UNITED STATES

NUCLEAR REGULATORY COMMISSION

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BRIEFING ON INTERNATIONAL ACTIVITIES

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TUESDAY,

JANUARY 23, 2024

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The Commission met in the Commissioners' Hearing Room,

at 10:00 a.m., Christopher T. Hanson, Chair, presiding.

COMMISSION MEMBERS:

CHRISTOPHER T. HANSON, Chair

DAVID A. WRIGHT, Commissioner

ANNIE CAPUTO, Commissioner

BRADLEY R. CROWELL, Commissioner

ALSO PRESENT:

CARRIE M. SAFFORD, Secretary of the Commission

BROOKE P. CLARK, General Counsel

NRC STAFF:

DANIEL H. DORMAN, Executive Director of Operations

DAVID SKEEN, Director, Office of International Programs

SABRINA ATACK, Deputy Director, Office of International Programs

JENNIFER HOLZMAN, Senior Foreign Policy Advisor, Office of International

Programs

OTHER FEDERAL STAFF:

JUSTIN FRIEDMAN, Senior Advisor for Commercial Competitiveness in Nuclear Energy, Bureau of International Security and Nonproliferation, Department of State

PROCEEDINGS

1	9:42 a.m.
2	CHAIR HANSON: Good morning, everyone. I convene
3	the Nuclear Regulatory Commission's public meeting for the purpose of
4	hearing about the accomplishments under our international strategy, as well
5	as upcoming international priorities.
6	We have a panel of NRC staff, and I'm pleased to welcome
7	Mr. Justin Friedman from the U.S. State Department. He's a Senior Advisor
8	for commercial competitiveness in nuclear energy within the International
9	Security and Nonproliferation Bureau at State. Mr. Friedman, welcome.
10	Before we get started, I'd just like to take a quick moment
11	and acknowledge that this is our last Commission meeting in-house for our
12	Executive Director Dan Dorman. And while many of us will have the
13	opportunity to speak at greater length and more personally at your retirement
14	celebration, I want to personally thank you for your 30 years of service here at
15	the NRC, your service to our country, and the U.S. Navy. And you've led this
16	agency through a pandemic, through a difficult time, and throughout you've
17	done it with a steady hand, and I feel you've really been the face of integrity
18	here at the agency, and I want to thank you for your service.
19	MR. DORMAN: Thank you, Chair.
20	CHAIR HANSON: With that, I'll ask my colleagues if they
21	have any remarks they'd like to make before we hand it over to the staff.
22	Okay, thank you. Mr. Skeen, the floor is yours.
23	MR. SKEEN: Thank you, Chair, and good morning, Chair,
24	and Commissioners. It is really my great pleasure to be here today with Dan
25	Dorman for his last Commission meeting, and to jointly brief you on the
26	accomplishments and priorities of the agency's international activities. I am

also joined today by Sabrina Atack, the Deputy Director of the Office of
 International Programs.

As well as Jennifer Holzman, who is our Senior Foreign Policy Advisor. And as the Chair just mentioned, Justin Friedman is here from the Department of State. I also wanted to just acknowledge Lowell Schwartz, who has just joined the State Department as the Deputy Assistant Secretary for Non-Proliferation Policy. He has just replaced Anthony Wire, who has left State Department, and we look forward to working closely with him in his new role. So, welcome, Lowell.

10 Next slide please. So, today we will provide an overview of 11 the agency's high level international program accomplishments from Fiscal 12 Year 2023, and our programmatic priorities for Fiscal Year 24. We will 13 provide examples of both the accomplishments and priorities organized 14 according to the five objectives in the NRC's international strategy.

We will also provide additional details on some topics of particular interest to the Commission, including the NRC's bilateral partnership with Canada's Nuclear Regulator on Small Modular Reactor technical reviews. Also, our involvement in the International Atomic Energy Agency's Nuclear Harmonization and Standardization Initiative, and our ongoing capacitybuilding efforts to Poland.

l'd like to emphasize at the outset that the managers and
staff experts from across the NRC contribute to the agency's international
activities, and are instrumental to the success of the international programs.
I will now turn to Jennifer Holzman to provide a brief overview of NRC's
international strategic objectives. So, next slide please.

MS. HOLZMAN: Thank you, Dave, and good morning,
 Chair, and Commissioners. The NRC's international strategy was published

in 2021. It was developed with extensive input from NRC senior leadership,
 as well as colleagues from around the executive branch. These five strategic
 objectives supplement the references to international engagement in the
 agency's strategic plan.

5 EXCEL refers to maintaining excellence in our statutorily 6 mandated activities, such as export licensing or implementation of 7 conventions and treaties. Integrate demonstrates our commitment to ensuring that the NRC's international activities consider and contribute to 8 9 broader U.S. policy priorities. The partner objective points to our 10 relationships with regulatory counterparts with which we can share knowledge for mutual benefit. 11

Next slide, please. Lead refers to the importance of demonstrating regulatory leadership in areas in which the NRC is advanced in its experience, and also in areas of particular importance to U.S. foreign policy. Finally the assist objective highlights the NRC's work to strengthen nuclear safety and security worldwide through regulatory capacity-building and assistance in both nuclear and non-nuclear applications.

These objectives are consistent with the Commission's 2014 international policy statement, which directly links the NRC's international activities with its domestic mission. A revised strategy is due to the Commission in 2025. I will be working in concert with the Office of the Executive Director for Operations to lead an in depth assessment of both internal and external drivers that are likely to impact the NRC's international work in the coming years.

As in years past, this will include bench marking with other regulators' international strategies, as well as extensive engagement with both Senior NRC executives and our federal partners. With that, let me turn back to Mr. Skeen to discuss the first portion of NRC's accomplishments and
 priorities in statutorily mandated activities under the first strategic objective,
 EXCEL. Dave?

MR. SKEEN: Thank you, Jen. Is the slide up for EXCEL? 4 5 Yeah. So, I will briefly now cover some of the more significant conventions 6 and treaties that the NRC supports. So, next slide. The NRC plays a critical 7 role in the U.S. government's implementation of its legally binding obligations. 8 In fiscal year 2023 the NRC sent a strong multi office delegation to support 9 the joint eighth and ninth review meeting of the Convention on Nuclear Safety, 10 which is the international treaty with the objective of achieving and maintaining 11 a high level of safety at civil nuclear installations worldwide.

12 The NRC is the lead federal agency for implementing the 13 Convention, and Chair Hanson led the U.S. delegation at the review meeting 14 last spring. Chair Hanson and Dan Dorman presented the U.S. National 15 Report, alongside the president and CEO of the Institute of Nuclear Power 16 Operations, Admiral Robert Willard, at that meeting, and he provided the 17 industry's perspectives on the U.S. programs.

18 The NRC staff from a variety of program offices supported 19 all seven of the country groups that were at this meeting, and NRC 20 representatives served in leadership roles in two of the seven country groups. 21 Through extensive planning and coordination among U.S. government 22 agencies, the international partners, the United States delegation was also 23 instrumental in ensuring that language regarding Russia's aggression in Ukraine was raised in every country group and included in the review 24 25 meeting's official reporting.

In addition the U.S. delegation played a critical role in
 developing a joint statement signed by more than 30 like-minded countries

condemning Russia's invasion and offering support for Ukraine. The NRC
 also participated in the first of a series of interagency meetings to prepare
 for the next Nuclear non-Proliferation Treaty Review Meeting in 2026.

The review meeting will assess the continued progress and challenges in nuclear disarmament, non-proliferation, and the peaceful uses of nuclear energy. In addition, the NRC continued to work with U.S. government colleagues in FY 23 to advance global efforts to encourage additional countries to implement the convention on the physical protection of nuclear materials and the amendment. And these activities will continue into 2024.

Although the code of conduct on the safety and security of radioactive sources is not a legally binding convention, we included it on this slide because of the NRC's sustained engagement worldwide to advance radioactive source safety and security through political commitments to the code. In FY 23 the NRC played a critical role in a high level meeting with other countries commemorating the code's 20th anniversary, including having a senior NRC manager serve as the meeting's co-chair.

In addition, NRC staff participated in a team of international experts who provided the first ever point of contact training associated with the code's export and import guidance documents. As a part of implementing the U.S. IAEA safeguards agreement, the NRC supported the U.S. Department of Energy's International Nuclear Safeguards Engagement Program, or INSEP by working with countries to help build their capacity to account for and declare nuclear materials through the INSEP workshops.

The NRC also supported the IAEA in its efforts to integrate safety, security, and safeguards into the work for SMRs. In FY 24 the staff will once again work with the Department of Energy to begin developing the national report for the next triennial review meeting for the Joint Convention
on the Safety of Spent Fuel and Radioactive Waste Management. The staff
will also continue its efforts to implement the U.S. IAEA safeguards
agreement.

5 Obligations under this agreement include providing 6 information to the IAEA on civilian nuclear facilities in the United States, and 7 providing access to those facilities to conduct inspections. U.S. government 8 responsibility for monitoring U.S. compliance with the safeguards agreement, 9 and implementation of U.S. international safeguards policy is assigned to a 10 subgroup on IAEA safeguards in the United States which is chaired by the 11 NRC.

And finally, the staff will also continue to serve in our functions as points of contact under the early notification and assistance conventions. So, with that, I will now ask Ms. Atack to discuss more of our work under EXCEL, specifically focusing on the NRC's export and import licensing activities.

17 MS. ATACK: Thank you, Dave. Next slide, please. 18 Good morning, Chair, and Commissioners. The NRC's export import 19 licensing program remains a fundamental underpinning of our international 20 program, and a key aspect of U.S. civil nuclear cooperation. As the U.S. NRC 21 retains the statutory authority for import and export licensing for nuclear 22 material, equipment, and components, we maintain close cooperation within 23 our agency to ensure that proposed transfers are not inimical to national 24 security interests, and that appropriate safety and security measures are in 25 place.

For transfers of significant materials and equipment, this involves ensuring civil nuclear cooperation agreements, or Section 123 agreements are enacted consistent with the NRC's obligations under the
 Atomic Energy Act. These agreements are crucial to ensuring the peaceful
 use of nuclear material and equipment, and that the highest non-proliferation
 controls are applied to certain types of significant nuclear commerce.

In November 2023, our staff played a key role in negotiating and concluding a 123 agreement between the United States and the government of the Philippines signed by Secretary of State Blinken and President Marcos. The signing is pictured on this slide, and was the culmination of significant interagency and international collaboration.

As the administration pursues 123 agreements with other emerging and established nuclear power countries, OIP staff will continue to participate in negotiations alongside our partners from the departments of state and energy to ensure that the necessary conditions for expert licensing are reflected in the agreements, and that no terms of the agreements would negatively impact the NRC's licensing process.

While the NRC has a well-established framework for import and export licensing, after careful study and analysis, we recognized that pursuing changes to 10 CFR Part 110 to clarify the applicability of the rule to advanced reactor related equipment and materials would be prudent given the significant interest in the export of advanced reactor technology.

With the Commission's approval of the staff's proposed rulemaking effort, we are currently working to prepare a draft proposed rule to provide to the Commission in November 2024. In addition, as we look at changes to the export landscape, we are also maintaining active engagement with the international community to share best practices related to export controls through our participation in the delegation to the nuclear suppliers group. 1 Continuing with the theme of information sharing as a 2 means to further increase transparency with potential licensees, the staff also 3 developed a web based training course on the NRC's export and import 4 licensing process for nuclear equipment and material. The course consists 5 of five modules that outline the export and import license application, 6 acceptance, and review process, and the steps taken to issue NRC export 7 and import licenses.

By the end of the course participants obtain a better understanding of the NRC's regulatory authority, and their responsibilities for submitting a complete application to minimize delays. We've already seen a keen interest in the training from the public, including advanced reactor vendors. Before I conclude my overview of import and export licensing program activities, I want to highlight the significant level of collaboration that goes into the program.

NRC staff and the Offices of the General Counsel, Nuclear Material Safety and Safeguards, and Nuclear Security and Incident Response support a myriad of licensing and technology transfer reviews each year to ensure a holistic assessment of these actions. There is also substantial support and engagement from our partners at the Departments of State, Energy, and Commerce to ensure a whole a government approach to the control of materials and technology.

This includes routine interfaces during the review of license applications, collaboration on policy matters, and a team based approach to the conduct of physical protection bilateral visits. During these visits, NRC experts from the Office of Nuclear Security and Incident Response, and International Programs join colleagues from the Departments of Energy and State to validate protections in place for U.S. obligated nuclear material that's 1 exported to other countries.

In fiscal year 2023 we conducted four of these visits, and plan to conduct an additional four in fiscal year 2024. As you can see, there is a complex ecosystem that crosses office, agency, and international boundaries to ensure that imports, exports, and transfers of technology, material, and equipment are done in a safe, secure, predictable, and durable manner that aligns with U.S. strategic priorities and non-proliferation requirements.

I am happy to note that the NRC's close engagement with
our interagency partners extends far beyond licensing and non-proliferation
policy. To that end, it is my pleasure to now turn to Mr. Friedman to discuss
our close coordination under the next strategic objective, Integrate. That is
ensuring that NRC activities are integrated with the broader U.S. government
national security and foreign policy priorities. Next slide, please.

MR. FRIEDMAN: Thank you, Sabrina, and good morning, everyone, Chairman Hanson, Commissioners. I'm Justin Friedman, I've been introduced already, but I'll say it again. I'm the senior advisor for Commercial Competitiveness in Nuclear Energy at the Bureau of International Security and non-Proliferation at the Department of State or ISN, and it's an honor for me to be here to represent ISN at this meeting.

And I'd like to introduce, or re-introduced our new Deputy Assistant Secretary Lowell Schwartz, who hopefully will be sitting in this chair next time. But it's a pleasure to be here, and I'm delighted and honored to have this opportunity. For those of you who are unfamiliar with the International Security and non-Proliferation Bureau, or ISN, we lead the U.S. efforts to prevent, impede, and where possible roll back the spread of nuclear, chemical, and biological weapons, their delivery systems, destabilizing advanced conventional weapons, as well as related materials and
 technologies.

And I would add to that also advanced technologies and cutting edge technologies as well. Much of this involves working closely with international partners, and our interagency colleagues. The Nuclear Regulatory Commission is principle among them when it comes to nuclear non-proliferation. I want to express deep appreciation for our significant and exceptional partnership with the NRC on a range of issues that enhance our national security and foreign policy.

10 This integrated and active partnership enables the U.S. 11 government to engage in effective civil nuclear cooperation, which is what I 12 work on, licensing, nuclear safety, security, and safeguards, and as I will 13 speak later, the key capacity-building programs such as FIRST. Nuclear 14 energy is at its core a national security issue, and a critical element of high 15 priority lines of effort to counter strategic competitors like the PRC and Russia. 16 Recognizing the urgency of climate change, and the shared 17 global risk to all nations, it is obvious that nuclear energy will be key to tackling 18 the climate challenge while ensuring sustainable global development. ISN 19 and NRC regularly work hand in hand at the working level to coordinate on 20 shared priorities. Specifically, I want to highlight the important role the NRC 21 plays in implementing international safeguards.

The NRC chairs the interagency group that coordinates safeguards implementation in the United States, and submits reports to the International Atomic Energy Agency on our exports of nuclear material and equipment. The NRC is also a key member of the interagency subgroup that overseas U.S. extra budgetary assistance to the IAEA Department of Safeguards. This interagency collaboration is important for maintaining a strong nuclear non-proliferation regime where the IAEA can continue to provide credible assurances about peaceful nuclear programs of non-nuclear weapon states. We will need to continue our efforts to make sure the IAEA is able to apply effective and efficient safeguards to small modular reactors exported to non-nuclear weapon states by the U.S. vendors.

Including through support for safeguards by design, and by
working with recipient states to ensure that they have the necessary legal and
regulatory infrastructure in place to facilitate the safeguard's implementation.
The global demand for NRC engagement is huge. My colleagues and I have
done extensive travel to Southeast Asia, Africa, and Latin America, and even
Eastern Europe in the last six months.

And everywhere we go, everywhere we go, every country we visit, and every leader that I have met of a regulatory agency around the world to a person have asked for enhanced collaboration with the NRC to help guide their regulatory bodies to achieve the NRC's gold standard. Now, this isn't just flattery, this is a national security at its core. I've heard many regulators say that they copy paste the regulations from nuclear technology source countries.

I want to see countries not just copy paste, but to integrate the deep safety culture that is embodied by the NRC. We are at a critical point which countries choosing their nuclear technology partners. We all want the U.S., and not Russia or China to be the partner of choice, and the NRC is vital to this effort, and I urge you to prioritize international engagement with existing resources, and prioritize allocating additional resources where available to supplement your outstanding work in this area.

27 The NRC is an important and continuous partner in the

licensing and export control process that enables efficient and effective nuclear cooperation with partner nations while ensuring sensitive nuclear materials and technology do not fall into the wrong hands. Our close coordination, alongside the Departments of Energy, Commerce, and Defense allow American economic competitiveness in the global civil nuclear marketplace with the essential non-proliferation, and national security standards required in our nation's exports.

8 Thanks to the diligence of the NRC in close cooperation with 9 interagency partners and industry, the United States is viewed as a 10 responsible and reliable nuclear supplier compared to the less rigorous 11 approaches of Russia and the PRC. Through the credible safeguard 12 assurances NRC provides in the civil nuclear trade, our international partners 13 know that the United States is a leader in the global regulatory space, and we 14 are meeting our multilaterally agreed upon export control commitments that 15 ensure the secure and safe transfer of nuclear material and technology.

Finally, I want to highlight the assistance the NRC is providing Ukraine in response to Russia's destructive and dangerous invasion, which has severe implications on civil nuclear safety. Specifically, the NRC's assistance to the State Nuclear Regulatory Inspectorate of Ukraine underscores the priority we attach to helping Ukraine maintain the safety and security of its nuclear facilities.

In conclusion, I want to thank the Commission and its staff for working so closely and constructively with the State Department on our shared mission of ensuring security and safety for our nation, and partnerships around the world. I look forward to sharing more, how the NRC contributes to the first program later this morning. With this, I would like to turn the floor back to Dan Dorman.

MR. DORMAN: Thank you, Mr. Friedman. 1 Good 2 morning, Chair Hanson, and Commissioners. I would like to share some of 3 the staff's accomplishments and priorities in partnering with our international counterparts. We have a wide range of mutually beneficial activities that 4 5 enable the NRC to both learn from our counterparts to enhance our domestic 6 accomplishments, and share knowledge to strengthen nuclear safety and 7 security worldwide.

8 Next slide, please. The NRC's partnerships with the 9 international community are extensive, and would require several meetings to 10 cover in their entirety, so today I'll provide some high level examples from 11 across the NRC's programmatic areas that illustrate how international 12 engagement strengthens the NRC's regulatory capabilities. First, the NRC 13 places great value on its bilateral steering committees, and high level technical 14 meetings with close partners.

In the past year we've convened meetings of our steering
committees with Canada, France, Japan, and the Republic of Korea, and held
the first bilateral technical meeting with India since before the pandemic.
These meetings, under the leadership of experienced senior executives,
provide opportunities for fruitful bilateral discussions with some of our primary
regulatory counterparts, and provide a forum for strategic engagement.

This infrastructure allows the NRC to work closely with our international partners to develop a prioritized list of activities and engagements for the coming year. This enables both parties to judiciously allocate resources to various activities on a specific time table, and produces meaningful outcomes through sustained engagement. As an example of such an outcome, the Republic of Korea adopted NRC's procedures and practices regarding the review and inspection of spent fuel transfer casks.

The NRC and its Korean regulatory counterparts began 1 2 cooperating on spent fuel management and decommissioning over ten years 3 ago in preparation for the decommissioning of the first commercial reactor in Korea. Since 2014 we have had bilateral technical meetings alternating 4 5 between the U.S. and Korea. Though bilateral code sharing agreements with 6 dozens of countries, NRC enhances its state of the art computer codes in the 7 areas of thermal hydraulics, severe accidents, and radiation protection.

8 Active international participation in NRC's three main code 9 sharing programs enables valuable technical exchanges that contribute to 10 code enhancements to improve safety analyses for reactor and plant systems, 11 including small modular reactors and non-light water reactors while advancing 12 worldwide nuclear safety.

13 In response to the Nuclear Energy Innovation and 14 Modernization Act, or NEMA, and Commission direction related to fusion 15 energy deployment in the United States, the NRC has participated in 16 international conferences, IAEA events, and partnered trilaterally with Canada 17 and the United Kingdom to exchange information on the development of 18 regulatory frameworks for fusion systems.

19 This novel technology has provided an opportunity for the 20 NRC to increase its stakeholder engagement and outreach, as well as open a 21 new dialogue with Canadian and U.K. regulators. Under this dialogue, each 22 country is discussing regulatory perspectives related to fusion energy with the 23 aim of using each other's expertise to find common solutions.

24 In pursuing partnership opportunities, the staff continues to 25 prioritize novel approaches to engagement, maximizing efficiencies where 26 appropriate. For example, in response to broad demand for NRC expertise 27 on aging management, in fiscal 23, the staff hosted an in person multilateral

workshop for approximately 30 regulators and nuclear safety experts from
 France, India, Japan, Spain, and the Republic of Korea, and the IAEA.

This creative approach to addressing requests multilaterally saved significant resources compared to holding individual bilateral technical exchanges with each country. I would also like to highlight some of the important partnerships that are being forged internationally related to gender balance activities.

This is a topic that has been a challenge for science and engineering organizations, and one that will benefit from continued senior level engagement and collaboration. Over the past year, NRC executives participated in NEA activities to establish best practices on attracting, retaining, and advancing females in the nuclear sector, and are engaged as the NEA seeks to continuous gender balance activities.

14 Chair Hanson has also participated in an IAEA gender 15 champion steering body to help formulate strategies to advance international 16 partnerships and progress on gender equity. In addition, Commissioner 17 Caputo served as a mentor for an NEA workshop held in Korea to provide 18 advice, encouragement, and experience to female high school students 19 interested in STEM pathways.

We appreciate the Commission's support and prioritization of these activities as it models the importance of a diverse workforce, and paves the way for increased sharing of best practices that we can apply globally. Next slide, please. One of the most illustrative examples of how the NRC derives benefits from our bilateral partnerships is our collaboration with Canada on small modular reactors.

Under our memorandum of cooperation, the NRC and the
 Canadian Nuclear Safety Commission, or CNSC, work with vendors to

maximize design standardization, gain efficiencies through knowledge 1 2 sharing, and leverage experiences, information, and results when conducting 3 assessments in making regulatory decisions. In fiscal 23 the NRC, and CNSC issued joint reports on gualification of TRISO fuel, and classification 4 5 and assignment of engineering design rules to structure, systems, and 6 components. And continued to work together on various issues regarding the 7 safety of GE Hitachi's BWRX-300 design. 24, In fiscal our 8 organizations will work together to review reports for the Westinghouse eVinci 9 design, including consideration of factory assembly, and possible cross-10 border transportation of fueled reactors.

In addition, the NRC and CNSC staff are working on a joint report related to operator training and qualification covering review methodologies, regulatory approaches, and treatment of operator training and qualification. Finally, in the security and emergency preparedness areas, NRC and CNSC experts will continue discussions on best practices for tribal communications, research on protective actions, and regulatory approaches for SMRs and advanced reactors.

18 Next slide, please. I'll now transition to the fourth 19 international strategic objective, LEAD. The NRC continues to uphold its 20 commitment to demonstrate leadership in the international regulatory 21 community. To that end, NRC staff and managers have maintained 22 important leadership positions in a variety of multilateral committees.

These include the program review group chair of the NEA's Committee on the Safety of Nuclear Installations, vice chair of the NEA Committee on Nuclear Regulatory Activities, chair of the IAEA Transport Safety Standards Committee, chair of the IAEA Small Modular Reactors Forum, U.S. delegation lead for the IAEA Nuclear Security Guidance Committee, and U.S. delegation lead for the IAEA Emergency Preparedness
 and Response Standards Committee.

In fiscal 23, NRC managers served in leadership roles 3 during five IAEA peer review missions in Finland, Sweden, Bangladesh, 4 5 Poland, and Canada. And in fiscal year 24, missions to Germany and 6 Australia have already been completed with NRC in leadership positions. 7 Another mission to the Republic of Korea is planned for later in 2024 with an 8 NRC senior manager as team leader, and the NRC has already committed to 9 provide a team later for the integrated regulatory review service mission to 10 Spain in 2025.

In addition, Chair Hanson served as president of last year's IAEA regulatory effectiveness conference, which was held in the United Arab Emirates. This was a substantial opportunity for the NRC to demonstrate leadership across the planning and execution of a significant international conference with broad attendance and subject matter. The NRC staff continues to demonstrate leadership in nuclear security.

17 In May of this year the IAEA will hold the ministerial level 18 international conference on Nuclear Security Shaping the Future. The 19 conference will provide a forum to discuss the future of security worldwide, 20 and provide for an opportunity to exchange information, share best practices, 21 and foster international cooperation.

U.S. participation in this conference is being coordinated by the Department of State, and the NRC Chair, senior executives, and staff will participate in the conference and share experiences on critical topics in which our expertise is important to our regulatory counterparts, including security of advanced reactors, emerging technologies, and radioactive sources.

27 The NRC also continues its efforts to leverage limited

resources and demonstrate leadership through participation in multilateral research activities that maximize our ability to share and receive information to advance domestic priorities. These multilateral agreements provide a larger operational experience base and enable the NRC to identify and resolve safety issues in vital research areas including advanced fuels, fire safety, component degradation, and aging management, human factors, and reliability analysis more economically.

8 For example, the NRC participates in FIDES2, the NEA's 9 second framework for irradiation experiments, which includes joint 10 experimental programs to advance a stable, sustainable, reliable platform for 11 fuel and material testing using nuclear research reactors in NEA member 12 countries. I would note that Ray Furstenau, who will soon be the acting EDO, 13 has been instrumental in the establishment and execution of the FIDES 14 project.

NRC staff also provide leading technical expertise on
multilateral projects and fire safety research and flood hazard mitigation,
including challenges to the safety of nuclear facilities associated with climate
change. Another area in which the NRC's substantial regulatory experience
is sought is decommissioning.

As many countries have increased their plans for decommissioning, the NRC has increased its support to countries to share our regulatory experience and best practices. This includes both bilaterally, as referenced earlier with our engagement with the Republic of Korea, and multilaterally, such as chairing the NEA working party on technical, environmental, and safety aspects of decommissioning and legacy management.

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The NRC is also leading global nuclear safety research on

artificial intelligence while gaining insights from international experience and
best practices. This work includes our ongoing collaboration with the
Canadian Nuclear Safety Commission, and the United Kingdom's Office for
Nuclear Regulation on an AI regulatory principles paper expected to be
published this year.

It explores a consistent approach to evaluate the use of AI
in regulated activities and identifies potential areas of research. NRC also
engages with other countries and the IAEA on the safety implications of AI use
in nuclear power plants, and the deployment of AI solutions for the nuclear
power industry. Next slide, please.

Another illustrated example of NRC leadership is our extensive involvement in the regulatory track of the IAEA's nuclear harmonization and standardization initiative, or NHSI. Since the initiative began in 2022, the NRC has been actively engaged in each of the three working groups under NHSI's regulatory track. In fiscal '23, the groups each developed draft reports on various aspects of regulatory collaboration and vendor engagement during regulatory design reviews.

The first working group has developed a draft report that identifies the information sharing needs for bilateral or multilateral reviews, potential impediments to sharing information, and potential solutions for addressing those impediments. The second working group has developed a draft report that describes a process for conducting a multinational prelicensing design review that could be used by groups of countries to provide feedback to vendors to support national licensing.

And the third working group has developed a draft report that establishes a process to leverage the reviews of other regulators, and for regulators to work together during ongoing regulatory reviews. In 2024, all three working groups intend to finalize and publish their reports to be used by
the international community. They will also continue to work with the industry
track to ensure that both move forward in a complementary fashion to support
the effective global deployment of safe and secure nuclear reactors.

5 Beyond 2024 IAEA plans to use NHSI to provide centralized 6 support and help with stakeholder engagement for implementation, which may 7 include a pilot multinational pre-licensing review using the process developed 8 by the second working group. Also the IAEA will gather experiences and 9 lessons learned to improve the processes developed by the regulatory track 10 working groups.

Training classes for emerging regulators are also being considered. By maintaining its active involvement in this initiative, the NRC will continue to help ensure that our work is consistent with our and likeminded regulators' objectives for reviewing and licensing advanced reactor designs.

In concluding this section, I just wanted to note that the
 NRC's international program leadership occurs at all levels. NRC experts are
 influencing the direction and outcome of a wide variety of working groups,
 technical committees, task groups, and other activities.

With that, I turn things back to Sabrina Atack, who will
discuss our regulatory assistance activities.

MS. ATACK: Thanks, Dan. Next slide, please. Our final strategic objective focuses on strengthening nuclear safety and security worldwide by providing regulatory capacity-building. These activities, which closely align with U.S. government foreign policy and national security priorities positively influence countries and their development of a sound, independent, technically competent nuclear safety and security infrastructure. This in turn contributes to nuclear power and radioactive materials being used more safely and securely around the world and broadens future opportunities for sharing of operating experience. One important example of our ongoing regulatory assistance is our engagement with Poland's National Atomic Energy Authority, PAA, as the country prepares to license and construct its first nuclear power reactors, three AP 1000 units.

The NRC has worked with its Polish counterparts for more than a decade, and the breadth and depth of engagement has accelerated over the past several years. For example, in fiscal year 2023, the NRC hosted Polish regulatory executives and experts in the United States for technical exchanges and site visits and held in person hybrid and virtual workshops.

13 During these engagements we were able to share 14 experience related to new reactor licensing, AP 1000 technology, vendor 15 inspections, and computer codes. Looking forward, we have a detailed 16 engagement plan covering the next one to two years of activities with our 17 Polish counterparts. During this time we plan to support PAA as it expands 18 its pre-licensing engagement with the applicant, develops an internal and 19 external safety culture program, and establishes a project management team, 20 and tiered guidance documents.

While PAA's licensing decisions will be entirely their own, they will build off decades of NRC experience and knowledge. This is impactful both from a safety perspective, and a policy perspective, as our work will assist Poland in expanding its regulatory program to include commercial nuclear facilities while simultaneously reducing Russian influence in the region.

Next slide, please. On the radioactive source security and

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safety front, the NRC's work to assist its partner organizations as they establish and maintain a national radioactive source registry has continued to expand. Since we last met, five radioactive source inventory phases were completed in partner countries including Africa and Central Asia. This is a labor intensive process which requires partners to conduct administrative and on site surveys, travel to facilities, verify and tag sources, and collate information into a national registry.

As each registry can take time to complete due to the geographic size of a country and the number of sources, a registry is conducted in phases, generally starting at the country's capital, and then moving out to other regions. And completion of a phase is a significant accomplishment for a partner country.

In addition, in 2023 the NRC staff conducted two workshops
 on the physical protection of radioactive sources for the Forum of Nuclear
 Regulatory Bodies in Africa, or FNRBA. One of these workshops was
 conducted in Morocco for French speaking countries, and the other in Egypt
 for English speaking countries.

The workshops provided FNRBA member states with an understanding of NRC's approaches related to radioactive source security and included in depth discussion of source security lessons learned, best practices, and current challenges associated with source security in Africa. They also provided opportunities for the participants to engage in interactive scenario based discussions and exercises, which allow for very meaningful engagement.

As the use of radiological material for cancer care expands into new corners of the world, the NRC has recognized the need to more closely partner with the IAEA to improve regulatory oversight in countries with limited experience and resources. Through this partnership, the NRC and
 IAEA are working together to ensure that regulators build the appropriate
 knowledge and expertise to license and inspect new medical technologies
 consistent with the code of conduct and complementing the IAEA's Rays of
 Hope Initiative.

This international capacity-building work ties into what NMSS discussed during last week's commission meeting on the strategic programmatic overview of the Decommissioning and Low-Level Waste and Nuclear Material Users Business Lines in response to a question about how NRC expertise and resources are being used around the world for the benefit of public health in areas of strategic importance to the U.S. government.

Before moving on, I would be remiss not to underscore our continued support for Ukraine. The Additional Ukraine Supplemental Appropriations Act provided the NRC funding to assist the State Nuclear Regulatory Inspectorate of Ukraine, SNRIU, and its technical support organization. In the past year the NRC has focused on providing equipment and materials that are needed to ensure the regulator can accomplish its nuclear safety and security mission.

For example, we have assisted by providing expertise on cyber security, and the licensing of VVER400 fuel, which has reduced Ukraine's dependency on Russian fuel. We also assisted with transferring the regulatory body's office to a new, much safer location, which also serves as a shelter. NRC has funded the purchase of new computers, servers, and software to ensure that the regulator can conduct day to day activities in an efficient manner.

To ensure that we are using our resources most effectively
 and maintaining consistency with U.S. government foreign policy and national

security priorities, the NRC coordinates closely with the State Department and
 our interagency partners. In Ukraine's case, we also coordinate closely with
 the IAEA. This enables us to identify priorities and prevent duplication of
 effort.

5 We have also participated actively in capacity-building 6 activities led by other agencies, which is a perfect segue as I turn back to 7 Justin Friedman. Next slide, please.

8 MR. FRIEDMAN: Well, thank you very much. I again 9 want to express our appreciation for our work with the NRC, and particularly 10 towards the Office of International Programs, and Sabrina Atack in particular 11 on joint capacity-building program support to partner countries. As I 12 mentioned earlier, the NRC is a vital contributor to broader U.S. national 13 security and foreign policy priorities.

14 An area of key contribution by the NRC is how it provides 15 capacity to building assistance to develop and strengthen partner regulatory 16 programs. Under the State Department's, and the is a mouthful, so forgive 17 me if I take it all in one breath, under the State Department's Foundational 18 Infrastructure for the Responsible use of Small Modular Reactor Technology, 19 or FIRST Program announced by the White House at the 2021 Leaders 20 Climate Summit, NRC experts have provided exceptional, substantial, and 21 ongoing capacity-building support for SMR related regulatory development, 22 nuclear safety, and lessons learned from NRC's experience licensing U.S. 23 SMR designs.

We are deeply grateful for your extraordinary partnership. The FIRST Program offers capacity-building support to partner countries which are exploring the potential for small modular reactors to meet their clean energy needs consistent with the highest nuclear security, safety, and non1 proliferation standards.

FIRST is designed to enhance U.S. bilateral and multilateral cooperation consistent with the IAEA's nuclear energy infrastructure development milestones approach in nuclear energy infrastructure development, nuclear security, and capacity-building. In doing so, the program supports secure, safe, and proliferation resistant deployment of SMRs and other advanced reactors to partner countries.

8 Recognizing the many years required to develop the 9 necessary infrastructure to support a nuclear power program, FIRST provides 10 essential capacity-building support and technical expertise to partner 11 countries prioritized by policy offices in the ISN bureau to advance the secure 12 and responsible utilization of civil nuclear reactors, especially SMRs and other 13 advanced reactors.

Today, we are pleased to provide FIRST capacity-building support to nearly 35 partner countries with 72 million dollars in funding announced. More than 2000 nuclear experts and officials trained, and over 150 capacity-building engagements to date. We're also pleased to be partnering with Japan, Canada, and the Republic of Korea in implementing this program.

And I should mention they provide support both financially and in kind for these programs. Our success would simply not be possible without the NRC. As our premier partner in delivery of capacity-building support on regulatory development and licensing, we deeply appreciate in particular the contributions of Eric Stahl, Emily Larson, and all of the experts in the NRC's Office of International Programs to this critical effort.

Just in December the NRC provided vital support at the
 FIRST Inaugural Conference, FIRST being FIRST Program, but it's also the

Inaugural Conference for Latin America and Caribbean and Santiago Chile.
 I had the honor and pleasure to be part of that program. This was our
 program's inaugural capacity-building event in the western hemisphere, and
 engaged ten countries new to the FIRST Program.

5 I attended the conference myself, and I was impressed. In 6 fact, I was so impressed that your people were getting more attention than I 7 was, but that's another story, the speakers were true professionals, and were 8 really greatly appreciated by our audience. The NRC's experts have also 9 supported pivotal FIRST capacity-building engagements for Thailand and 10 Ghana, leading training on SMR licensing for key nuclear agencies in each 11 country.

12 The engagement with Thailand has garnered particular 13 attention, as the Thailand FIRST project was a vice presidential deliverable 14 from VP Harris' visit to Bangkok back in 2022. In September 2022, NRC 15 experts conducted a workshop with FIRST to present the U.S. experienced 16 licensing in SMR, and an overview of the role of the NRC within the U.S. 17 nuclear sector for the Philippine government and private sector audience.

18 This was very relevant, given that the PhilATOM bill was 19 then in parliament to create an independent nuclear regulator, and was under 20 -- and this engagement allowed the Philippines to take a look at what they 21 were doing comparable with what you do, and make some very wise additions 22 and amendments to that bill before it was moved through parliament.

NRC experts also supported Estonia with a workshop on SMR safety, licensing, and regulatory development best practices in June of 2023 under the FIRST program. Your efforts laid the groundwork for Estonia's successful application to participate in Project Phoenix, our coal to nuclear SMR conversion project under the FIRST program that was announced by SPEC Kerry at the U.N. Climate Conference in 2022.

This outpouring of demand for capacity-building programs underscores the need for early engagement to help governments to establish and expand nuclear power programs responsibly. It also presents an opportunity for the United States to take an active role in shaping these programs in accordance with the highest safety, security, and non-proliferation standards that we all hold dear.

8 And I want to emphasize here, it's sharing our safety culture 9 that really makes our programs stick and click with our partners. In capacity-10 building, the assistance doesn't just stop with FIRST. As the technical 11 expertise NRC employs when participating in IAEA peer reviews, advisory 12 missions, and other training activities is second to none.

13 ISN views NRC participation in IAEA activities as a force 14 multiplier to advancing key non-proliferation objectives abroad, and safely 15 expanding access to peaceful uses of nuclear energy, science, and 16 technology. As the challenge and opportunities continue, I look forward to 17 continuing our partnership with the NRC, thank you very much. Back to 18 Sabrina.

MS. ATACK: Thank you. I'll actually pass back to Dave
for our wrap up.

MR. SKEEN: Well thanks, Sabrina and Justin. So, do we have the slide up? Yes, thank you. So, as we conduct our international activities, the NRC staff remains keenly aware that we must effectively prioritize our work to maximize the benefit of our international activities, to minimize overlap and duplication, and to use our limited resources wisely.

This slide shows some of the factors the staff considers as we receive new requests for support to help us determine how to best prioritize our activities. Of course, we must first ensure that we allocate our resources
 to fulfill our statutorily mandated activities in the export import licensing, and
 under the various conventions and treaties we discussed.

Beyond that, we try to prioritize those activities that will maximize the benefit to our domestic program and enable us to share critical information most effectively with our regulatory counterparts in order to strengthen their programs. As you've heard today, we also work closely with our executive branch colleagues to take into account broader U.S. government foreign policy and national security priorities and align our activities with those broader objectives where appropriate.

We also prioritize providing capacity-building efforts to regulatory bodies who will receive the maximum benefit from our support. As we undertake these prioritization discussions, the NRC's international strategy continues to provide an important framework for bidding our work and determining which new projects to take on, which ones to continue, and which ones to shed.

Unfortunately, as we have seen in Ukraine, we must also acknowledge the fact that global emergencies can upset the best laid plans. The staff is well aware of the need to maintain flexibility in order to respond to emerging situations overseas without sacrificing high priority work already underway. In 2011 we were reminded of the important lessons about the impacts of a nuclear accident overseas.

More recently we have just had to address the ongoing impacts of Russia's military invasion of Ukraine, which has prompted unprecedented questions of both safety and security. We remain mindful of the fact that even careful planning can be impacted by unforeseen circumstances, and we will continue to identify the most effective way to respond to future international emergencies based on their impact on nuclear
 safety, our regulatory partners, and potentially the NRC and the U.S.
 government itself.

Next slide, please. So, this concludes the staff's presentation this morning on the accomplishments and priorities under each of the five objectives of the NRC's international strategy. We have sought to provide illustrative examples under each objective to demonstrate key achievements across the agency's international program. This was not an exhaustive list of activities and priorities, but I do hope we have given you a snapshot of our work, and how we are meeting our strategic objectives.

11 Consistent with the Commission's 2014 international policy 12 statement, our international work directly benefits our domestic mission, it 13 enables us to learn from and share knowledge with our partner countries. It 14 strengthens global safety and security through regulatory assistance. It 15 allows us to demonstrate leadership to influence important international safety 16 standards and multilateral initiatives.

And it closely connects our work with broader U.S. government policy priorities. Our goal in creating the international strategy was to enable all NRC staff to clearly identify how their individual work helps meet agency wide international objectives, and we are very proud of the way that this is demonstrated across the NRC.

In headquarters, in the regional offices, at the technical training center, and across all of our technical disciplines. I would be remiss today if I concluded my remarks without thanking our departing EDO Dan Dorman. It is a testament to Dan's unwavering commitment to the NRC's international engagement that he has joined us for this meeting on his second to last day here at the NRC. The staff is immensely grateful for his leadership and close partnership on international activities throughout his tenure as the EDO, but going much further back, and it truly has been through the entire tenure of his work here at the NRC. His influence will live on in the continued success of our programs, and we wish him the best. I would also like to thank Justin Friedman for joining us at the table today.

We deeply value our cooperation with the State Department
and the interagency as a whole, and your presence, Justin, demonstrates our
continued commitment to coordination and transparency. And finally, I would
like to thank our own Joanne Savoy, who has been our slide turner today,
sitting there in the back, thank you, Joanne.

And with that, thank you, Chair, and Commissioners, for affording us the opportunity to brief you today, and we would be happy to take your questions, thank you.

15 CHAIR HANSON: Thanks, Dave, thanks to all our 16 presenters. We'll start the questions this morning with Commissioner Wright. 17 COMMISSIONER WRIGHT: Thank you, Chair. Good 18 morning to everyone. That was packed, it's a lot of stuff. So, I'm not going 19 to take a lot of time with you today, one because I really wouldn't know how 20 deeply or where to go with some of the questions. You covered so much, 21 and before I started though, I wanted to, one, piggy-back on the Chair's 22 comments, and on Dave Skeen's comments, Dan, to thank you for your 23 service to the agency, and to the government, to the country as a whole, and 24 to the world for what you do, and what you have done.

And I know that this is the last public meeting, but it's not the last time we're going to see you. So, we will save some comments for later, but I do want to associate myself with their comments and thanking you. Justin, and Mr. Schwartz, welcome. I look forward to -- it's the first time I've seen you since we were in Romania, I believe, and I want to thank you for what you do, and how you do what you do because the last couple times that I've traveled, one was to Romania, and to Ghana, I was able to be part of that whole USG consortium and how you do things.

And working with you, working with DOE, working with USTDA, working with Commerce, and other agencies, and other organizations around the world, and working directly with the -- I mean all the way to the prime ministers and to presidents of countries I've gotten to sit down with, and talk with. That's something, if you told me growing up that's something I was going to do, I would laugh.

But it's actually happened, and it's because of what has been going on here. So, to the NRC staff, because y'all are a small outfit within the agency, and you do so much. And you do it because you integrate so many people from within the agency who are very smart people. And they take their time, and they go to IAEA, they go to different countries, they are on working groups, they do whatever, and they do it because they care, and because they're passionate about it.

And you have a lot of cats to hurdle, and a lot of smoke to put in jars, but you do it very well. And the times that I've gone to areas outside of the country, and I've felt totally supported, totally educated, the messaging, and the coordination with the other agencies has been outstanding. And to be able to -- and I felt like I was fulfilling a role that I needed.

And I know that we're not promotional, we are a safety regulator, and that is the expertise that we bring to the table, but the one thing that people need to understand around the world is that if you do business with the United States, you get us too. And you get our gold standard
 regulatory and safety regime to help you. And sometimes we're out front
 before we even get involved in working with other countries.

And Dave, you and your organization have reached out to us, and used us where it's necessary, and it's been really focused since 2022 when Russia's illegal and unprovoked invasion of Ukraine -- because it made us focus on everything, supply chain, safety, security, and other things. And not just in the nuclear reactor safety realm, but in the whole source area, the materials area, and the medical area.

And I'd be remiss if I didn't -- I haven't been able to go to an IAEA meeting yet, but I follow what's going on with Rays of Hope, and hope that I can be a participant in some of that down the road, but it's a critical thing, and it's something that we need to be, as Commissioners, involved in as well. And I know that the Chair has done a great job going around and doing that.

Because he has, along with Dan, y'all have traveled, and y'all have been warriors on that front, and I thank you personally, and I know the agency does as well. But it's about the partnerships, right? And the only question I would have, and it's a question for both of you, Justin, and Dave, and anybody else that wants to comment.

Is there anything that the Commission can do that we're not doing already, or we can do differently, or do better to provide the support that is necessary to support OIP, and to support the U.S. government? Is there something that we're missing, or something that we can add onto, staying in our lane and doing what we need to do? Because it's critically important, especially today.

26 You know, global security grid independence, energy 27 security as well as independence, the technologies that are there, I want to be sure that we're doing our part to help provide that not just here in this country,
but around the world. Because what the staff is doing, and what the people
are doing in the reviews of some of these new technologies coming along,
they're making a difference in the safety of the world, and they need to know
that, and understand it better.

6 So, that would be my question, the only question I would 7 have for you today. Is there something that we're missing, or can do better? 8 MR. SKEEN: Well, I can start, and then Justin can weigh 9 in. So, thanks, Commissioner, that was guite a discussion you had there, 10 and certainly OIP, we do a lot of work internationally, as you said, and as we've 11 demonstrated here this morning. But it is, it's the whole agency that's 12 involved in this, again, as you said with our technical experts. As you know, 13 in budget wise, we got a plus up in the budget this year, if we get that budget, 14 because we're still in a CR, and we may not end up getting the increased 15 budget if we get a four year CR.

16 But to me that's what we need, is funding to be able to -- it's 17 probably more in contractor realm than in staff, because we have this 18 discussion all the time, where we try to be very careful and judicious in the 19 way that we use technical staff here, because we know their first priority is to 20 license all the reactor applications that are coming into NRR, NMSS has to 21 deal with the increase in fuel facilities, and all of the fuel cycle that's going on. So, we do a lot with contractors, but there are areas where 22 23 certain technical expertise, we have to have the staff involved in that, because they have specialty expertise. So, it would really be in the budget process 24 25 where we could use, if we get funding of course we can hire more contractors, 26 or we could add some more FTE to staff internally to be able to dedicate some 27 staff to work on the international part.

So, that would be the only thing I can think of from the
 Commission side that you guys could do to help us, Justin?

MR. FRIEDMAN: The budget question. You know, I threw a bunch of statistics at you talking about the FIRST program, and I mentioned that we had 35 countries in the program right now, that includes both bilateral and group projects. I could add easily another 20 to 30 countries to that list, but we lack resources to engage.

8 So, it's the perennial problem, the perennial challenge of 9 how do we develop and generate enough resources to do what we'd like to 10 do. And the first engagement is not a commercial project, it is a capacity-11 building so that countries can make, if they want to go down the nuclear path, 12 they can make their own decisions smartly.

There is a fringe benefit, because when they absorb our culture, and our understanding of safety, security, they're much more inclined to choose U.S. and like minded country suppliers for their markets. So, it really is a question of resources, and how we can do that better. One thing that I want to share with you, based not on my experience with this job, but in my 28 years of experience as a diplomat.

l've been off and on in my career, running assistance
programs. I was a director of the Export Control and Border Security
Program at ISN about 15 years ago, and I've done other things in other foreign
assignments, and to a person, one of the most important beneficiaries of the
training programs is the U.S. people who get sent on them.

Because A) they have to make sure they really know their jobs, which they do, they're not selected unless they do, but B) they learn from the questions they're being asked by their foreign counterparts how to do their jobs better. So, it's not just an expense. I think these assistance programs are investment in ourselves as much as they are an investment in our
 partnerships. Thank you.

COMMISSIONER WRIGHT: Yeah, I agree with you. And anybody who is listening online, or here in the room, we do have the RIC coming up, and that's another opportunity for us to further our relationships with our international partners out there. And so, if you're thinking about coming, sign up, that'll be a plug, thank you, shameless plug.

CHAIR HANSON: Thank you, Commissioner Wright, I
appreciate that last minute public service announcement you snuck in there.
I'll hand it over to Commissioner Caputo.

11 COMMISSIONER CAPUTO: Good morning, thank you all 12 for preparing so thoroughly today, and for all the staff who contributed to 13 preparations for the meeting. This is obviously a very important activity that 14 the agency engages in, and it is our opportunity to export nuclear safety, and 15 safety culture in regulatory practices, and hopefully improve just the state of 16 the art of nuclear safety abroad wherever possible.

17 I also want to associate myself with the well wishes for Dan, 18 thank you very much for your service, it's been a long time with the agency, 19 and the Navy prior to that, so thank you very much, best wishes for you in 20 retirement. I also want to say a big thank you to Ray Furstenau for agreeing 21 to jump into the breech and take on the role of acting EDO for some 22 undetermined period of time.

23 So, thank you very much, it's a big job, and a big challenge, 24 and thank you for taking that on. So, Dan, NRC partners abroad and lead and 25 assist international counterparts in a lot of different ways. I noticed in an article 26 lately from the U.K., Department of Energy Security and Net Zero issuing a 27 civil nuclear roadmap to set out opportunities for flexibility and optimization in 1 regulation potentially reducing the time scales for completion of a generic

2 design assessment up to 50 percent.

Has the staff had any discussions with our U.K. counterparts
on aspects of this roadmap that might provide useful insights into how we can
improve our own productivity?

6 MR. DORMAN: Yeah, thank you, Commissioner. I know 7 we have active engagements with U.K., and I mentioned that we were working 8 on bringing them into a trilateral in our relationship with Canada, but I may ask 9 for a lifeline on the specific report, I'm not familiar with that, whether we've 10 been involved in that.

PARTICIPANT: Good morning, Commissioner. No, we have not had a chance to have a dialogue with them on that. We are working on engagement with them to add them to our trilateral activities, so we can share best practices more. We are a part of WENRA, the Western European Nuclear Regulators Association, so that provides another forum for them. We did issue our report on the licensing process inefficiencies, on how to do that in 2017 as we were building the advanced reactor roadmap.

And we're implementing those activities now to streamline our reviews as well. So, we're certainly open to other country's perspectives on that, and we're gaining insights as we engage with Canada, so we'll look at what U.K. is doing, and seek insights from them as well.

22 COMMISSIONER CAPUTO: So, I think I'm going to stay 23 on this theme for just a minute, because as important as it is for us to export 24 our best practices and our knowledge, and to have these interactions, in the 25 cross pollination learning for others internationally is incredibly important, but 26 at some point I'm kind of concerned about the tangible results that we see out 27 of it.

I mean it's great to learn things, but how do we put those 1 2 things into practice, and actually generate results. And so particularly when 3 it comes to something like the IAEA harmonization effort, there's going to be, I assume, a lot of staff contribution there, which means preparing, traveling, 4 5 contributing, and while that's important, what I'm hearing today is we're 6 spending two to three years working together to produce reports and 7 processes on how to work together in various ways that we have well-8 established experience.

9 I mean, in particular, the pre-application activity kind of 10 caught my eye, and that's probably useful for other countries, particularly 11 countries that are new to nuclear that maybe haven't thought through that 12 much, slash have the decades of experience with pre-application reviews that 13 we have. But then the reality is what are we bringing home? What are we 14 learning that's going to help us be more efficient, and advance our 15 capabilities?

So, what results are the American people, the American rate payers, existing nuclear companies here in the U.S. going to see that we are bringing home from these activities? And Dan, we talked about this harmonization effort last year, what can you tell me about just tangible results that you see coming out of this process?

MR. DORMAN: Yeah, thank you, Commissioner. I think the one that I have the most expectation for is the third working group, which is really building off the experience of the United Arab Emirates and their interactions with Korea in building Barakah, where the United Arab Emirates sent people to Korea to learn the technology from the developer, and then interacted with the regulator in Korea on how they achieved their licensing decisions. And then determined, coming back to UAE, where they were going to rely on what Korea had already done, and where they were going to provide their own independent engagement in the process. So, the working group under NHSI is a number of experienced regulators drawing on that experience, and having a shared understanding of considerations that you would give to a country that is adopting another country's technology on how they're going to interact in that way and gain efficiency.

8 So, I think that process has, in my mind of the NHSI 9 activities, the greatest potential to gain efficiency in the secondary licensing. 10 So, it's not so much if we're the first one adopting it, but in for example, what 11 Sabrina was describing in the relationship we've had with Poland over the 12 years, and now as they embark on licensing AP 1000, how do we interact with 13 them, what information do we share with them that may support their process? 14 So, I think it's more -- the NHSI is more going to be for 15 helping us engage other regulators in potentially adopting technologies that 16 we've reviewed. I think that the report that you cited from the U.K. will be of 17 great interest to us. I think a benefit of our interactions in our bilateral 18 arrangement with Canada on various technologies early on was the level of 19 engagement between our technical staff and their technical staff in 20 understanding each other's regulatory frameworks.

And working out how to arrive at joint conclusions in ways that are gaining efficiencies on both sides of the border in terms of our regulatory process are things that we're starting to see the fruit of in the BWRX-300, and I expect we'll continue to see those going forward, and as we bring U.K. into it, hopefully we'll gain even further insight and efficiency.

26 COMMISSIONER CAPUTO: But the work that we're doing 27 with the Canadians is, by and large, topical reports, right? Which is pre1 application type work.

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2 MR. DORMAN: At this point it is, yeah. 3 COMMISSIONER CAPUTO: So, the efficiency benefit when it ultimately comes to license reviews is kind of conceptual. So, we 4 5 expect there to be benefits --6 MR. DORMAN: Yeah, so far it is. COMMISSIONER CAPUTO: We expect to see benefits, 7 8 but we can't really put a number on it at this point, because both the Canadians 9 and us will conduct our own individual ultimate license reviews. 10 MR. DORMAN: Yes, I agree that it's conceptual at this 11 point. I would still hope that from the exchange that we've had, and of course 12 Canada is going first with the OPG plant, that we'll see and learn from their 13 going forward, and be able to apply that in our review as well, ultimately 14 reaching our own decision. But I think there is an opportunity for efficiencies 15 in that, but I agree that at this point that's conceptual, I can't put a number on 16 it. 17 COMMISSIONER CAPUTO: That's one of those things 18 that I think ends up being a challenge just because the opportunity for 19 efficiencies is there, but it kind of remains conceptual until you can actually 20 look at a process and see where you actually gain efficiency, and really look 21 for and validate results and outcomes, which is ultimately what I'm looking for 22 here. 23 These are significant resources expended, significant time and attention dedicated by the staff, and at the end of the day I think we need 24

26 balance activities with NEA. Sabrina was an absolute partner with me in

to see some results back. I also want to thank Dan for mentioning the gender

doing the Korea mentoring workshop with NEA, which was very eye opening

1 and an incredible experience.

And so, obviously I firmly believe that inspiring young women to go into STEM, and choose a field in nuclear technology, and nuclear safety regulation is incredibly important, but it's also important that once we inspire young women to choose this career, that we are also simultaneously improving the work environment as it exists today for women that we already have.

8 To make sure that as these young women join the work 9 force, they come into a work environment where their contributions are fully 10 recognized and valued. And so, that is something that I do plan to continue 11 working on. Thank you very much for your presentations today.

12 CHAIR HANSON: Thank you. Commissioner Crowell? 13 COMMISSIONER CROWELL: Thank you, Mr. Chair. 14 Thank you to all of the panelists for the presentation today, very informative, 15 as always. Thank you to Mr. Friedman for being here on behalf of the State 16 Department, and I will add my appreciation to Dan for all that he has done for 17 the agency over the years, many years before I got here, and the legacy you're 18 going to leave is notable, and I appreciate you helping ensure that Ray will be 19 successful as your successor, and just appreciate all of that.

I'll also say that, not to gin up false controversy between me
and the Chair, but I'm a 49ers fan, and I'd be happy to make a wager with you
over the game this weekend. Just so you know, I'm a 49ers fan that lives in
Philadelphia, so I know how to be disliked, it's fine. That being said, I'm going
to get through as many questions as I can in the limited time.

It sounds like we're getting lots of interest from the international community for assistance of various kinds, and for various reasons, a lot of times our international counterparts are interested in developing nuclear technology for the first time for the economic benefits, for
their energy security needs, for climate needs, etc. I have to imagine that
some of those countries just, as much as they'd like to, just aren't ready to
start making that transition for a variety of reasons.

5 How do we factor that in in determining how we assist other 6 countries, particularly when Russia and China may not have the same 7 apprehension for helping one of those countries become a civilian nuclear 8 capability. And whoever wants to jump on that, yeah.

9 MR. FRIEDMAN: I'm the foreign policy guy, so I should 10 start this one off. Commissioner, thank you for the question, it's an important 11 question, and you've raised the issue of is it sufficient to engage a country just 12 because a geostrategic competitor is engaging that country? And I would say 13 it's not sufficient, but it's an important criteria on which we set our priorities.

Number one, when we're looking at who we engage with, we look for a clear indication at the highest political level that they're seriously looking at nuclear as an option for their energy security. So, without that decision, we're not going to engage, because there's no point. We're not in the business of selling nuclear technology, we're in the business of promoting safe and responsible use of nuclear technology.

So, that's the first criteria. We do, as an interagency process, look at other issues like is the country eligible for EXIM Bank financing? Do they have the financing either internally, or do they have the capability to generate financing to build these, because these are not cheap projects. They're expensive, but they're also long term pay off. We also look at their commitment to the highest standards of safety, security, and nonproliferation.

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through the 123 process. So, all of these are factored together, and we also look at what is the market opportunity for U.S. industry. If it's a smaller market, obviously there's going to be a different calculus versus a large market. But that's not to say we exclude or ignore those small markets, sometimes the small markets, or smaller markets are ready to move faster than the large ones because they see the long-term benefits of building up a nuclear supply chain or being a participant in the nuclear supply chain.

8 So, we weigh those altogether, it gets put into that magic 9 black box called the interagency process, and we come out with a list of 10 priorities, and then we engage. And we always measure the impact of that 11 engagement. And if we're not getting the continued interest that we're looking 12 for, then we'll back off. If we're getting accelerated interest, we'll accelerate. 13 But it has to be that combination of factors, an there's no 14 one magic, or single factor by which we choose where we engage or how we 15 engage.

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 COMMISSIONER CROWELL: Okay, Dave, anything to

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 add?

MR. SKEEN: Yeah, if I could, so everything Justin said is correct, and the interagency process works. Let me talk about, but sometimes we go into countries way before they're ever ready for a reactor, right? So, we start with a lot of countries that have no nuclear program, have no Rad Source Program, so they don't even track or know where their sources are in their country that are used.

So, we build relationships with countries at that level, that by the time we see how they do with that, in other words do they finish their registry, do they go out and inspect? And we have had partners that don't do very well there, and we don't spend a lot of time there. If we go down a path with them and we hit a dead end that they're not getting funding, or their
government's not supporting them, then we'll move our resources to another
country and work with them.

So, but if you see successful countries working with the Rad Source Program, then okay, we build a relationship with them, we get a good feel are they serious about a nuclear power plant, are they looking at SMRs? And some of the countries you get a better feel for the partnership is how that's going to go. But I will go back to this, it's always the money, where is the money coming form to do this? So, if they don't have the money, they're not building a reactor.

11 Even though China and Russia can offer you sweetheart 12 deals, they can't 100 percent finance the reactor for you, so you still have to 13 come up with money somehow in that country. So, when we talk about 14 reactors, whether it be SMRs or large reactors, we look at that aspect too. 15 So, I would say the NRC does a lot pre-first, because we are in countries long 16 before first comes along to see if they want a reactor. Many of these 17 countries we've been in there for a period of years before they ever have their 18 first meeting.

19 COMMISSIONER CROWELL: Thank you, that's helpful 20 additional context. Sometimes I look at the developments on the 21 international stage, and I worry that the U.S. may be eclipsed here, or left 22 behind, which is not good, because it likely means that a country is faster than 23 us isn't using a gold standard, and I'm talking about non-Russia and China countries, or those affiliated with them. And so, I look at Poland, where 24 25 they're doing three AP 1000s, and it's a good thing from an energy security or 26 climate perspective, a whole lot of perspectives.

But why do three AP 1000s pencil out in Poland, but an AP

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1 1000 wouldn't pencil out necessarily in the U.S. currently? Lowell? 2 MR. FRIEDMAN: I do international, so I'm going to punt that one completely. 3 4 MR. Dorman: Say again the last part of your question, why 5 is --COMMISSIONER CROWELL: Why does it seem to be 6 7 economically viable for Poland to develop three AP1000s in the present day 8 when that same economic evaluation wouldn't hold true in the U.S.? 9 MR. DORMAN: I think the answer to that is tied up more in 10 the access to capital. I think there was a concerted effort in lining up the plan 11 in Poland to get that capital to them. But I think that's -- the access to capital, 12 and the application to capital, and the management of the risk associated with 13 the project. 14 Not the nuclear safety risk, but the risk to the company are 15 kind of the key challenges that need to be addressed in that. COMMISSIONER CROWELL: Access to capital is a 16 17 defining feature for any country looking to do this, including the U.S., access 18 to a supply chain, particularly a fuel supply chain is critically important too. 19 How do we look at that conundrum? I mean we've got that conundrum in the 20 U.S. in terms of advanced reactors and fuel supply, but how do we look at it 21 when we're going to be competing potentially internationally with people for 22 the same front end fuel that we'll need for our reactors as they will for theirs. 23 I know it's a chicken and the egg, but it's also an us them dynamic. 24 25 MR. FRIEDMAN: A couple of points if I may, and thank you 26 for the question, Commissioner. First off, we're looking at a process of 27 developing new reactors. We're not going to see the switch turned on to 10, 20, 30 new reactors with the commensurate fuel needs for another ten years, so there is time to build out the fuel supply chain. But I would point to the administration's activities in the fuel supply area already through the Inflation Reduction Act, through the supplemental to build out more enrichment capacity.

So, I think people are looking down the road and seeing the
demand is only going to go up, and regardless of where we are internationally,
there needs to be more enrichment, more conversion, and more mining to
feed that next generation of nuclear reactors.

10 COMMISSIONER CROWELL: Yeah, and with that in 11 mind, I would hope that we're doing -- keeping a similar eye and mind towards 12 the back end of the fuel cycle, which is important as well. I just want to note 13 with the little bit of time here I have left, hearing more about the FIRST program 14 was interesting. I think it's a very laudable and valuable program. I would 15 note that it stemmed from the 2021 Leaders Climate Summit.

So, we're helping the international community approach this from a climate and energy security perspective with safety obviously being the first and foremost priority. But that's not necessarily how we look at things domestically, and I just would note that some sort of FIRST for our domestic needs would make sense, particularly from a commercial competitive perspective.

But I'll just leave that there as if the international community can look at safe deployment of nuclear through the prism of energy security and climate change then I think the U.S. can as well.

CHAIR HANSON: Thanks, Commissioner Crowell. Mr.
Friedman, I think I just wanted to start with you, and look, I really appreciate
the partnership that State has had with us, and the rest of the interagency on

the FIRST program in particular. I've gotten to participate just a little bit on
that, and I know a number of us are looking forward to, or have kind of piggy
backed on that, thinking about Commissioner Wright in his trip to Romania,
and Ghana.

5 And he's ahead of me by the way, two presidents to one 6 over here. I also wanted to thank you for your kind words, David. And I was 7 lucky enough to be able to go over to our -- we had, I think it was Kenya and 8 Ghana here, and I got to sit in the back of the room a little bit, in fact it was our 9 Rob Taylor who was giving a presentation about the structure of the 10 Commission to our Kenyan counterparts.

And they were peppering him with all kinds of questions about the specific structure, and how did Commissioners become appointed, and how did that work, and how could -- I mean even heaven forbid, how could we be fired, and other kinds of things, but really into the details on that because they really wanted to understand what an independent regulator looked like.

And I remember having the opportunity to sit down and talk to them after that presentation while folks were kind of split up. And talking to my counterpart, they had both kind of their EDO, but also their chairman of their board saying we really appreciate that presentation, now we understand what an independent regulator looks like, we're going to go home and talk to our legislature, and our administrative branch, and we want to put this in place. And as much as I know there's the economic aspect of this,

there is that, as you say, sharing our values, and sharing our principles that I
think is also really important. I guess, and I appreciate the kind words you
had to say about the NRC, and not just because they were kind. But do you
have any advice for us, I guess, about how we can continue to focus resources
in supporting the role of our regulatory partners around the world?

1 Where we should dive in, where we should just touch the 2 surface, etc. And that can be by region, or that can be by kind of 3 philosophical approach. I just would like to get your extra thoughts on that.

MR. FRIEDMAN: Thank you, Chair, for that challenging 4 5 and difficult question to answer, because there are a number of ways to slice 6 the apple to get a good answer. And I would guess on the short term, I think our biggest need right now is in Central Europe. Because we have a number 7 8 of Central European countries that are already experienced nuclear 9 regulators, that already have independent nuclear regulatory culture, but 10 they're looking at adopting new technologies, getting away from the Russian 11 VVRs, and moving into AP 1000s.

And it's not just Poland, if our companies do their job, it's going to be probably four other countries in Central Europe. But in addition, they're already looking at the GE Hitachi reactor for Poland, or the NuScale reactor in Romania, and who knows what the Czechs are going to choose, but they're going to choose something, and the Slovaks are going to choose one, and the Bulgarians are going to use one.

18 So, just the need to sort of say we're with you, we have your 19 back, you can do two things at once. I think they need that reassurance, that 20 to hear from professional regulators that you can grow your program, and use 21 your resources wisely, you don't have to double your staff if you double your 22 number of reactors, but you have to make your efficiencies in order to get 23 there. So, that's sort of number one.

Number two is we have a whole spectrum of countries that are new embarking on nuclear, and that's in Southeast Asia, Philippines was very close and then stopped, and now they're back in the game. Indonesia is looking very closely, Thailand, which I mentioned in my remarks, not to mention Singapore, and maybe even Vietnam and Malaysia. So, that's a real
core of countries that want to look at nuclear, but given their geography, and
where they are, they're in earthquake zones, they're very concerned about
safety.

5 And so, they want to learn how do we get up front, how do 6 we get ahead of the challenge so that we can assure our publics that nuclear 7 will be developed safely and securely. And I'm focusing on Southeast Asia 8 because they're moving forward very clearly and in very measured process. 9 So, that safety, how do we share the safety piece with them, that's going to be 10 essential.

I would include in that sort of, that same basket of countries
that are ready and starting to move, Latin America. We have experienced
nuclear countries, Argentina, Brazil, that are looking at expanding. One, they
have the financial capability in the case of Argentina, but also Chile and some
smaller countries. So, lots of opportunities.

16 And heaven forbid I not mention Africa. Ghana is leading 17 the race in Africa, as you saw yourself, Commissioner. So, as you rack and 18 stack what you're being asked to do, including the engagements that we're 19 asking you to do, the low-hanging fruit are there in Central Europe, but let's 20 also move out deliberately, and think about regionalization where possible, 21 particularly in Southeast Asia, in Africa, so that we can get the benefits of your 22 people but use the resources wisely, as I've heard you have said repeatedly 23 here.

CHAIR HANSON: Yeah, thank you for that, very much. The situation in Central Europe, I think you're right to kind of carve that out almost separately, because we have really strong relationships with those regulators. As you said, they're very mature, maybe we can solicit volunteers on the Commission to open the Krakow office. But I think that's kind of a
 good point.

l've thought a bit about how to make -- I think our regulatory
approach, or assistance from the NRC should be part of the value proposition
of U.S. engagement on the technology itself. And it seems like in those other
places that you mentioned, Southeast Asia, Africa, et cetera, that that's really
where there's that opportunity.

8 And I think we've done that, I think the FIRST program does 9 a really good job of doing that by kind of implication. But can we, or should 10 we just make that more explicit. Where, as Commissioner Wright noted, 11 we're not promotional, but we are, this is Team USA when it comes to foreign 12 policy. And given that those regulators are kind of seeking us out even long 13 before maybe they would be eligible for the FIRST program, is there a way to 14 kind of clarify that, or make that more explicitly? Or maybe we shouldn't, just 15 I'd love to get your thoughts.

MR. FRIEDMAN: I think it's essential to keep FIRST as a partnership and capacity development program, and not morph it into a business development program. Because frankly, everything we say in FIRST is that it is technology neutral, and vendor neutral. And I think that goes to the philosophy of the NRC, which as you are technology and vendor neutral too, you examine what's presented to you, and your independence is central to that.

There are plenty of opportunities, we have USTDA, we have the Department of Commerce, and we have other elements of the Department of State, every State Department officer is also a business promotion officer, that's what I've done overseas. But let's keep that separate from the development, because at its core, public confidence in nuclear energy comes 1 from an independent regulator.

2 And preserving not just the fact but the appearance of 3 independence is essential to what you do, and what first does.

4 CHAIR HANSON: Great, thank you. Dan, I just wanted to 5 hit you up maybe right here at the end and talk about the IRS mission. 6 Obviously like so many senior NRC staff have contributed in really important 7 ways from being team leads on IRS missions, etc. I think it was about a year 8 ago that the Commission had directed the staff to present a series of options 9 for doing an IRS mission in the U.S.

10 I think that there are things certainly that we can learn, but
11 how do you think that -- you know, talk about the learning both for the country
12 that is kind of the subject of the review mission, but also the countries that kind
13 of participate in that.

MR. DORMAN: Yeah, thank you, Chair. I think the biggest learning for the country that hosts a mission is in the preparation. There's a structured process with guidance documents from IAEA for doing a thorough self-assessment of your regulator program against the IAEA safety standard series, and that produces a self-assessment that is shared with the team that's coming in advance.

And usually the host country has already identified actions for themselves out of that process. So, then the team comes in, and you get top regulators from all over the world who themselves are very familiar with the IAEA safety standards, and also with global best practices, and they come in and engage you on that self-assessment in a remarkably efficient time.

I mean, it's a two-week mission; I don't care how big your
program is. It's a two-week mission. You may get a little bit bigger team with
a bigger program, but the conversations between the team members and the

staff who are representing the different modules are mutual learning
 experiences, and so there's opportunities for the team members to take
 learnings home, as well as opportunities for the host staff to learn what their
 counterparts do.

5 And so, typically, they'll find a few more things that you didn't 6 think of in your self-assessment, that's a healthy thing. So, I think those are 7 -- so, the benefits are predominantly to the host country through the self-8 assessment process, but there are benefits in that global relationship of 9 learning from each other throughout the process.

10 CHAIR HANSON: Okay, thank you. I think we're coming 11 up on 15 years, I think since we've had an IRS mission here in the U.S., and I 12 think it's important for our credibility, and our standing, and I think it bolsters 13 relationship building, and a lot of other important relationships. I'll make one 14 last note, and that's just that I appreciated the mention of AI, and I think there's 15 a real opportunity with all the work going on here in the agency to work with 16 particularly partners in the U.K. and Canada about how regulators can 17 productively and constructively deploy AI technologies in their own houses to 18 make smarter, more durable, more efficient regulatory decisions.

And so, I look forward to seeing all of that. On that final note, we've reached the end of our time together, I appreciate everyone's contributions to this meeting, I thought that we had very good discussion. I want to thank my colleagues. I think there's lots of opportunities here among Commissioners to engage in international activities, continue to build those relationships, and share not just our regulations, but most importantly, our values.

So, with that, thank you all very, very much for being here
today, thank you for your service, and we're adjourned.

- (Whereupon, the above-entitled matter went off the record
 at 11:36 a.m.)
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