight of those two units into the normal ROP.

So we can move to the next slide, please, Jenny.

So, one of our focus areas for the program has been the increased use of information technology and data to both identify areas for improvement and communicate with key stakeholders. For example, this slide shows the Vogtle 3 and 4 dashboard, which tracks key activities like progress on inspections, tests, analyses and acceptance criteria, or ITAAC, and our review of license amendment requests.

We provided a demo of the dashboard at the 2021 Regulatory Information Conference, highlighting the ways we use it to optimize our work.

We've also developed automated reports to inform our decision-making on resource planning, and to track the progress we've made on licensing and inspections, and reviewing ITAAC closure notifications.

Over the past year we've also implemented a number of improvements to both the construction ROP and the normal ROP based on lessons learned from implementing those two programs. That includes refinements to better focus inspection resources on risk-significant areas, and eliminate redundant inspections, along with providing better guidance for dispositioning minor ITAAC issues, and issues associated with ITAAC maintenance.

Lastly, we made changes to the ROP baseline inspection program to support Vogtle 3 and 4's transition to operations. And Marissa

will be covering that in a little more detail during her talk.

Because Vogtle 3 will represent the first time we've gone to the tail end of the Part 52 process, we've also been actively pushing ourselves to try and anticipate challenges that may arise and we've been taking action to better prepare ourselves to address them.

For example, Marissa's team and mine conducted several tabletop exercises with various NRC offices, including the Office of Enforcement, Investigations, and General Counsel, to walk through potential scenarios that could occur late in the construction process such as late-filed allegations or petitions, to ensure alignment on how those scenarios should be handled and how they might impact the 10 CFR 52.103(g) finding.

We also conducted targeted engagement with our staff to ensure technical issues identified late in the construction schedule are coordinated and prioritized for successful resolution.

And the final item I'll mention on this slide is that all of our work on Vogtle Units 3 and 4 has been and continues to be led by a team called the Vogtle Readiness Group, or the VRG. The establishment of the VRG was based on lessons learned from the Watts Bar Unit 2 construction experience and I think it's really served us well in ensuring that issues are getting the appropriate level of attention and that they're resolved in a prompt and effective manner.

Next slide, please, Jenny.

So, we recognize, of course, that the Vogtle project is a very high priority and that external stakeholders are understandably very interested. So, we've placed a lot of importance on ensuring openness and transparency and that will become only more important as we move towards the 52.103(g) finding for Unit 3 later this year.

All of our outreach activities are conducted as part of a comprehensive communication plan, which we regularly update based on developments at the site. As part of that communication plan, we've increased our efforts to get key documents on the NRC's public website. For example, we post monthly resource expenditure reports on various products associated with oversight of construction of Vogtle 3 and 4: things like plant information, educational tools, and information related to ITAAC closure.

We've also been very active in engaging with external stakeholders to regularly-scheduled public meetings on both specific issues related to construction, for example, resolution of complex technical challenges, and on VRG activities in general, including recently on the transition of oversight of Vogtle 3 and 4 from the construction ROP to the normal ROP.

The bottom line is that we're committed to ensuring that we do whatever we can to get relevant information to interested stakeholders in a timely manner and through a diverse set of tools such that we're sharing information for everyone in a way that works for them.

And with that, I'd like to express my appreciation for the opportunity to brief you today and turn the presentation over to Marissa.

MS. BAILEY: Thank you, Greg.

Good morning. In the next couple of slides, I'll be discussing implementation of the construction inspection program, and also our efforts to capture lessons learned.

And I'm on Slide 23, please.

So, today we've performed over 45,500 direct inspection hours. These are for both Units 3 and 4 and plant inspections, reactor

inspections, and allegation follow-up.

Vogtle 3 and 4 remain in Column 1 of the construction action matrix. And in 2020, there were no deviations from the construction ROP action matrix.

As Greg mentioned, last year we made improvements to the construction ROP. Those improvements actually served us well because as COVID-19 intensified they enhanced our inspection flexibility and gave us that agility to respond to a developing situation.

As a result of COVID, we adapted the way we conducted inspections to ensure that we could still inspect what we needed to inspect and, at the same time, protect the health and safety of our inspectors. We did this by conducting most inspection activities remotely, but with critical portions inspected onsite based on the risk significance and needs or complexity of the construction activity.

We also picked up our level of communication with the licensee so that we could continually monitor their progress, have full awareness of their schedule, and could then plan our inspections accordingly. With this approach, our inspectors were able to be on-site to observe a number of mission-critical evolutions, such as the integrated leak test, the structural integrity test, installation of the shield building conical roof, battery testing, first fuel receipt, and also conduct equipment qualification walkdowns.

So, even with a fluid construction schedule and a pandemic response that limited in-the-field inspections, we were able to stay on track with our inspection program. And specifically, for Unit 3, we've completed approximately 89 percent of planned ITAAC inspection hours to support a 52.103(g) finding.

We still anticipate a surge in ITAAC closure notifications as we get closer to 103(g) and with that, a surge in inspection workload. While working to damp down the surging workload by closely following licensee activities and finding opportunities to complete inspections even before the ICM is submitted.

With this approach we were confident that we are prepared and properly resourced to accommodate the increase in inspection activities.

And although our focus is on conducting inspections to support a 103(g) finding, we are starting to prepare for transition to operation. For example, last June we submitted to the Commission a paper informing the Commission of planned revisions to the baseline inspection procedures. These procedures are -- these revisions are to ensure the right level of oversight for Vogtle 3 and 4.

And last August, staff issued a memo describing our plan for transitioning Vogtle from construction oversight to the ROP.

And, finally, within Region II/DCO, we are making adjustments to our organization and our processes to ensure that we're set up to effectively manage a site that is both operating and under construction.

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So as we near completion of construction, the staff has started on a lessons learned initiative to inform ongoing reactor licensing activities. For example, DCO and VPO are working together to develop a Nuclepedia website to record or capture the NRC staff experience in the construction of Vogtle 3 and 4.

And because Nuclepedia is internal use only, we also plan to develop a publicly available document that takes into account external stakeholder feedback and their lessons learned.

And then finally, with respect to advanced reactors, the Division of Advanced Reactors and Non-Power Production and Utilization Facilities in NRR is leading an effort to develop an advanced reactor construction inspection and oversight framework. They are taking a fresh look at oversight, recognizing that the agency will need a framework that spans a broad spectrum of technologies, and also one that is scalable and adaptable.

Having said that though, we are sharing the Vogtle construction reference with them, and staff from VPO and DCO are serving as consultants through the DANU team that's leading this effort.

And that concludes my part of the presentation. So, I will now turn it over to Dan.

MR. DORMAN: Thank you, Marissa.

In closing, I'd like to thank all the office directors and regional administrators for their active engagement in the discussions at the AARM. And especially appreciate the tremendous staff efforts developing the data that informs our discussions, and for coordinating the AARM and supporting this Commission briefing.

The discussions at this year's AARM reaffirmed that the agency's completed and planned oversight actions are consistent with our oversight processes, and appropriate for the safety and security performance of our licensees, and that these oversight processes remain effective, even during the pandemic year of 2020.

Finally, I want to take a moment to say thank you to all the inspectors on the front lines of our agency mission. Your professionalism and dedication to the NRC's safety and security mission reflect great credit upon the agency and public service. We appreciate your contributions

always, but especially during the COVID pandemic.

Thank you, Chairman Hanson and Commissioners, for your time and attention. The staff are now ready to respond to your questions.

CHAIRMAN HANSON: Thank you, Dan and to the rest of our presenters. We'll start the questions today with Commissioner Baran.

COMMISSIONER BARAN: Thank you all for your presentations and for your work this past year.

During the pandemic some reactor inspections have been performed remotely out of necessity. I see that as a temporary measure that made sense during an extremely unusual and challenging public health emergency.

I think we all appreciate the value of and need for in-person safety and security inspections, whether it's the ability to walk down safety-related equipment, talk informally with plant employees, observe operations firsthand, or the intangible but very real effect of having inspectors with an NRC hard hat visible around the plant.

My view is that technologies that allow resident inspectors to monitor some facility conditions remotely can be valuable tools but should not take the place of in-person inspection.

Dan, what do you think about that? Is there agreement among senior leaders in NRR and the regions that in-person inspections are generally superior to remote inspections?

Is there agreement that as we enter the new post-COVID normal, in-person inspections should be the rule and remote inspections should be the exception?

MR. DORMAN: Thank you, Commissioner, for the

question. It's a very important issue that we've been discussing. There is broad alignment among the senior leaders in the reactor program. And I think the conversations are also happening in the materials program.

We learned a lot about what we can do remotely. But as we look to the post-pandemic environment, the question that we're asking ourselves is what we should do. What's going to provide for the most effective oversight?

And as you've said, an inspector walking down a system is going to catch things that he will never catch with cameras put in place in various places around the plant. You pick up things in a person-to-person interaction that you may not pick up over some kind of remote interaction.

So, we're looking at the implementation of the inspection program going forward to look for the best ways to take advantage of the flexibilities that we've learned, but also to make sure that we're making decisions based on what's going to be most effective for our oversight programs.

COMMISSIONER BARAN: Thanks, Dan. It sounds like the staff is heading in the right direction.

Let me turn to the steep decline in NRC inspection findings over the last several years.

I appreciate that the staff is focused on this issue and is analyzing the potential contributors to this trend. The decline, as the staff noted in their presentation, started in 2015 and continued all those years through 2020; 2020, which had 291 inspection findings. That's the lowest number of findings in the 20-year history of the reactor oversight process. And it represents a 65 percent reduction in just five years.

Dan, to what extent is this latest drop in inspection findings

between 2019 and 2020 the result of changes to our inspection protocols during the pandemic?

MR. DORMAN: It's hard to pin down a specific number from the correlation standpoint. But I think it's clear in conversations with our inspectors and with the Program Office that it had an impact. So, some of that decline, continued decline from 2019 to 2020 is related to the pandemic and the changes in the way we conducted our oversight.

I think the important question that I focus on on a regular basis is how do we have confidence that we're not missing something? And it's always tough to prove the negative, but I think the data that Russ showed on the slide in terms of plants that are outside of Column 1 of the action matrix or have greater-than-green findings of performance indicators, particularly the performance indicators, are the objective piece that are not impacted by our inspection activities. And this is hard data on plant performance.

The scram slide that he showed showed a bottoming in 2017, and then kind of level for '18 and '19, and '20 had a slightly higher level. This year to date, we're on pace to be more like the 2017 low.

And if you look across safety system reliability, safety system function failures, other objective data, you'll see that licensee performance continues to be at a high level through 2020 and into the early part of 2021.

So, it's things like that, it's data like that that give me confidence that as we see the decrease in the number of findings documented in inspection reports that we're not missing something important.

The one last point that I would make is going back to some

of the comments that Russ made is the focus on risk. We've had a lot of activities over the last several years: the focus on the minor/more-than-minor threshold, the focus on backfitting and training our staff on backfitting, the very low safety significant issue resolution. I think the trend reflects our efforts to ensure that our resources and the licensees' resources are focused on the most risk-important activities.

And, ultimately, that's what's driving the trend. But for the data that I indicated, I'm confident that we're not missing something important.

COMMISSIONER BARAN: Okay. Thanks, Dan.

And, you know, I do want to thank the staff for, as I mentioned earlier, focusing on this so much even in your presentations today. Just over the last several years, I've observed the analysis of this by the staff has just gotten much more rigorous, much more data focused.

I'll be honest, I'm still a bit concerned about it because it is such a sharp decline. But I appreciate all the work that's going into try to get our arms around this and make sure we understand what's driving it.

I also want to ask about the cross-cutting issues program. A staff team studied the program and recently reported that plants that reached cross-cutting theme thresholds were at least twice as likely as plants without themes to exhibit declining performance as measured by action matrix movement out of Column 1, or nearly twice as likely to experience a precursor event as determined by the accident sequence precursor program within the next year.

So, the program has some predictive capability, which is good. But the team also found that the changes made in 2015 to the program that raised the threshold for identifying a cross-cutting theme

weakened the program. A detailed review of the five plants that met the criteria for entering Column 4 since 2006 revealed that the post-2015 program would not have identified a cross-cutting issue in any of the plants until at least some performance decline had already occurred and, in some cases, not at all.

The staff's overall conclusion was that changes made in 2015 resulted in a program that while still providing some encouragement to monitor cross-cutting aspects may be less responsive to cross-cutting behavior indicators, may provide only limited communication about cross-cutting themes, and introduced concerns about whether the program would proactively identify cross-cutting concerns consistent with the program objective.

Dan, how does the staff plan to respond to this report?
Are you considering reversing the 2015 changes?

MR. DORMAN: Commissioner, the staff, the senior leadership in the NRR, working with the regions, are evaluating the report that was put together by the staff. I think we, we need to look at what we were trying to do in 2015, as we look at how to address the recommendations from this team.

If I could get the slide that showed the trend in findings. You note that -- yeah, the previous one, I believe. Previous slide. No, let's see. Next slide maybe. That one. Thank you.

So, as you look at 2020, that's across the fleet of reactors there's about two to three green findings per operating reactor over the course of a year. And the changes that you refer to in 2015 created backstops for problem identification resolution in human performance that were substantially greater than that, up to 20 findings to identify a

cross-cutting issue.

So that's what you're referring to there as there's a substantial number of findings that are going to be needed before we get to a cross-cutting issue. And it's likely that if there's that number of findings that we are already moving across the action matrix.

But if you go back to 2015 on the left side of this chart, in that year we had about seven to eight green findings for an operating reactor on average in Column 1. So there was still a fairly substantial bar to cross to identify a cross-cutting issue.

So, I think that while the change that we made in 2015 contributed to, combined with the trend that you see on this slide, contributed to a larger separation in that.

I think the question that we were looking at in 2013 and '14 was while we were identifying more cross-cutting issues during that period, we didn't see the actions that were being taken as contributing to preventing the licensee from moving across the action matrix. And there was a mixed view on that at the time.

So, I think as we look at the recommendations of the most recent team, we need to delve into the history of what our views were in 2013 of '14 and what we were trying to accomplish there. And keep that in mind as we look to the future and how to ensure that we have a good look at declining performance.

I think another piece that I'll just very briefly touch on is the data analytics. You mentioned the data that we've done in support of our analysis of this trend, but I think the data analytics work going on in NRR and across the reactor program will help us to assess that going forward.

COMMISSIONER BARAN: Thanks, Dan.

I'm actually over time, but I want to ask one more quick question on data, if it's okay.

Let me ask about problem identification resolution inspections. A recent staff team review of that inspection procedure found that it's effective and results in a relatively high number of inspection findings. That raises the question of whether there is any basis for reducing the frequency of the inspection from once every two years to once every three years, as the staff recommended a while back.

According to the recent report, this is a quote, "The team's comprehensive review of the inspection objective and data did not produce data that supports or refutes shifting the team inspection from biennial to triennial."

And the team also concluded that reducing the periodicity of the team inspection increases the risk of missing a significant issue between inspections.

Dan or Russ, it sounds like the team found no data or analysis to support reducing the frequency of the PI&R inspection. Is that right?

MR. DORMAN: I'll give Russ a chance on this one as well, but I think that that's generally right, Commissioner. And we know we have a paper before you that had that proposal in it. And so the staff will be taking this work that the staff did and evaluating how to address that item that's before the Commission.

Russ, do you want to add anything to that?

MR. FELTS: I'm afraid I don't have much to add other than to confirm what Commissioner Baran said. There really wasn't data to support sort of tipping us one way or the other to increase or keep the

frequency the same.

COMMISSIONER BARAN: Okay. Thank you, appreciate it. And I'll stop there because I'm over. And I appreciate my colleagues' indulgence.

And, you know, for data-driven, but we want our recommendations to still be data-driven. And if there's no data to support a recommendation, that definitely raises a flag for me.

Thank you.

CHAIRMAN HANSON: Thank you, Commissioner Baran.

Commissioner Caputo.

COMMISSIONER CAPUTO: Good morning. Thanks for all your presentations this morning. And very informative. I think this is one of our more important meetings during the year. And what could be more important than looking at trends in safety and performance, and whether or not our oversight programs are effective.

So, I appreciate the work done throughout the year by inspectors, both in Materials and NRR, in conducting their inspections, but also all of the oversight staff who have contributed to analyzing the data, analyzing the results, and reaching their conclusion today, verifying that our programs continue to be effective.

I would like to return to Dan a little bit on safety performance and some of the data.

So, as Russ mentioned earlier, performance indicators, unplanned scrams, safety system failures, complicated scrams, accident precursors, all these indicators remained steady or slightly improved over the past five years.

And then I also note from the March 21 accident sequence

precursor report the staff's observation that licensee risk management initiatives are effective in maintaining a flat or decreasing risk profile for the industry.

So, Dan, my question to you is if we are seeing steady or slightly improved performance and performance indicators, and we're also seeing a flat or decreasing risk profile, doesn't this give us a reflection that overall the industry is improving in terms of its safety performance?

MR. DORMAN: Thanks, Commissioner. I would agree with that statement that generally safety performance is improving. As always, the oversight process is focused on each individual reactor, and so we will address issues that arise individually. But overall, I think there is data to support a generally improving trend in industry performance.

COMMISSIONER CAPUTO: Thank you for that.

I'm going to continue a little bit more. I'd like to pose a question to Russ.

One of the sections that are reviewed in the ROP self-assessment report described how NRR is using data analytics. And, like Commissioner Baran, I believe we should be rooting our decisions in data as much as possible.

So, one of the issues described in that report is how NRR is using data analytics to modernize inspection and assessment. From what I read, it sounds like this effort will provide continuous monitoring of data to identify trends.

So, this sounds like instead of an annual snapshot assessment like we have in this annual self-assessment report, NRR will begin to have access to sort of ongoing data to look for trends.

Do I have that right?

MR. FELTS: Commissioner Caputo, you have it exactly right. We are even looking at leveraging artificial intelligence to make connections that will provide real-time data to managers and inspectors to be able to trend things real-time as the data comes in, rather than waiting for annual reports.

So, you know, we already have several dashboards available that inspectors can use when they're contemplating their inspection plan that managers can use to look at performance, both of the ROP itself and the plants, real-time.

COMMISSIONER CAPUTO: Great. That sounds impressive. Let me ask one question on artificial intelligence. Is there an effort under way or at least looking at using artificial intelligence in reviewing operational experience?

MR. FELTS: So the way that we're contemplating using artificial intelligence directly relates to OpE, looking at how we can use artificial intelligence to link the operating experience that we have coming in to the inspection procedures to help inspectors with the sample selection.

COMMISSIONER CAPUTO: Okay, fabulous. Thank you.

I'd like to stay with you, Russ, for one last question. So you mentioned in your discussions of the ROP and the self-assessment that the staff was unable to complete 38 inspection procedures. However, they did complete most of the elements of those inspection procedures.

So even in spite of remote inspections and the challenges of a pandemic, there was an average of 2,700 inspection hours for a two-unit site. Is this comparable to a normal year?

MR. FELTS: It represents a slight reduction. For

example, in 2019, I think we did about 170,000 hours across the fleet, so it's a slight reduction. This year it was 150,000 across the fleet in inspection hours.

And I think because some of the team inspections that we had planned for 2020 were shifted to out-years in the cycle in order to avoid having to send team inspections, you know, teams of inspectors to the site, so it's similar. It's not significantly less, but it is a slight reduction in hours.

COMMISSIONER CAPUTO: And, sorry, one more question for you, Russ. When it comes to these inspections and the value of in-person, onsite work versus remote, when resident inspectors are reviewing programs or documents, is there any reason why they shouldn't be able to review those remotely? Because to me, if they're performing document review, they're not necessarily walking through the plant. They may very well be sitting at their desk.

Are there activities like that that seem to be perfectly acceptable to review remotely?

MR. FELTS: Certainly, there are activities that can be performed effectively remotely, perhaps even as effectively as if the inspector were onsite, that specific task. And there's ongoing dialogue about what level of remote inspections should be appropriate. I'm sure we'll be looking at that as a more comprehensive, part of the more comprehensive lessons learned.

But I don't want to -- I want to make sure that we emphasize that even having an inspector sitting in the resident office at a computer doing a review, which that task itself may be equally effectively done from his home desk, having him there in the office has value because he's available then for people to come and talk to them.

It's probably easier for him to interact with site personnel. Even just the simple fact of him walking into the plant and, you know, parking his car in the parking lot and walking into the plant, there are factors there that are difficult to quantify that probably have a positive impact on oversight.

COMMISSIONER CAPUTO: I don't doubt that in the least. My question is just the room for flexibility in terms of choosing between what needs to be done onsite and what could be done remotely in such situations as might be necessary.

I'm going to switch to Kevin.

Kevin, I'm going to start by a couple of kudos. Obviously, everyone experienced challenges in the past year in conducting work and completing inspections and trying to do so in manner that would certainly preserve the safety of our personnel and licensees. And, you know, Nuclear Materials did a mix of in-person, remote, and hybrid, focusing on maintaining reasonable assurance, public health and safety and minimizing risk to agency inspectors and licensee employees.

And despite all of that, you know, the program review says the program was effective. So kudos to the Nuclear Materials team for, you know, impressive performance under challenging circumstances.

I also want to give a compliment to the review that was done on decommissioning financial assurance program. So, obviously, over the last decade, we have seen a new business model emerge for decommissioning reactors where a limited liability company purchases the plant, accelerates the schedule for decommissioning.

Several stakeholders have raised concerns and questions about that, in particular worried that decommissioning funds would be depleted and not been sufficient to actually complete cleanup of the site,

leaving a legacy of waste and contamination.

So staff formed a working group to evaluate decommissioning financial assurance regulations, which I think was very important to be responsive to the concerns that were raised, and ultimately concluded that there are no regulatory gaps or policy issues.

So I just want to commend the staff for recognizing the valid concerns that were raised by our stakeholders and taking the initiative to thoroughly examine the issue. So thank you for that.

And, Kevin, I want to ask just one last question to you. Given the transformative approaches to licensing and inspection during COVID, you noted NMSS business lines employed a strategy of remote, remote with onsite follow-up, or onsite inspections, which I referred to just a moment ago. Based on your experience during COVID, can you give me a couple examples where a hybrid approach to inspections should continue and would maintain reasonable assurance of adequate protection?

MR. WILLIAMS: So I would say we're evaluating along with NRR the whether or not, you know, what activities will be able to go to remote. And right now, we recognize there the default of going back to the onsite and each of our working groups are looking at the value and the benefits of conducting inspections remotely.

That being said, a couple of examples of where we've been successful in conducting, you know, this hybrid approach was we conducted a reactive inspection in Puerto Rico where they had a damaged source rack. And in that regard, we were able to use, you know, visual or technology to assess, to visually inspect the rack.

We were also able to engage and interview the employees and assess the extent of conditions and evaluate corrective actions and that

was all due to, you know, travel restrictions in Puerto Rico.

We also looked at, you know, taking into account where hospitals were limiting access to their facilities, how could the hospitals demonstrate the capabilities of meeting the regulations. And, in fact, conducting one of the remote inspections, we identified an issue that also resulted in an onsite follow-up because of the issue that we were able to identify.

So I think it has served us well, but we also need to continue to evaluate that.

COMMISSIONER CAPUTO: Wonderful. Thank you. Always nice to see you, Kevin. That's it for me.

MR. WILLIAMS: Thank you. Nice to see you as well.

CHAIRMAN HANSON: Thank you, Commissioner Caputo.

Commissioner Wright?

COMMISSIONER WRIGHT: Thank you, Mr. Chairman. It's been a good discussion. A lot of things I was going to talk about have been asked and answered, so I don't know that I'll use my whole ten minutes. But, you know, so -- but good morning to everyone and thank you for your presentations.

This is, you know, again we've gone through the pandemic and we heard about it on Tuesday in the previous meeting in changes that were made and challenges that were faced and how we adapted and actually, you know, not just succeeded, but excelled. So congratulations for what, you know, everything that you've done and for what you've showed us today through your presentations.

Russ, I'm going to start with you, probably, but Dan can

jump in if he feels like it or anybody else too. But I want to thank you for your discussion on the ROP assessment and the program health and the inspection findings trend. And I've said this before in another meeting last year, I guess it was. It could have been late the year before, but I don't necessarily see this trend as a negative thing, you know.

You know, particularly as I think I've heard today, the inspections are, you know, putting more focus on the more safety-significant issues. So you mentioned how the inspection trend from 2015 to 2020 had continued to on decline and we're all really focused more and more on data. So did you anticipate that you would have the decline continuing just based on data that you had? I think that's what I've heard today.

MR. FELTS: Thank you for the question, Commissioner Wright. I think as the year progressed, we certainly saw the trend. I think we expected to see probably a continuation of the trend or more likely a leveling off.

And I think as Dan said, you know, the data tells us or indications tell us that absent the pandemic, we would likely had seen a tailing off in that trend because of the fact that the pandemic had some impact on the number of inspection findings both in terms of less presence onsite, but also the fact that we deferred some team inspections but also changes in licensee behaviors. Because during this period of time, there's been some work that would likely have been done and provided opportunities for mistakes that could have led to findings which have been deferred until after the pandemic.

And so there are several factors that are flowing around here in play that tell us that including what the inspectors told us when we recently surveyed them, they believe it's not a -- it's a non-zero impact.

COVID-19 is a nonzero impact on the number of findings we had.

So that means that COVID-19 played some role in the number of findings we had and, actually, COVID-19, you take that and put it together with the fact that the trend is practically linear from '15 to '20, we would have expected a tailing off or a leveling off of the trend, absent COVID-19.

COMMISSIONER WRIGHT: Thank you for that. You know, I think there was the audit, Region IV audit that was, is the first to be completed, I think, under the revised ROP regional audit process that NRR led on. So can you -- are there any insights that you can share on the effectiveness of the new process?

Did everything go as planned or were there, you know, lessons learned from implementing it?

MR. FELTS: Again, thank you for the question, Commissioner Wright. We streamlined the audit process to focus on certain areas in the regions and one to three additional focus areas for regions each year. You know, we also reduced manpower for each audit compared to peer reviews, which we had been previously doing peer reviews.

These audits are done by headquarters personnel going out to the regions, which is a change, but now we're doing the audit every year instead of the every two years that we were doing for peer reviews. Doing this annually with less people each time allows more focus and more responsive findings and time -- more responsiveness to the findings and timely improvements.

Also the findings add value and program improvements to add clarity and consistency and each region, including the audited region, responds to the audit findings via memo, so that helps us to disseminate

lessons learned from one region's audit across the entire program.

And we get feedback both on performance of the particular region in the audit, but also as this past Region IV audit this last year showed, a number of program office improvements get identified as a part of that audit process. So we get feedback from the regions on program activities that we can then use to make adjustments and improve the program.

So we certainly had lessons learned. It seemed to go as planned, as expected, improved use of resources, and helps, you know, with collaboration amongst the regions and consistency across the regions in the implementations of the programs.

COMMISSIONER WRIGHT: Thank you for that.

I'm going to switch a little bit and maybe Dan has to involve himself a little bit more too, but Russ, this is certainly including you on this next comment and question.

So I really appreciated the conversation between you guys and Commissioner Baran and Commissioner Caputo on the cross-cutting issues and problem identification, and I really like hearing about the advances in the staff's making where in using more, I guess, just better data analytics. And so and that includes the operating reactor inspection and oversight dashboard.

And I know you've talked a little bit about, Dan, today, and, Russ, I kind of want you to expand a little bit more. Can you talk to me about other projects or initiatives that may be on the horizon that will also effectively use data analytics?

MR. DORMAN: Yes, I'll take -- I'll start with that one and I'll turn to Russ, and also to the other members of the panel because there

are a number of things going on in the staff.

I think the one I would highlight for you is in the public interface for the ROP. The transparency has always been a principle of the reactor oversight process, and from the outset in 2000 we had the ability for the members of the public to go into our web page and find their plant and find out what all the findings and performance indicator data were.

But it's very cumbersome and very, I'll call it click-heavy for an individual member of the public to work through that and get the insights that are, really, they're there in the data. But I think in the near term we're going to be unveiling a significant improvement to the public interface on the ROP that will enable members of the public to more readily see the trends for their individual plant, for plants in their region, for the whole fleet nationally. So that's the one I would highlight.

Russ?

MR. FELTS: So I don't really have anything to add aside from just reiterating that we have, you know, the various dashboards for use by inspectors and their managers, and also the plan to use AI to link OpE and the inspection procedures for inspection planning purposes.

Those, and then, you know, Dan's point about the ROP analytics tool, which hopefully will greatly improve the interface with the public, make it more interactive and easier to use. That's it.

COMMISSIONER WRIGHT: All right, thank you. Anybody else? There was somebody else wanting to talk, did I hear? No. Okay.

Well, thank you, Mr. Chairman. I'm going to stop there and yield back.

CHAIRMAN HANSON: Thank you, Commissioner Wright.

I want to start this morning in the waste and materials area. And, Kevin, you mentioned the staff efforts in the materials and waste areas with regard to the COVID public health emergency, and I want to echo Commissioner Caputo's comments and the kudos for the creativity and the work that the staff did in being proactive and anticipating potential problematic areas of compliance for the licensees.

We had some discussion of this area, certainly, at the business line commission meeting back in November, but I'm really very pleased at how the agency kind of rose above a lot of the challenges that were encountered, particularly with specific to the medical community.

But, Kevin, can you provide a few highlights of the most recent efforts related to the assessment of the implementation of the oversight programs during the public health emergency?

MR. WILLIAMS: Sure. Thank you for the question. So we've been consistently evaluating our program over, you know, the entire period. We initially started focusing our efforts on how better to interface with the, you know, with our partners, our stakeholders, identify early on what the challenges to the programs were, where we could identify areas where we could provide some level of relief, and then we did a couple of assessments. You know, we did a lessons-learned assessment, what went well, you know, in terms of feedback from the staff, how are we effectively engaging and are we focused on the right activities. Are we protecting the staff, you know, in terms of recognizing that hey, there's travel restrictions out there. We didn't want to put people in harm's way and so we've taken a measured and a phased approach to this.

But back in the June timeframe, you know, as we started thinking about coming out of, you know, the COVID public health

emergency, you know, we developed guidance to the staff on how we thought would, you know, what would work. And then we further assessed how should we get information, so we started going to quarterly reporting-type activities.

And then we went to the staff to say, okay, now that we've developed all of this guidance and we've implemented a number of measures, how successful have we been? And Phase A kind of dictated or provided us information that hey, the guidance was effective using our strategy of remote, with remote, you know, remote with onsite follow-up or onsite worked really well for us, and then was there going to be a way that we could leverage something such as technology.

And then we shifted our focus to Phase B of this activity, where we're looking at okay, what works well, what's going to be the benefits of looking at, you know, like using lessons learned from COVID, working with our partners over in NRR to see how to streamline our processes. And then we're, right now we've been participating in a pilot program for 2-in-1 devices to effectively assess the program.

And then looking at, you know, how do we incorporate risk insights into the program? How do we incorporate the Be RiskSMART principles? And that's kind of where we've been focusing our efforts right now, to assess the health of the program, you know, recognizing, you know, are we going to meet the metrics, are we going to continue to focus on reasonable assurance of adequate protection, and how do we balance that effectively against making sure we ensure the health and safety of our staff.

CHAIRMAN HANSON: Thank you for that. That sounds very comprehensive and I appreciate that. Can I ask just kind of a really basic question? When we talk about remote inspections in the materials

context, how does that actually work? I mean are we talking about licensees kind of walking us down or walking one of our inspectors down in their facility condition with, you know, via FaceTime on their iPhone, or is there other data that we're using? I mean can you just talk a little bit about that?

MR. WILLIAMS: Yes. So there's been a number of efforts that we've done, you know, some things that we've done like in the health physics area, we focused on, you know, limiting the number of people onsite and looking at the paper reviews that we could do from a process perspective.

We also worked with interviewing the staff and helping us walk down, you know, activities and limiting the number of things that we need to do onsite. The best example that I can give was we were working with a radiographer and he had all of his equipment in his home, and his home was his business and we were able to do something like FaceTime and we could do the visual inspections, they could show us all of the paperwork in advance, so that we could see the things that we would normally see if we were doing an in-person inspection.

And that was, it was an easy -- it was like a one-stop shopping, so it worked really well for us to be able to assess, you know, the health of the program and making sure all the regulations and the measures that were put in place were being appropriately implemented by the end user of the radioactive material.

CHAIRMAN HANSON: That's great. Thank you. You noted the -- I think what you called the statistically significant decline from, I think, FY19 to FY20 and inspection findings. Do we -- I wonder if that's in part due to the number of remote inspections that we did, and as we get

back into facilities and say FY21, whether they're industrial facilities or medical facilities, would you expect that the number of findings to go back up?

MR. WILLIAMS: So one of the things that we did in terms of looking at that, we evaluated that. We assessed it. And what we really attributed the changes to -- you'll see that the number of medical events stayed relatively the same because they were working. The number of people doing other types of activities, you know, they either shut down due to COVID or they were impacted economically by, you know, you could see by the number of people that lost jobs. And so we attribute a lot of it to COVID-type activities, and even on the fuel cycle area when we looked at it, we recognized that they went from a small number of six activities down to two, and so they took an opportunity to assess that. And they didn't find anything that was, you know, that would warrant further investigation.

But what we've committed to is continuing to evaluate that in the going years, like for fiscal year '21, fiscal year '22, but we didn't see anything that was a significant that would warrant us to take that deeper dive and look at it because we could -- we stayed in contact with our licensees. We knew what activities they were doing, the activities that they were not performing, and so we think there's a level of consistency here but we want to make sure that we stay on top of it in the out-years and continue to assess and evaluate.

CHAIRMAN HANSON: Okay, that's great. Thank you. I look forward to hearing more about that as we go along.

Can you share some of the main lessons learned? I think you noted that 88 percent of materials licensees out there are actually under Agreement State auspices, so can you talk about kind of some of the main

lessons learned from interacting with the Agreement States during the public health emergency?

MR. WILLIAMS: Some of the lessons learned is, I would say they are very similar to ours in terms of, hey, remote inspections were effective, communicating and effectively coordinating with your stakeholders is key to being successful. We want to be mindful of the impact on medical facilities in terms of sending our staff in there and you want to protect your people, and so we've been very much engaged with the Agreement States. You know, we've shared a lot of the activities that we did early on.

We looked at the impact on the Agreement States, you know, in fact, in looking at, you know, when we go out to do some IMPEPs with them, we look at what lessons learned did they have, that was there something that we could do differently so that we could capture and document the strategies that they were employing. And they employed very similar strategies to what the NRC was doing to ensure, to maintain, you know, to worry about the health and safety of their staff, but also to focus on, you know, making reasonable assurance of adequate protection.

And so I think that the similar type lessons learned that we have in terms of, yes, COVID had an impact on us and we need to make sure that we stay in contact with our licensees so that we can still have that reasonable assurance of adequate protection was a key factor.

And I think we looked at the granting of regulatory relief that was appropriate, you know, for the things such as, you know, annual calibrations, and could we push some of those things out and still maintain, you know, the level of safety and minimize the impact. And so I would say that they had similar type activities and we focused on the same things.

CHAIRMAN HANSON: Okay, great. Thank you.

I'm going to sneak in one last thing here. You know, we really saw the use of so much technology in new and interesting ways, a lot of use of the internet to coordinate and communicate our activities. It did bring up a thought to me about the web-based licensing system and our efforts to modernize that and also bring on additional Agreement States. And just wondering if you could kind of give us a quick update on those efforts.

MR. WILLIAMS: Yes, so we've been employing a strategy that would enhance and market WBL and we've been working with a number of Agreement States to ensure that we can increase the numbers. I think over the last year, we've increased by probably four additional Agreement States.

We've been working on trying to figure out how to include dashboards to give us, you know, more data that we could evaluate the health of our programs so that we could, you know, position ourselves to get, you know, more of the real time data in terms of where we're headed, where we're going, how do we track and trend operating experience such that we are mindful and aware of where we're headed. Like how do we take advantage of the working groups, the work that they're doing, how do we manage the IMPEPs and the status there?

So the WBL modernization effort is going to pay big dividends for us in terms of data analytics and visualization such that we will be able to and continue to push that forward.

Just recently, I think, Ohio has shown interest in wanting to adopt WBL, so I think in the next year or so and not being too forward-leaning, you know, we have alignment with the Agreement States and, you know, that they want to adopt more of what we're doing with WBL and we'll continue our aggressive marketing strategy of the benefits of WBL.

CHAIRMAN HANSON: Fantastic. Thanks very much, Kevin. And I think with that we've used our time. I think once again we've had a really good discussion among the four of us commissioners. I really appreciate the effort on the part of the staff. I think what came out today was a commitment. What was evident to me, I think, in the presentations and the discussion was the commitment by the staff to understand the trends. We undertook adjustments to our procedures and understanding the effect of those the data that got back that was maybe a little different than data that we'd seen in the past, and the conscientiousness, I think, on the part of everyone to make sure that we're providing reasonable assurance of adequate protection.

We're going to have a lot more discussions about this going forward and I know we'll have additional insights and I look forward to all of that. With that, we're adjourned.

(Whereupon, the above-entitled matter went off the record at 11:23 a.m.)