UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

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35TH REGULATORY INFORMATION CONFERENCE (RIC)

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EDO PLENARY

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WEDNESDAY,

MARCH 15, 2023

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The Plenary Session convened at the Bethesda North Marriott Hotel and Conference Center, located at 5701 Marinelli Road, North Bethesda, Maryland and via Video Teleconference, at 10:30 a.m. EDT, Dan Dorman, Executive Director for Operations, NRC, presiding.

PRESENT:

DAN DORMAN, Executive Director for Operations, NRC

RAY FURSTENAU, Director, Office Nuclear Regulatory Research, NRC

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

10:30 a.m.

MR. FURSTENAU: It's my pleasure to introduce the EDO, excuse me, I just had a brain lapse on what's EDO. I'm sharing your pain, Commissioner Crowell.

(Laughter.)

Executive Director for Operations, that gave me a chance to remember. I've only been here five years so I still have an excuse.

The Executive Director for Operations, Dan Dorman, has over 40 years of nuclear safety experience beginning as a submarine officer in the US Navy and then transitioning to NRC in 1991 as a project engineer. He has held senior positions in the Offices of Nuclear Regulatory Research and Nuclear Security and Incident Response, Nuclear Material Safety and Safeguards and Nuclear Reactor Regulation.

He has also served as the Regional Administrator for NRC's Northeast Regional Office and he was appointed Executive Director for Operations in October 2021, so please join me in welcoming Dan Dorman.

MR. DORMAN: Thank you, Ray, and thank you everyone for that warm welcome. It gives me great

pleasure today to add my welcome to you to this year's Regulatory Information Conference. It's hard to believe that it's been four years since we were last able to meet in person at a RIC; however, we've learned a lot about virtual meetings and communicating with the public and today we're putting a lot of that experience to use in our first ever hybrid RIC.

Last year proved to be one of our most successful events ever with almost 3,000 people participating, all virtually. This year almost 4,000 people have registered. We're also pleased that representatives from nearly 50 countries have joined us for the conference this week, either in person or virtually. Putting together an event like this is a tremendous challenge and requires months of coordination and work. Actually a hybrid meeting like this introduces a significant number of additional challenges and complexities that don't exist when the event is either all in person or all virtual. So, I want to express my appreciation to all of the individuals in the Offices of Nuclear Reactor Regulation and Nuclear Regulatory Research as well as all the other volunteers from across the agency, whose hard work and planning have set the stage for another successful conference. Also, thank you to the staff

and the Office of Administration and the Office of the Chief Information Officer, many of whom are here today, who ensure that the facilities are safe and that the event can be streamed to the many people from around the globe. Thank you for all the good work that you've done.

This year has been a busy year for us at the NRC and we continue to evolve and prepare for the future. The NRC staff have continued to exhibit exemplary dedication and focus to execute our important safety and security mission in the dynamic environment guided by the Commission's principles of good regulation. We are continuously reviewing our processes and gaining insights from our own self assessments from the COVID-19 pandemic. Some Commission direction from external stakeholders and other sources as we seek to implement improvements and achieve and sustain mission excellence as a modern risk-informed regulator.

This year, we've made significant strides in applying risk insights to inform how the NRC achieves its licensing, oversight and regulatory duties. We're focused on providing the necessary regulatory infrastructure and guidance to help licensees safely transition from analog

instrumentation and control systems. The NRC staff is committed to the expanded safe use of digital technologies and we're focused on ensuring that we have a flexible, graded and risk-informed regulatory framework in place to support digital I&C upgrades.

In the last year, we started licensing reviews for major digital conversions from Turkey Point and Limerick and we're focused on reaching sound safety conclusions in a timely and efficient manner. We're continuing to review and approve applications to adopt advanced risk management programs for nuclear power reactors. For example, 10 CFR 50.69 provides a more risk-informed program for the treatment of structure systems and components. Since the NRC approved the pilot application in 2014, we've approved 50 applications for approximately 54 percent of the current fleet and we're currently reviewing three new applications.

We also established a risk-informed completion time program that allows technical specification times to be extended using a safety focused and risk-informed approach. Forty-eight percent of US operating plants have transitioned to this program. Finally, all plants have transitioned to a surveillance frequency control program that

allows for surveillance testing intervals to be risk-informed.

The feedback we have received is that these initiatives have resulted in safety and operational benefits including reduced personnel dose, reduced plant shutdowns and outage durations and reduced outage risk. Two other risk-informed initiatives that help us focus on items of greatest safety significance are the Very Low Safety Significance Issue Resolution process or VLSSIR and the Risk-Informed Process for Evaluations, which we refer to as RIPE, sorry, Commissioner Crowell.

VLSSIR was developed based on suggestions from both internal and external stakeholders to improve NRC processes so that very low safety significant inspections issues that do not have a clear connection to the facility licensing basis can be promptly resolved without excessive use of resources. VLSSIR also allows inspectors to close issues that meet a very low significance threshold early in the inspection process, enabling them to refocus their efforts to identify new issues. RIPE is complementary to VLSSIR and was developed to establish a more efficient means to review licensing actions that resolve low safety significance issues within the

licensing basis. If the risk associated with a proposed exemption or amendment request meets the conditions described in the RIPE guidance, then the NRC staff would review the request using a streamlined process.

Last year, the staff successfully approved the first application submitted under RIPE. The staff also recently expanded the RIPE guidance to include technical specifications and we're exploring other areas that may benefit from a similar risk-informed process. We continue to focus on the safe and secure operation of the fleet and our executing the reactor oversight process in a manner that continues to provide objective, risk-informed, understandable, and predictable oversight.

Part of the reason that the reactor oversight process continues to be effective after 23 years is that it has continued to evolve. We continually engage with internal and external stakeholders to gather input on the program. Last July, the Commission approved the staff's recommendation to transition to quadrennial engineering inspection cycles comprising one comprehensive engineering team inspection and three different focused engineering inspections over the

four-year cycle. The combined comprehensive and focused inspections will allow staff to examine an additional engineering area focused on risk significance, operating experience and regulatory framework while still maintaining the necessary level of oversight in the baseline program. These changes provide more risk significant samples while reducing the number of overall resources needed.

Also, we fully integrated cybersecurity inspections into the baseline program. The regions with support from headquarters concluded the initial cycle of baseline inspections. These initial inspections have provided valuable insights that we'll use to improve the effectiveness of the program.

Additionally, earlier this year, the staff completed a major revision to our regulatory guidance for cybersecurity programs for power reactors incorporating both lessons learned and the latest international standards and guidance in the cybersecurity field. NRC staff in the regions at nuclear sites and here at headquarters, continue to work closely together to ensure that we are providing the appropriate level of oversight at all NRC licensee facilities.

In 2022, the staff completed over 2,000

inspections and spent over 300,000 hours inspecting reactor facilities in accordance with the procedures and the Reactor Oversight Program. Similarly, staff conducted over 200 inspections at decommissioning, spent fuel and fuel facilities. Also in 2022, the number of force-on-force security inspections returned to near normal after declining as a result of the COVID-19 pandemic.

Twenty force-on-force inspections were completed in 2022 and the staff adopted a tiered approach to implement normal force-on-force inspections and be able to adapt to modified inspections as needed in conditions where a licensee was experiencing local COVID conditions which presented a significant impact on the ability to conduct the full inspection. Over the last several years, the NRC has adapted to a changing environment in a risk-informed manner and continued to successfully carry out all these oversight activities.

As has been noted by several commissioners this year, Vogtle Unit 3 transitioned from the construction reactor oversight process to the operating reactor oversight process after the 10 CFR 52.103(g) finding. This finding was based on our

determination that all the inspections, tests, analyses and acceptable criteria were successfully completed and allows the licensee, Southern Nuclear Operating Company, to load fuel and begin operation of the unit in accordance with the license.

Vogtle Unit 3 is the first Part 52 plant and the first new construction of a nuclear power plant in this country in over 30 years. This milestone is a significant achievement for the licensee, for the industry. It's also a significant achievement for the NRC. This historic accomplishment was over 10 years in the making since the initial excavations on site. It was an agency effort that could only be achieved through the dedicated and committed actions and activities of countless NRC staff from across the agency. As a result, last week, Unit 3 achieved its initial criticality.

Another significant focus area for us the past year has been subsequent license renewal. The NRC staff received its first subsequent license renewal application in January 2018 and has received eight additional applications for a total of 16 units. As of today, we have issued subsequent licenses for six units at 3 sites and we expect to receive even more applications over the next couple of years. We

will continue to ensure thorough safety and environmental reviews are completed in a timely and efficient manner as we navigate this surge in workload.

We are currently completing the ongoing reviews in a safety focused manner centered on the key technical issues to manage the effects of aging and long-term operations. An integral part of this process is our use of the Generic Environmental Impact Statement for license renewal of nuclear plants or the GEIS. We are currently diligently working to implement the Commission's direction to ensure that the NRC's environmental regulations and supporting analyses and guidance fully support the subsequent license renewal for nuclear power plant operating licenses from 60 to 80 years. To that end, the staff is developing a rulemaking to update the license renewal GEIS to explicitly address subsequent license renewal. The proposed rule and draft license renewal GEIS were published on March 3 with a 60-day public comment period. There will be two public meetings held here at this venue on Thursday afternoon following the completion of this conference.

Four additional public meetings will be held around each of the NRC's four regional offices in

late March and early April. We expect to complete the license renewal GEIS rulemaking in April 2024. While we expect a significant number of subsequent license renewal requests to be submitted to the NRC, we are also supporting the decommissioning process. NRC is responsible for the safety and security through our licensing and oversight work at 26 decommissioning power reactors as well as four decommissioning research reactors, eight complex material sites, 28 uranium mill tailing sites, and five uranium recovery sites.

Additionally, we will continue to support other agencies by sharing our knowledgeable staff and expertise. This year we supported the Department of Energy as they worked to process waste incidental to reprocessing at former weapons complex sites and we are supporting the decommissioning of vessels for naval reactors. We remain committed to having proactive and meaningful interactions throughout the decommissioning process to increase confidence of our stakeholders, whose input helps improve our regulatory decisions. We will also continue to engage with our Federal, Agreement State, and Tribal partners to address the challenges related to uranium mill site decommissioning. The legacy of past uranium mining

and milling activities remains a concern in many places, particularly in and around Native American communities.

Last April, the Commission held a meeting with the Navajo Nation's Red Water Pond Road Community at a public meeting in Gallup, New Mexico to discuss the NRC's role in the federal government's 10-year plan to address the impacts of uranium contamination on the Navajo Nation and lessons learned from the remediation of former uranium mill sites on the Navajo Nation and across the west.

We will continue to work closely with our partners to address the challenges associated with the uranium recovery decommissioning process and provide for the disposal, long term stabilization and control of uranium mill tailings in a safe and environmentally sound manner and to minimize or eliminate radiation health hazards to the public.

Over the last year, we implemented risk-informed nationwide licensing for medical uses of radioactive materials through guidance for emerging technologies. Including a revised training approach and a new model for the North Star Medical Radioisotopes Radiogenics Generator System, which produces technetium used in various medical

procedures. Additionally, we issued initial licensing guidance for Alpha DaRT manual brachytherapy sources. This is the first licensing guidance issued under the new streamlined emerging medical technologies review and guidance development process.

We also completed a first-of-a-kind evaluation of NRC-recognized medical specialty boards to support their continued qualification of authorized users of radioactive materials. We are making strides in supporting long term investment within the agency's research program by maintaining, developing, and distributing computer codes to support nuclear safety analysis. The Commission directed the staff to develop a code investment plan to facilitate integrated management of computer codes. This plan covers approximately 40 scientific codes used for technical analysis in support of safety decisions. This plan resulted in the discontinuation of nine computer codes and provides resources to consolidate seven others over the coming years.

The staff's efforts have also pinpointed some immediate priorities including updating the MELCOR, MACCS, and SCALE codes to assist with severe accident modeling for advanced reactors and the FAST code to assist with modeling for accident tolerant

fuels. By implementing integrated planning for our computer codes, we ensure that the agency is fully equipped with the necessary capabilities and will be ready to support safety decisions when required.

On the international front, the staff continues to demonstrate leadership in nuclear safety and security consistent with the agency's international strategy. Over the past year, we've supported broader U.S. government nuclear outreach efforts around the world, ensuring that countries that choose to operate nuclear power plants or use radiological materials can leverage the NRC's decades of experience. I would like to specifically highlight our collaboration in central and eastern Europe, where we have provided targeted in-depth regulatory capacity building support to regulatory counterparts in several countries, including Poland, as they endeavor to license their country's first nuclear power plant.

I applaud the staff both in headquarters and the regions, who have showcased the NRC's regulatory prowess with key partners amid their day-to-day high priority domestic licensing and oversight work. While on the topic of eastern Europe, I want to also note that we have continued to stand by our regulatory counterparts in Ukraine over the past 13

months, providing technical and financial support as they demonstrate incredible courage and commitment to carry out their regulatory duties during this war.

Global collaboration on new reactor licensing continues to be a hot topic and over the past year, the NRC has continued our work with our Canadian colleagues on small modular reactor and advanced reactor pre-licensing work. We're also contributing to the regulatory working groups that are a part of the IAEA's nuclear harmonization and standardization initiative. At this point, I'd just like to plug my panel tomorrow morning at 10:30, where you can hear more about those international harmonization efforts.

Over the next few years, we will be closely monitoring the domestic energy environment and preparing for a potential increase in licensing actions to extend or expand power plant operations. In addition to the diverse innovative reactor technologies on which the staff has been engaged with various developers, the Inflation Reduction Act provides incentives that are likely to motivate many of our licensees to consider facility modifications and related licensing actions in the relative near term.

For example, we anticipate a renewed interest in applications for increasing the maximum power level at which the plant is licensed to operate, increasing a power output which may require significant upgrade or modification of systems and components. Similarly, licensees are continuing to submit license renewals including subsequent license renewals to extend the operating life of current plants. In both cases, the NRC must be equipped to conduct safety assessments to ensure that these changes to the facilities and their licensing bases do not pose undue risk.

We will also be preparing for and safety regulating new and novel technologies as we navigate the nuclear future. Small modular reactors, advanced reactors, fusion energy systems, and the development of new fields and technologies being explored internationally and here in the United States, provide an opportunity for us to support safe deployment of these new technologies. I'm confident that the NRC staff is up to the task and prepared to make risk-informed and data driven decisions that will support appropriate innovation while continuing to ensure safety and security and protect people and the environment.

I want to take a few minutes now to talk about the new and exciting activities we're seeing and how we are responding. We're fully engaged in pre-application activities and are reviewing two advanced reactor designs that use different types of fuel and cooling systems. These new designs in some cases present unique safety and security considerations that we must address.

We're currently reviewing the Kairos Hermes construction permit application. The Kairos Hermes test reactor is a fluoride-salt-cooled high temperature reactor designed to be more efficient and more flexible than traditional light water reactors. It uses tri-structural isotropic fuel particles, or TRISO, and as we review this application, we are applying lessons learned from our review of the NuScale small modular reactor design certification, which we completed last summer.

Taking into account the applicant's high level of pre-application engagement and the high quality of the submittal, we set a 21-month schedule for this construction permit review and are currently on schedule to complete the staff's safety and environmental reviews maybe even a little early.

Similarly, we're currently reviewing the

construction permit application for the Abilene Christian University molten salt research reactor. Like the Hermes test reactor, the Abilene Christian University reactor would also use high assay, low enriched uranium as its fuel. We're working on ensuring that we have the appropriate regulatory infrastructure in place to license and regulate advanced nuclear fuels, like high assay and low enrichment.

There are some proliferation risks associated with the handling and transport of these higher enriched fuels. However, we are steadfastly focused on ensuring that we're properly evaluating and accounting for these risks in our regulatory framework. To that end, in 2022, we issued updated guidance on material control and accounting practices at facilities possessing these types of materials. As with many advanced reactor designs, we are not only focused on the reactor, but on the manufacturing of fuels that many of these reactors will use.

We recently accepted for review the license application for our first ever Category 2 fuel fabrication facility. We anticipate completing that review by June 2025 and we are also continuing pre-application activities with Kairos Power on its

planned Atlas fuel fabrication facility in Oak Ridge, Tennessee, which will be located near the Kairos Hermes test reactor. Aside from advanced reactors like Hermes and Abilene Christian, we're also engaged in pre-application activities with several potential small modular reactor applicants.

Small modular reactors are smaller and more flexible than traditional nuclear reactors and the NRC staff is currently reviewing the NuScale US-460 SMR standard design approval application for technical sufficiency before docketing. This design incorporates a number of changes including a thermal power increase and enhancements to the original designs passive safety features which means that the reactor can automatically shut down and cool itself in the event of an emergency without any human intervention.

Additionally, the modular design of the reactor means that it can be manufactured in a factory, transported to the site by truck or rail and implemented with several different configurations allowing for varied numbers of modules for various power output capabilities, depending on the need of the applicant. As such, this design is different than the traditional large light water operating reactors

designs that we have licensed and regulated for the last half century. Our staff is ensuring that we apply the appropriate review approach commensurate with their risk and safety significance to the small modular reactors as well as non-light water reactor designs.

We will ensure that small modular and advanced reactors are designed, constructed, and operated safely and securely in accordance with NRC's requirements.

Similarly, we are looking at accident tolerant fuel designs that use materials and coatings that can help reduce the consequences of accidents or fuel failures. Accident tolerant fuels are being developed for use in the existing reactors and we are actively preparing for the safe deployment of these fuels in the operating reactor fleet.

We are working collaboratively to ensure that we are prepared to review in-reactor fuel performance and to address fuel cycle, transportation, and storage issues. In 2022, we accepted for review the first two license amendment requests for the use of accident tolerant fuel with increased enrichment and higher burn up and issued three licensing actions to support enrichment facilities and fuel fabricators

possessing and using fuels with higher enrichment limits. These accomplishments represent several major building blocks to support the licensing of nearterm accident tolerant fuel concepts across the fuel cycle.

Also in 2022, the Commission approved the staff's proposal to initiate a rulemaking to amend requirements for the use of light water reactor fuel that make use of enrichments greater than the current limit. This rulemaking could provide for a more efficient licensing pathway for new fuel types that continues to ensure safety while also increasing transparency by providing multiple opportunities for stakeholder engagement through the rulemaking process. Staff is currently in the process of developing the regulatory basis.

We are seeing increased licensing activity related to medical isotope production facilities. Last month the staff issued its final safety evaluation report for the SHINE facility, which paves the way to issue the operating license once the applicant completes construction. This will ensure a safe and reliable domestic supply of certain medical isotopes. Additionally, we have had pre-application engagement with Niowave, which is seeking to commercially produce molybdenum-99. The staff has

also conducted a pre-application audit with Atomic Alchemy to communicate the pertinent regulatory requirements and guidance, including acceptance criteria that will be used to conduct the anticipated Part 53 application review.

Our staff is hard at work to understand the technology and the licensing approach for these applicants. We're actively participating in discussions with potential applicants, monitoring Department of Energy activities, conducting regulatory gap assessments to better understand the state of knowledge for these technologies, and assure that we are ready to effectively and efficiently license them when submitted.

As we navigate the nuclear future, we believe our regulatory framework has demonstrated its flexibility in licensing new technologies and we are prepared to further adapt as needed. We are ready to license new and advanced reactors and other new technologies. We are focusing on reviews on the most risk and safety significant aspects of these new technologies. This risk-informed safety focus is yielding benefits for the NRC, for the applicants, and for the public through more timely and efficient reviews by focusing on the most safety significant

aspects of the design.

The Part 53 proposed rulemaking continues to be a remarkable effort by staff and stakeholders to develop a technology inclusive, risk-informed, and performance based regulatory framework that represents a cornerstone in NRC strategy to prepare for the licensing of advanced reactors. The NRC remains committed to our vision of developing an innovative, predictable and flexible framework to enable the efficient and reliable licensing of advanced reactors. Over the last year, we made significant progress and delivered the proposed rule to the Commission just a few weeks ago. My thanks to everyone, both internally and externally, who have contributed to this significant undertaking.

Additionally, the NRC staff provided the Commission a draft final rule on emergency planning for small modular reactors and other new technologies that provides an alternative performance-based framework for emergency response capabilities based on the facility's hazards. To inform emergency plan development at these facilities, the staff has worked with many applicants new to the nuclear industry to support submittals of new methodologies on emergency response staffing and action levels for small modular

reactors. Although the rule is not yet final, the staff is reviewing topical reports by applicants eager to apply these concepts.

Of particular note, we have applied innovative risk-informed approaches to recently approved NuScale's methodology for sizing a small modular reactor emergency planning zone. As we continue to work on providing flexible and predictable options for licensing and regulating advanced reactors, small modular reactors, advanced reactor fuels and other new technologies, we're also looking at the future of fusion energy systems.

While the NRC has a mature regulatory framework for fusion reactors, its regulations do not explicitly address fusion energy. Developing an appropriate regulatory framework that meets the NRC's safety and security mission is essential for providing regulatory clarity and predictability to an advancing fusion industry. The NRC staff is working closely with the Department of Energy, Agreement State partners, and others to fully understand the technologies under development, and the Commission is considering options for regulating fusion technologies that would support continuing research and development and the eventual safe, commercial deployment of fusion

energy.

It's an exciting time in the nuclear field as fusion energy continues to make significant technological progress towards becoming a viable energy source. From advanced reactors to accident tolerant fuels to fusion, the NRC will continue to carry out its regulatory activities in line with our NRC principles of good regulation, independence, openness, efficiency, clarity, and reliability. As technology and the nuclear industry continue to evolve, the NRC will continue to achieve mission excellent in a diverse, inclusive, and innovative environment with a highly skilled adaptable and engaged work force that is up to the challenge.

We'll continue to rely on and build upon the transformation efforts that started four years ago. Specifically, that effort focused our attention on being risk smart, using technology to work smarter, innovating how we work, and ensuring that we maintain an engaged and highly skilled work force now and in the future. These continue to be focus areas for us and we want to hear from you.

Currently we are seeking external stakeholder feedback on our efforts and the QR code on the slide here will take you to that survey. You can

also find this link to the survey on the NRC's public web page. This survey will be open until the end of this month and I want to encourage you to take this opportunity to share your thoughts with us.

I mentioned our expansive risk initiatives at the beginning and they go hand in hand with the agency's active efforts to innovate and fully use technology to make decisions. Since the launch of our innovation platform, IdeaScale, more than 500 ideas have been implemented that have allowed the staff to complete their everyday tasks in more efficient ways, as well as to enhance our information sharing with our stakeholders. For example, staff developed dashboards to communicate the status of some of our advanced reactor licensing activities, such as the Kairos Hermes project status dashboard that provides the status of the staff's safety and environmental reviews.

One of our significant transformation focus areas is our people. At the NRC, we have wonderful and talented and dedicated staff who are indispensable as we navigate the nuclear future in an uncertain environment. I am committed to supporting them and ensuring that they have the resources to successfully achieve our mission. Today, one of our

agency priorities and one of our strategic goals is to continue to foster a healthy organization which will provide us with the capacity and capability to enhance the agency's culture, organizational learning, business practices, and strategic management to prepare for an evolving and uncertain future.

To help achieve this goal, our human capital and training and development staff are hard at work supporting our efforts to hire and train a new generation of employees who will bring knowledge and experiences that will work in concert with our experienced staff to build on our successes and help us better prepare for the future. Inspiring stakeholder confidence in the NRC is another one of our strategic goals and as I've mentioned throughout today's remarks, it will continue to be a priority for me and the NRC staff, including our regulatory and corporate staff as we continue to engage with many of you on these challenging issues.

In all of these areas, safety and security remain our mission and focus in all that we do. I am confident that all of our staff, no matter their position or job title, are focused on helping us achieve this critically important goal. We will continue to support our entire work force and ensure

that they have the resources to do their jobs as well as to provide them with opportunities to develop their skills so that we can continue to adapt to an evolving environment.

In conclusion, I know that our adaptability, creativity, and resilience will help the NRC continue to achieve our mission with excellence. As we move forward, we will continue to embrace the unknown with a sense of purpose and optimism with the knowledge that change can bring opportunities for growth and innovation. We will continue to stay nimble, stay positive, and take action towards our goals.

Thank you for listening. I look forward to taking some questions.

MR. FURSTENAU: We have time for a few questions, Dan. A question came in about a need to hire. Several speakers throughout the conference talked about the need to hire more than 200 new staff this year. What improvements to the hiring process have or will be implemented in order to streamline the process of hiring?

MR. DORMAN: Great, great question. Let me give a little bit of context to that. I think some of the commissioners know that we hired just over 200

people last year, but we lost more than that. So, even though that was our biggest hiring year in many years, we actually lost ground and have a very aggressive goal for hiring this year. As I think Commissioner Caputo noted, we went from four percent attrition to seven percent attrition over the last several years and we saw that coming. There's mention of a median age of 50 in our work force, about five years ago the average age in our work force was 58, so we're making progress in that regard, but what that's saying is we have a lot of people who stay five, 10 years past when they could retire and that's, I think, evidence of the dedication and commitment of the NRC work force. But that, as was noted, everybody at some point is going to move on into retirement.

I think by the time we get to the RIC two years from now, a third of the agency will not have any recollection of virtual RIC. That's a stunning thing. Streamlining the recruiting process, we're looking at ways that we can use a single vacancy announcement to fill multiple positions, to streamline the process so that we don't have to do one for one. There was mention, I think, in the Chair's talk yesterday morning that we're going to have a recruitment event here in this venue on May 11, so

we're looking to really go beyond, expand beyond our existing recruitment strategies to really reach a broader pool of candidates.

I think one of the other things that I would note, there's been a number of discussions around diversity and inclusion. We're really trying to think beyond, still including obviously the big nuclear engineering programs in our recruitment strategies, but also looking beyond that to minority serving institutions and wherever we go to reach into the minority serving groups that are present at the various universities to broaden the pool of candidates that we're bringing in, so that we're bringing in a work force that really is more reflective of the American public. The challenge then that was also addressed is the inclusion. Every NRC employee is brought in here because somebody saw they added value to our mission, no matter where they work in the agency and our job as leaders is to create an environment where they're comfortable bringing that value forward.

MR. FURSTENAU: Okay, thanks, Dan. You mentioned a little bit about transformation. This question is what will the NRC or you in particular do to truly change the culture at the NRC and to speed up

approvals for new licensees, advanced reactors, that sort of thing?

MR. DORMAN: A lot of it has been ongoing and as is implied in the question, you know, culture is something that you don't just flip a switch and change, so it's really changing attitudes and behaviors over time. I think that the Be riskSMART component of our transformation effort builds on the direction that the Commission provided us in the NuScale review regarding the inadvertent actuation block valve.

It really helped us bring the staff along, guide us in how we implement a longstanding Commission policy on the use of PRA in decision making, but to help us make sure we're really focusing on the most safety significant things and to apply that not just in that singular instance of NuScale, but how to apply that across the board. Our Be riskSMART effort built on that direction and it’s bringing that conscious consideration of risk at the front end of the work that we do to guide the level of effort that we're going to apply to different parts of the work that we do.

The other piece that I'll highlight, I think Andrea and her team have been doing a great job

in NRR licensing, is early identification and resolution of issues. There will be disagreements on how decisions should be made. Let's get those out and into the management team early, engage the applicant to the extent that that needs to be done, but get it resolved early so that we're not dragging the review at the back and suddenly discovering these kind of issues.

MR. FURSTENAU: Okay, thanks. The next question, Dan, in your opinion, how robust is the knowledge transfer to the new generation from the NRC staff?

MR. DORMAN: I'll borrow from, I think it was Commissioner Crowell, who said lets the ask the NRANers. I think there are a number of fronts for knowledge management, I think one of the innovations over the last five years has been the use of the wiki platform, Nuclepedia that I think are a great resource for people to go find the links to the information that they need.

There's so much knowledge baked into our regulations and our guidance documents, but there's also a tremendous amount of experience walking the halls. I think there are efforts to be intentional as we bring in, you know, turn over a third of the staff

in several years' time frame to be very intentional about connecting people to have that turnover to share the experience. Ultimately, we need that experience embedded in the guidance documents because people walk out the door every day with a tremendous amount of knowledge. We need that to be first and foremost captured within the infrastructure of the agency and be available, but the person-to-person turnover, to me, that's where I learned a lot in my first five years in the agency, was from the people who have gone before.

MR. FURSTENAU: All right, one last question and this kind of combines a couple, but it's a question related to fusion and maybe it'll test your knowledge of the Atomic Energy Act here, Dan. How does the Atomic Energy Act authorize NRC to regulate fusion reactors or is some change to that needed?

MR. DORMAN: So, I don't think a change is needed. I think one of the issues that the staff put before the Commission in the proposal for rulemaking around fusion is first off that everything that we're hearing about today fits under a Part 30 framework, a by-product material framework. I think there's adequate authority there. One of the questions that's before the Commission is there were things that were

talked about in the past in fusion technology that really aren't being pursued right now but involve fissile material. It involved other considerations that could cross a threshold in the AEA's definition of utilization facilities.

Utilization facilities involve fissile material, that one is easy. They also involve nuclear energy systems that involve a significant either hazard to public health and safety or significant consideration on a common defense and security. So that was where the staff teed up the question of do we want to define that line in the rule. I think you heard from several commissioners, their views on that and we look forward to the Commission's direction on that, but I think there's adequate authority in our by-product material oversight to regulate fusion as we currently envision it coming.

MR. FURSTENAU: Okay, well thanks for your remarks and the answers to the questions. With that, we'll close the session. Thank you, Dan.

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