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Committee on Environment
and Public Works

Washington, D.C.

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HEARING ON THE NUCLEAR REGULATORY COMMISSION'S PROPOSED FISCAL YEAR 2024 BUDGET

Wednesday, April 19, 2023

United States Senate

Committee on Environment and Public Works

Washington, D.C.

The committee, met, pursuant to notice, at 10:01 a.m. in room 406, Dirksen Senate Office Building, the Honorable Thomas R. Carper [chairman of the committee] presiding.

Present: Senators Carper, Capito, Cardin, Whitehouse, Markey, Stabenow, Kelly, Padilla, Lummis, Sullivan, Ricketts.

STATEMENT OF THE HONORABLE THOMAS R. CARPER, A UNITED STATES SENATOR FROM THE STATE OF DELAWARE

Senator Carper. Good morning, everyone. I am pleased to call this hearing to order. It is good to see each and every one of you.

Today we are pleased to welcome back five members who currently serve on the Nuclear Regulatory Commission, or the NRC, to discuss President Biden's Fiscal Year 2024 budget proposal for the commission. Chair Hanson, Commissioner Baran, Commissioner Wright, Commissioner Caputo, and Commissioner Crowell, welcome. We are delighted to see you. Thank you all for being here with us. Thank you for your willingness to serve in these important roles.

It is great to see you again. We are happy to spend this time with all of you. In particular, it is great to see Commissioner Caputo and Commissioner Crowell join us I think for the first time since their confirmation last year to fill two vacancies on the commission. We know that a full complement of five commissioners allows the NRC to carry out its responsibilities, considerable responsibilities, to the American people effectively. We hope that you are settling in nicely.

We also appreciate that all five of you are able to join us today, because it is important to hear directly from each one of you. Many of us on this committee want to ensure that the NRC

has the resources that it needs to maintain the safety of existing nuclear facilities and those that we might build in the future. This includes the work required to develop and deploy the next generation of reactors, as well as new, advanced nuclear technology and materials.

As maybe most of you know, I believe that safe nuclear power plays an essential role in our efforts to address the greatest challenge of our time, that is the climate crisis. I felt this way a long time ago, since I was an ensign in the Navy, and I still feel that way.

America's nuclear reactors provide about one-fifth of our Nation's electricity and roughly half of all emissions-free energy in our Country. It is no secret that I believe nuclear energy is key to reaching net-zero emissions economy-wide. And the NRC is critical to ensuring that our nuclear energy is safe and reliable.

From my conversations with members of the commission, it is clear that the NRC is hard at work developing a new regulatory structure for the next generation of nuclear power. This new structure is moving us closer to making advanced nuclear power a reality in this Country and doing so without jeopardizing safety.

The NRC is not only on time to deliver a new framework for licensing advanced reactors but ahead of schedule, I am told,

when it comes to meeting your statutory requirements.

In addition, I applaud the NRC's recent decision on fusion regulation, which provides a path forward for the deployment of this technology. Going forward, this will help give fusion developers the regulatory certainty that they need to innovate, while also protecting safety, security and public health.

Still, it has been difficult for the NRC to operate under the constraints that the Nuclear Energy Innovation and Modernization Act requires. Last Congress, NRC Chair Hanson testified before our committee. During that time, he expressed concerns about the impact of budgetary caps on the agency's ability to hire the workforce of the future and take on the challenges of licensing advanced reactor technologies.

That is why I joined Senator Capito and Senator Whitehouse to introduce the Accelerating Deployment of Versatile, Advanced Nuclear for Clean Energy, or ADVANCE Act. Our bipartisan legislation includes provisions that would help ease these restrictive budget caps that Chair Hanson mentioned previously.

The ADVANCE Act would also help ensure that the NRC has the best tools and highly trained staff that it needs to keep up with the speed of innovation and the growing interest in nuclear energy. Further, if we want the U.S. nuclear industry to be successful, we need to invest in its future. That means investing in the nuclear industry's workforce. Almost every

organization needs a strong and dedicated workforce if they are going to be successful, and the NRC is no exception to that.

As we advance the next generation of nuclear technologies, we must also ensure that the NRC has adequate funding to attract and retain the best and brightest talent needed to license and regulate new technologies. The NRC remains the global model for nuclear safety agencies. I am proud of that, and I am sure you are, too. The commission's work to maintain safe and secure nuclear power is an essential tool in our efforts to reduce greenhouse gas emissions.

Today, we look forward to discussing how President Biden's proposed budget for fiscal year 2024 will impact the decisions that the NRC makes now, and, ultimately, the future of the agency for years to come.

Before we hear from our witnesses, let me first turn to our Ranking Member, Senator Capito, for her opening remarks. Senator Capito?

[The prepared statement of Senator Carper follows:]

STATEMENT OF THE HONORABLE SHELLEY MOORE CAPITO, A UNITED STATES SENATOR FROM THE STATE OF WEST VIRGINIA

Senator Capito. Thanks, Mr. Chairman, and thank all of you for being here. It is nice to see a full complement. And it is good to see you, Ms. Caputo, Commissioner Caputo, because my first visit to a nuclear plant was with you. So we have been around the bend on this. Great to see you.

Since our last Nuclear Regulatory Commission oversight hearing 16 months ago, major events, both here and abroad, make clear the urgent need for the United States to lead in civil nuclear energy. The first new nuclear unit at Southern Company's Vogtle site in Georgia went critical recently, and it is now connected to the electric grid and is on the brink of commencing commercial operation.

This is the first new commercial nuclear reactor in a generation and I think it is a major achievement for America's nuclear industry. It is also the first new reactor design to be fully developed, licensed, and constructed since Congress established the Nuclear Regulatory Commission nearly 50 years ago.

Advanced reactor development is progressing as numerous States pursue the deployment of advanced nuclear technologies, including my home State of West Virginia. West Virginia is assessing options to deploy nuclear energy, building on our

State's proud legacy of serving as a leading energy provider.

While we reinvigorate our domestic nuclear sector, global events necessitate that America really reasserts our international leadership here. Russia's war in Ukraine reinforces the fact that energy security is synonymous with national security.

Russia sought to use Europe's reliance on Russian natural gas to destabilize our allies' resolve to support Ukraine. Instead, we expedited export shipments of American LNG to our European friends and increased energy cooperation.

It is also reported that Rosatom, Russia's state-backed nuclear company, is actively supporting the war. Every dollar that goes to Rosatom is helping Putin and Russia, and Russia has been aggressive in trying to gain political leverage and commercial footholds through the export of its nuclear technologies, services, and fuels abroad.

Meanwhile, our government, alongside American companies, is working to counter Russia's strategic nuclear engagement by building relationships with nations around the world to construct U.S. reactor technology. Doing so will establish decades-long partnerships in the nuclear supply chain, the use of advanced nuclear fuels, and reactor operations.

U.S. companies have already entered into agreements with Romania, Poland, and the Czech Republic, just to name a few.

These circumstances dictate that America can, and should, lead in nuclear energy development. Central to realizing the opportunities for new nuclear here and in foreign markets is an effective domestic nuclear safety regulator: you all.

This is why I recently introduced the ADVANCE Act with nine cosponsors as the chairman spoke about, including Chairman Carper and also Senator Whitehouse. And we are picking up sponsors we hope. The bill facilitates greater international engagement by the NRC and other Federal agencies to help win the geostrategic nuclear energy competition. This will position our American businesses to better compete with Russian and Chinese nuclear companies.

This bill helps States like mine, like West Virginia, pursue advanced nuclear technologies by reducing regulatory costs and providing regulatory certainty. The bill assists the NRC in efficiently fulfilling its core nuclear safety mission with expert staff in a predictable and timely manner.

While we look to provide the commission with additional direction and authority, Congress needs to also carefully consider how the agency is functioning. That is why we are here today. So this morning, we will hear from the NRC chair and the commissioners regarding the Fiscal Year 2024 proposed budget.

While the current amount of work the NRC is conducting for its core licensing and regulatory oversight purpose is down, the

Commission is asking for significant new funding, in part to prepare for potential licensing work for new reactors. The NRC's budget must become more efficient in order to be ready for that anticipated workload.

Last year, this mystifies me, we will have to get into this, the Commission did not spend more than $90 million of its allotted funding. That means 10 percent of the NRC's total budget authority went unspent.

I do appreciate that the Commission is proposing to apply some of that carryover funding to this year's budget request. However, when much of the Commission's budget is funded by regulated utilities and ultimately electric ratepayers, the Commission should not, I don't believe, be carrying over large balances from year to year.

Just as important as finding efficiencies in the NRC's management of its money is also how the NRC is addressing and can perform its licensing and regulatory oversight work more efficiently as well.

In January, I requested information regarding the Commission's telework policy and the number of staff that are regularly in the office. Thank you for coming to my office and presenting that report. Nearly 60 percent of the workforce is in the office fewer than three days per week.

I am concerned that the expansion of, and reliance upon,

remote work will have unforeseen negative consequences on operational efficiency.

The NRC is predicting annual attrition rates of 7 percent for the next three to five years. In my view, it is imperative that workforce development programs enable the new staff to work side-by-side with experienced staff to see firsthand how the Commission's work is performed and to pass along known best practices. Significant reliance on telework and video calls, I believe, will hamper the ability of the staff to efficiently review and approve license applications.

NRC's workload and associated challenges with licensing multiple first-of-its-kind advanced reactors during the next decade is so significant. Congress has appropriated billions of dollars to facilitate the development of advanced nuclear reactors and therefore timely and effective regulatory review is essential.

All five of the commissioners recently spoke to the NRC's ability to meet the moment and successfully realize the bipartisan Congressional support for advanced nuclear policy. Congress must ensure that the moment is not missed, along with you all.

Since the NRC's establishment, a series of reports have consistently identified deficiencies in the NRC's work. For example, about 30 years ago, two reports, the Towers-Perrin and

Center for Strategic and International Studies reports, identified major shortcomings in the NRC's effectiveness and posture. The NRC responded to those reports at the time by successfully repositioning the Commission to respond to the dynamic changes that are facing the nuclear industry.

To enable the NRC to effectively carry out its foundational Atomic Energy Act charge, and in light of the forthcoming licensing work, it may be time to undertake another comprehensive analysis to ensure that the Commission, and our Nation, is well positioned to deploy a new generation of nuclear designs.

I look forward to further conversation and appreciate you all coming in today. Thank you.

[The prepared statement of Senator Capito follows:]

Senator Carper. Thanks, Senator Capito.

We are now going to turn to our panel of witnesses, and welcome you all back before us. We are grateful that you are joining us today, grateful that you are willing to serve in this important capacity. We look forward to what you have to say.

I am going to lead off with our chair, Chris Hanson. If I could ask to use about five minutes for your remarks, then we will turn to your colleagues on the commission and ask each of you to speak for roughly two minutes. Mr. Chairman, you are recognized. Please proceed.

STATEMENT OF THE HONORABLE CHRISTOPHER T. HANSON, CHAIRMAN, NUCLEAR REGULATORY COMMISSION

Mr. Hanson. Thank you. Good morning, Chairman Carper, Ranking Member Capito, Senator Stabenow. It is good to be with you all this morning.

My colleagues and I very much appreciate the opportunity to discuss the U.S. Nuclear Regulatory Commission's Fiscal Year 2024 budget request and update you on some of the agency's licensing and oversight activities.

The NRC is an independent Federal agency established to regulate commercial nuclear power plants; research and test reactors; nuclear fuel cycle facilities; and radioactive materials used in medicine, academia, and industry. The agency also regulates the transportation, storage, and disposal of radioactive materials and waste; the export and import of radioactive materials, nuclear reactors and fuel cycle facilities, and the export of nuclear facility components.

The NRC's Fiscal Year 2024 budget request is $1 billion to support activities focusing on the safety and security of the facilities and materials that we regulate. The budget request represents about a 6.7 percent increase, or $63.2 million over the NRC's enacted budget for Fiscal Year 2023. This is primarily to support increased salaries and benefits, in accordance with the U.S. Office of Management and Budget

guidance, and workload changes. The budget request proposes to use $27.1 million in carryover to offset the Nuclear Reactor Safety budget, resulting in an adjusted gross budget authority of $979 million.

The NRC expects to recover $832.2 million of the Fiscal Year 2024 budget from fees assessed to NRC licensees. This will result in a net appropriation of $156 million, which is an increase of $19 million when compared to the Fiscal Year 2023 enacted budget.

The Fiscal Year 2024 budget request is anticipated to encompass the regulation of 94 operating power reactors, 31 nonpower production or utilization facilities, 23 power reactor sites undergoing decommissioning, and thousands of other facilities and materials that we regulate.

The NRC realized a number of important accomplishments over the last year and made progress in key areas. To highlight a few, Senator Capito, as you noted, the NRC authorized the operation of Vogtle Unit 3 in Georgia, marking the first time the agency has authorized fuel loading and startup operations for a nuclear power plant with a combined construction permit and operating license.

In another major achievement, the NRC completed NuScale's design certification for its small modular reactor. The agency also renewed the license for Westinghouse's fuel fabrication

facility in Columbia, South Carolina.

Senator Carper and Senator Capito, you both noted that the commission recently took a major step in clarifying the regulation of fusion energy in the United States by directing the staff to license near-term fusion energy systems under a byproduct material framework.

I would like to now highlight some specific elements of the NRC's Fiscal Year 2024 budget request. The NRC's nuclear reactor safety program encompasses licensing and oversight of civilian nuclear power reactors and non-power facilities. The Fiscal Year 2024 budget request for the Nuclear Reactor Safety Program is $530.8 million. A portion of this budget request, about $34 million, is from off-fee based funds, would support the development of advanced reactor regulatory infrastructure and staff capabilities for licensing of advanced nuclear reactor and fuel cycle technologies.

The Operating Reactors portion of this request will support licensing and inspection. With the inclusion of the carryover used to offset the Fiscal Year 2024 budget request, the NRC is requesting a total of $425.8 million within this. The portion of the budget request designated for new reactors is $105 million.

In addition to the development of the new regulatory licensing framework, this request supports numerous pre-

application activities as well as resources for technical reviews associated with several licensing activities for advanced reactors.

The Nuclear Materials and Waste Safety Program is responsible for licensing, regulating, and overseeing uranium processing and fuel facilities, research and pilot facilities, and other nuclear materials licensees. The Fiscal Year 2024 budget request for the Nuclear Materials and Waste Safety program is $153 million.

The NRC's Corporate Support Business Line includes a wide range of necessary functions critical to the agency's work. The Fiscal Year 2024 budget request of $304 million would comprise 30.2 percent of the NRC's total requested budget which reflects the agency's efforts to comply with the corporate support cap mandated by the Nuclear Energy Innovation and Modernization Act to the maximum extent practicable.

In closing, the Fiscal Year 2024 budget request allows NRC to focus on conducting our mission activities to ensure the safety and security of nuclear power facilities and nuclear materials. On behalf of the Commission, I thank you for the opportunity to discuss the important work we anticipate in the year ahead and for your support of the NRC's vital mission. We would be pleased to respond to your questions.

[The prepared statement of Mr. Hanson follows:]

Senator Carper. Thanks, Mr. Chairman.

Now, Commissioner Baran, you are recognized.

STATEMENT OF THE HONORABLE JEFF BARAN, COMMISSIONER, NUCLEAR REGULATORY COMMISSION

Mr. Baran. Thank you for the opportunity to testify today. It is great to be back with my colleagues to discuss NRC's budget.

It is an exciting time to be doing our important work. With more potential applications for advanced reactors, small modular reactors, subsequent license renewal, new fuel designs, power uprates, and risk-informed programs expected, NRC's overall workload is increasing. Our budget request is structured to allow us to take on this new work.

NRC has a key role to play in tackling climate change. It is our job to ensure the safety and security of nuclear power in the U.S. energy mix. When utilities and vendors tell us that we should expect numerous new designs and reactor applications, we need to be ready with sufficient resources and the right expertise to review them, and an efficient and effective licensing process that can handle whatever volume comes our way. That is an important NRC responsibility.

So NRC is busy preparing the regulatory framework for advanced reactors and small modular reactors. At the same time, the NRC staff is reviewing applications that have already been submitted.

For the operation of existing nuclear power plants now and

into the future, NRC's job is to provide strong safety and security standards and rigorous independent oversight. In this period of change, NRC needs to be open to and ready for new technologies that could improve safety. Whether it is digital instrumentation and control, accident tolerant fuels, sensors, advanced manufacturing techniques, or artificial intelligence, we need to establish a reliable regulatory framework for reviewing these technologies, while ensuring that they are adopted safely without introducing any unacceptable risks.

As NRC does its work, the agency is focused on its workforce. We are facing a significant hiring challenge. We have a large number of employees who are eligible for retirement. With higher employee attrition, the agency's efforts on external hiring are crucial. Significant external hiring is necessary for the agency to do the work we have in front of us now and to be ready for the work coming our way.

Thank you, and I look forward to your questions.

[The prepared statement of Mr. Baran follows:]

Senator Carper. Thank you, Commissioner Baran.

Commissioner Wright, please. Two minutes, please.

STATEMENT OF THE HONORABLE DAVID A. WRIGHT, COMMISSIONER, NUCLEAR REGULATORY COMMISSION

Mr. Wright. Good morning, thank you so much, Chairman Carper and Ranking Member Capito, Senator Stabenow, and the other honorable members of the committee. Thank you for the opportunity to appear before you today.

This is an exciting time for the Commission. The policy decisions that we have in front of us will play a pivotal role in shaping the energy future of this Country, as well as beyond our borders. I am honored to be a part of that process. By working together, the five of us can help meet the moment in time to enable the safe use of nuclear technologies while we continue to meet our mission of reasonable assurance of adequate protection of public health and safety and to promote the common defense and security and to protect the environment.

On behalf of me and my team, I want to thank my colleagues and their staffs for their willingness to work together on important issues before us, such as advanced reactors, accident-tolerant fuel, fusion, cleanup of legacy uranium mines, and spent fuel storage, just to name a few.

I am also grateful to the NRC staff, who are truly some of the smartest and most talented people that I have ever been around. They do an outstanding job of monitoring the day-to-day safety of our nuclear facilities, and I want to take this moment

to thank them publicly. Going forward, I look forward to the continued excellent support and insights that they provide us.

And with that, I look forward to your questions.

[The prepared statement of Mr. Wright follows:]

Senator Carper. Thanks, Commissioner Wright.

Commissioner Caputo?

STATEMENT OF THE HONORABLE ANNIE CAPUTO, COMMISSIONER, NUCLEAR REGULATORY COMMISSION

Ms. Caputo. Good morning. Thank you, Chairman Carper, Ranking Member Capito, and members of the committee for the opportunity to come before you today.

This Committee has demonstrated strong bipartisan support for advanced reactors, and a sense of urgency driven by both climate change and energy security concerns. NRC's role as gatekeeper to the future of advanced reactors is a role that we must get right.

While the primacy of our mission to protect public safety and security and the environment is indisputable, we must find ways to innovate how we will regulate advanced reactors to allow safe nuclear energy deployment on a scale warranted by our national and global clean energy needs.

Congress directed the NRC to develop a new regulatory framework for advanced reactors. The proposed rule under consideration by the commission is a complex, 1200-page undertaking. This will require considerable work on the part of my colleagues and I to meet Congress's intent with a sense of urgency. I pledge to work collegially with my fellow commissioners to shape a framework that is simpler, reflecting the inherent safety found in advanced designs, and enabling predictable, efficient reviews.

Our Principles of Good Regulation state that "The American taxpayer, the rate-paying consumer, and licensees are all entitled to the best possible management and administration of our regulatory activities." At the end of fiscal year 2022, as Senator Capito mentioned, the agency had a carryover balance of $92 million. This means the agency collected roughly $58 million from licensees and $34 million from taxpayers that we did not need to fulfill our mission.

I share the Committee's concern that the agency be adequately resourced and staffed to meet our mission. However, my longstanding view remains that the agency needs to improve its financial stewardship of its resources and the fairness of the fees billed to licensees and applicants. I look forward to working with Chairman Hanson and my fellow commissioners to improve that issue.

Thank you.

[The prepared statement of Ms. Caputo follows:]

Senator Carper. Thank you so much.

Now we are going to hear from Brad Crowell also for two minutes. Thank you.

STATEMENT OF THE HONORABLE BRADLEY R. CROWELL, COMMISSIONER, NUCLEAR REGULATORY COMMISSION

Mr. Crowell. Thank you, Chair Carper, Ranking Member Capito, and members of the Committee. Thank you for the opportunity to testify today.

Since taking office last year, I have had the pleasure of building positive working relationships with my fellow commissioners. It has been apparent that a genuine spirit of collegiality among the Commission forms the foundation for successfully executing the NRC's mission with maximum effectiveness and efficiency.

Strong collegiality is further enhanced when operating with the full complement of commissioners. With five commissioners since last August, the Commission has made progress on pivotal issues related to the existing reactor fleet while also forging ahead on establishing a responsible regulatory framework to support the next generation of nuclear technologies.

Chair Hanson highlighted these topics in his testimony and many other notable recent accomplishments by the NRC, while also emphasizing the robust work schedule ahead for Fiscal Year 2024 and beyond. The NRC has a central role to play in the future viability of nuclear energy, both in the U.S. and abroad. As the Nation's regulator for the safe and secure operation of civilian nuclear technologies, the NRC is committed to ensuring

the public can have confidence that all NRC licensees operate in manner that minimizes risk and maximizes safety.

The foundational mission of the NRC must always be the uncompromising protection of public health and safety, security, and the environment. But that mission can no longer be applied through the narrow lens that has been used in past decades at the NRC. The NRC must quickly adapt to embrace the shared responsibility of our Nation's collective effort to address climate change and energy security.

The potential for nuclear energy to make a meaningful and enduring contribution to reducing carbon emissions and stabilizing our energy grid is real. But in doing so, time is of the essence and there is much to accomplish across the full NRC mission space.

To be successful, the NRC must embrace a contemporary sense of purpose that embodies the challenges and opportunities before us. As an essential part of this effort, the NRC must restore, build, and maintain public trust through proactive and meaningful interactions with the public, other government agencies, and the full spectrum of stakeholders.

The NRC must also maintain a commitment to safely regulating the full fuel cycle by asserting commensurate focus on issues from mining to waste in its regulatory decisions and research activities. Proactive engagement on used fuel

management, decommissioning, and waste disposal is critical to enhancing public confidence.

I am excited by the challenge of what we can, and must, accomplish by the end of this decade. But we must get to work now and maintain this level of commitment in subsequent years to succeed. I am confident the NRC staff is up to the challenge.

The Fiscal Year 2024 budget request is an important next step to ensure we have the resources necessary to meet this pivotal moment.

Thank you, and I look forward to your questions.

[The prepared statement of Mr. Crowell follows:]

Senator Carper. Thank you all for those comments. I am going to turn back to Chairman Hanson for the first couple of questions.

The NRC's work to maintain the safety and security of our Nation's nuclear power facilities and materials is critical to ensuring that nuclear energy remains an important part of our clean energy supply. Unfortunately, the Nuclear Energy Innovation and Modernization Act, affectionately known as NEIMA, which was signed into law January of 2019, placed limitations on the NRC's administrative costs known as corporate support.

To fix this, I worked with Ranking Member Capito on language, and our staffs worked together on language included in the ADVANCE Act that would ease these restrictive caps with the goal of providing greater flexibility for the NRC to ensure that it has the best tools and the workforce that is required.

Would you take a moment or two to describe for us how easing these corporate support restraints will support the NRC's efforts to modernize and hire the highly skilled workers needed to carry out the NRC's important work both now and well into the future?

Mr. Hanson. Chairman Carper, thank you very much for that question. I appreciate the committee's focus on corporate support in the ADVANCE Act. Continued focus on our overhead costs and keeping those down to the maximum extent practicable

is certainly something we are continuing to do and we will do into the future.

What we have proposed in the Fiscal Year 2024 budget is a couple of modest adjustments really in the area of HR. We have undertaken an effort to hire staff, hire the right staff, up to our authorized levels. We need some additional corporate support resources in order to be able to do that.

I would note that the corporate support request in this budget is right around $300 million. So as I said, about 30 percent. That is actually $30 million less than the Fiscal Year 2016 level, and actually adjusted for inflation, it is about $120 million less than Fiscal Year 2016. So we have brought these costs down and we are going to continue to focus on that as part of our efforts.

Additionally, a 1 percent reduction in corporate support then on $1 billion dollars is roughly about $10 million. That equates to as many as anywhere, depending on contracting costs and other kinds of things, as many as 30 to 50 full-time positions. Those are people that we really need to be able to hire people, bring them on board, vet them for security, make sure they have the IT resources and other kinds of things that they need. So modest relief in the corporate support area is really critical to our ability to hire folks.

Back in 2021, we had about 180 hiring actions, but only

about 100 of those were external. In 2022, we had about 200 external hiring actions, and that requires a lot of additional resources to bring folks in, not a lot, a modest amount of additional resources to bring folks into the government.

We also, through attrition, had 250 people leave the agency. So actually at the end of 2022, we were still down about 40 positions agency wide. So you can see we are trying to bring people in, even as I think a number of people noted our workforce is aging, and we are trying to get our arms around this staffing issue to accomplish the mission.

Senator Carper. You are not the only entities trying to get their arms around this staffing issue. Senator Capito and my colleagues and I returned on Monday from a recess, and I suspect that they did something similar to what I did, I covered my State from one end to the other. It is easy in Delaware, because we are only 100 miles from north to south and 50 miles wide.

We visited businesses large and small, and our Congressional delegation would ask really three questions of the businesses that we visited, like how are you doing in business, and we would say, how are we doing, Congressional delegation, Federal Government, State government, and what can we do to help. On the third question, almost without exception, the response to what can we do to help is, we just need people to

come to work. We need people to come to work who are trained or trainable and will do a day's work for a day's pay. We heard that again and again and again.

I say that as background, but as the NRC looks to recruit the best and the brightest, what has been critical in attracting and training a workforce that is able to understand today's technology and the technology of the future? What more could we do to help on the Congressional side, help you and the NRC attract and retain the kind of talent that is required?

Mr. Hanson. Senator, thank you. The additional authorities provided in the ADVANCE Act will certainly help with that. Workplace flexibilities I think will also continue to help. We face stiff competition from other government agencies and from industry. So being able to offer some level of telework is important.

Commissioner Caputo mentioned the strong bipartisan support of this committee for nuclear. I think that is also important, because that shows that this industry is getting a lot of attention. That is good for us.

When I go out and talk to people, I emphasize the mission of the NRC, the safety mission, and the importance of public service, and that maybe it is not something that folks will want to go do for their entire career, but to go and serve their Country for a period of time and help us ensure the safety and

security of these advanced technologies and of the current fleet is a good and noble calling.

Senator Carper. Thank you. Just as an aside, I mention my experience with the Navy. I was in airplanes, chasing nuclear submarines. We have Dover Air Force Base, which is just outside Dover, Delaware, in the middle part of our State. About every week, they hold a forum they call transition assistance for people that are timing out, that are going to retire, that are going to move from active duty to reserve duty. But we didn't have anything like that when I timed out of the Navy, at the end of the Vietnam War.

But there is a considerable workforce coming off the Dover Air Force Base. We have 5,000, 6,000 people who work there, civilian and otherwise. So that provides a fertile field, if you will, a supply of employees.

There are a lot of people who were in the nuclear Navy, and some of them stay for a career, some stay for 10, 20, 30 years, as you know. Some don't. Some of them become reservists. Do you ever take a look at how working with the Navy, people in uniform who have timed out from the nuclear Navy, and to see if they might be appropriate in working with the NRC?

Mr. Hanson. We are doing that. We have about 25 percent of our workforce that are military veterans, most of those from the Navy and the nuclear Navy. We have been great beneficiaries

of that program over time in the agency.

Senator Carper. I find when I visit nuclear power plants, a lot of the folks who work at nuclear power plants are folks with Navy nuclear experience.

This is a question for the entire panel. We will start with you, Commissioner Baran. The Nuclear Energy Innovation and Modernization Act requires NRC to develop a regulatory framework for the next generation of nuclear technologies. We want to see a regulatory framework that is risk-informed, performance-based, and technology neutral. Importantly, this framework needs to be both workable and usable to help us deploy more safe and reliable nuclear energy.

Here is my question for the entire panel, starting with you, Mr. Baran. Could each of you please take a brief moment and tell us how the new regulatory framework development process is going, what is going well, and are there any issues of concern you would like to bring to us? Commissioner Baran?

Mr. Baran. Thanks for the question. It is something we obviously are all very focused on. I think we are all reviewing and beginning to digest the draft proposed rule. I agree with you completely: the result needs to be an efficient and effective licensing framework going forward.

I think we have heard throughout this process, as the staff has developed the draft proposed rule, there are several issues

we hear about a lot from a lot of stakeholders, concerns or areas where it is clear that the commission is going to need to make a decision about how to proceed. Everything from, we are going to have a performance-based regulation, what is the overall performance standard, what should it be. There is a debate about that.

There is a question about the role of, as low as reasonably achievable doses, how does that play in. Do we have two frameworks, a framework A and a framework B? If so, how does framework B look? Security, there are multiple, big issues. But probably half a dozen or so that get the most attention from stakeholders, and I think that the staff has spent the most time on.

So I know we will all be focused on those issues and trying to figure out, how do we strike the right balance, how do we have a good rule in the end that is going to work and be efficient and effective.

Senator Carper. Thanks. My time is expired. I am going to come back and pick this up after each of my colleagues have had a chance to ask their questions.

Senator Capito, please.

Senator Capito. Thank you, Mr. Chairman. Thank you all.

Chair Hanson, I wanted to ask specifically about the State of West Virginia, because West Virginia recently notified the

commission of its interest in becoming an agreement State. Agreement States assume responsibility to exercise certain regulatory authorities over nuclear materials. It has a process, and you all review that.

In your letter to our governor, Governor Justice, you welcomed the State's interest. I appreciate that. I would just ask for your assurance that you will provide all the necessary attention and resources to help review that application that West Virginia has made, as well as frequent communications with the State as we are going through this process.

Mr. Hanson. Yes, Senator, you have my commitment with that. The process really kicks off on June 1st, and that is going to be followed by a series of monthly status meetings between the State and NRC staff. Not only will we be reviewing their application, but we are going to provide training to State staff for them to get up to speed on reviewing materials licenses and becoming inspectors.

Senator Capito. Right. For our State, this is new territory for us. That is very helpful.

How many States have State agreements already?

Mr. Hanson. We have 39 fully in place. We have two more in process. West Virginia is going to be joining Indiana and Connecticut who are in the middle of that process right now.

Senator Capito. All right. Thank you.

There has already been a lot of conversation about what is known as Part 53 of the new regulation, the 1,800 pages that have come forth for a regulatory framework for advanced nuclear reactor technologies. I think this is absolutely essential.

It has come to our attention, Commissioner Baran, I think you just mentioned this, that stakeholders have been consistently identifying some key issues where they have some issues that need to be resolved before the final rule would move forward. You want a rule that is workable, we are really putting a lot of eggs in this basket to be able to move forward, not just here but as I mentioned in my opening statement, globally.

I want a simple yes or no response from all of you that you agree, obviously, I think, that a successful regulatory framework must be a rule that can be used. But will you commit to addressing the widely acknowledged issues with the proposed rule and provide specific direction to fix those rules? If I can just go down the dais, say yes or no on that.

Mr. Hanson. Yes, Senator, we will be tackling those issues.

Senator Capito. Thank you.

Mr. Baran. Yes, of course.

Senator Capito. Yes.

Mr. Wright. Yes.

Ms. Caputo. Yes, I will.

Mr. Crowell. Yes.

Senator Capito. Thank you. Before I ask about telework, I want to ask about this $92 million carryover. You mentioned, Chairman, that $21 million of that is carried over. Well, I can do the simple math here. That leaves another $71 million. Where does that go? Where is that? If you're only using $21 million to carry over into this year's budget.

Mr. Hanson. I see. The $27 million we proposed in the 2024 to kind of offset that. But that does still leave some additional carryover.

Senator Capito. It is significant. That is significant. If I am not seeing this right, it is a $70 million unused still. Is that correct? Close to that?

Mr. Hanson. Senator, at about halfway through the year, we have now obligated about half of that $90 million already to new work here in Fiscal Year 2023.

Senator Capito. So you are using that now?

Mr. Hanson. We are using that, yes. It doesn't consistently accumulate. We will take unobligated funds and dedicate those to existing work.

Senator Capito. Commissioner Caputo, I would like you to weigh in here because you mentioned it in your statement, how you feel about that method of paying for things.

Ms. Caputo. I think what the chairman is referring to is spending the older money first. But I also think what that does is push forward the dates when we start using the appropriations that we are given for the fiscal year. So it sort of pushes carryover through to the end of this fiscal year.

So considering that we ended the year with $92 million in carryover and received a budget increase in Fiscal Year 2023, I would expect us again to have carryover at least on that order, if not higher.

Senator Capito. Yes, and you mentioned that that carryover dollars represents not just the corporate, if I am saying this correctly, the corporate contribution, which you mentioned ratepayers and --

Ms. Caputo. Yes.

Senator Capito. Will you explain what that means? That is the taxpayer, right, the person who is receiving the service?

Ms. Caputo. Yes. There is a portion of our budget that is paid for by taxpayers which is in the neighborhood of 15 percent, and the remainder of it is collected from licensees and applicants. What I mentioned in my statement was the breakdown between the activities where we had excess funds that were taxpayer funded versus those that we, as mandated under law, have to recover in fees.

So when our budget is issued, we have to recover the fees

regardless of whether or not we use the money.

Senator Capito. Okay. Can I ask one more question? Chairman Hanson, the statistics that you generated and that I mentioned in my opening statement, I think as you look further into some of that, there is a great, vast majority of NRC employees that are not in the office six days out of two weeks' pay period. I mentioned concerns of mentoring.

We see this popping up a lot in corporate America. A lot of people are bringing everybody back. I understand, when we had this conversation earlier, your response to me was, it needs to be an all-of-government response. In other words, I can't respond at the NRC one way and then have the Department of Energy doing something else, because they are going to pick off my talent, is the bottom line here.

Mr. Hanson. Yes.

Senator Capito. Do you not agree that to have, I know to have a blended work, yes, but to have more people actually in the office mentoring new employees, talking about new technologies that are coming online, is a much more effective way to actually get a better result?

Mr. Hanson. Senator, I definitely agree that there are a lot of advantages of in-person interactions. We want those interactions to be purposeful. We brought the staff back to the office about two days a week just about a year ago now. What we

found was there was a lot of uneven distribution about who was in the office when and folks were sitting in their cubes by themselves on Teams meetings with other people who weren't around.

So what we have tried to do is develop a model of interaction where people are coming together for a particular reason. Like you said, I think mentoring is a great example of that, celebrating achievements, completing work together on big efforts. We are trying to develop a flexible work model that directs, encourages, and guides those kinds of meaningful interactions.

Senator Capito. Do you make those decisions yourself? Or are those made within the agency by the different siloed areas of the NRC?

Mr. Hanson. Our Executive Director of Operations and the leadership team of career civil servants is making those decisions. But they are keeping the commission informed.

Senator Capito. So it is a consistent policy across the commission?

Mr. Hanson. That is the idea, yes, that it is a consistent policy across the agency.

Senator Capito. Well, the President made a statement on it the other day, and then he said, well, when you come into work, it has to be for a meaningful purpose. I was like, isn't every

day supposed to be a meaningful purpose at work?

[Laughter.]

Senator Capito. I sort of thought, who goes to work for unmeaningful purposes? It sounds sort of wasteful to me.

Thank you very much.

Mr. Hanson. Thank you.

Senator Carper. Thanks, Senator Capito.

Senator Stabenow, you are next. Welcome. It is nice to see you.

Senator Stabenow. Thank you. Good morning and thanks to all of you. I hope every day is meaningful, as we are coming in to work together.

Thank you for all of your work and leadership. I am a supporter of the use of nuclear power. I think we have great new opportunities now, and certainly attacking the climate crisis using the new technologies that you have been talking about I think give us some real opportunities.

I want to ask my first question about something close to home in Michigan. I know, Chairman Hanson, as a Michigan native yourself, we are glad to say, I know you are well aware of how we feel about our Great Lakes in terms of the economy. We like to say the Great Lakes are really in our DNA, and that we do everything we can to protect this unparalleled natural resource for the next generations.

That is why I for years now have led efforts working with our Canadian friends to stop proposals to bury high-level nuclear waste in the Great Lakes Basin. We have had meetings, I have had meetings in Canada, in Michigan, phone calls, good conversations. The good news is we were successful in stopping one proposal. Unfortunately, Canada continues now to consider a separate proposal to store highly radioactive waste at a site just off of Lake Huron. They are only months away from finalizing a decision on the matter.

Now, I understand you are looking at two sites, one is not in the Great Lakes Basin, one is near Lake Huron. Obviously, we would prefer, Canada is a big country, and as I have said to my Canadian friends, you have a lot of options on where you would locate a site. It doesn't have to be right next to the Great Lakes, right next to Lake Huron. Particularly when we talk about threatening the drinking water supply of more than 40 million people in the U.S. and Canada, as you know.

So my question is, will you commit to work with me, to work with us, work with other Federal partners, including the State Department, to engage with our Canadian allies on this issue in an effort, hopefully a successful effort, that this waste will not be permanently stored in the Great Lakes Basin?

Mr. Hanson. Senator, yes, I commit to work with you and the State Department and our interagency partners to bring the

breadth and depth of the expertise of the NRC to this issue.

Senator Stabenow. Great. Well, this is really important, and hopefully as we move forward with new technologies and so on, maybe the issues around waste won't be what they are today. But certainly we are very concerned about the Great Lakes.

I did want to go back to what the leadership of our committee has talked to you about, and you have mentioned, but just a little bit more on workforce, which is a challenge, of course, for all of us, every business, every entity, certainly in Michigan and in the Federal Government and so on. But when I learned that one-third of the NRC staff is eligible for retirement, it was like, ouch, that is a challenge. That is a very big challenge. A lot of expertise to replace, for sure.

I wondered if the chairman, also Commissioner Baran, you spoke about this specifically as well, but what does this mean for your ability to develop and implement standards? We have talked about some strategies. I am glad you are reaching out to the Navy, my dad was in the Navy as well, as the chairman knows, and reached out to others.

What else can we do to support you to be able to get you what you need in terms of the expertise that is necessary?

Mr. Hanson. Thank you, Senator, very much.

In terms of bringing folks into the agency, we have a broad across-the-board approach where we are really actively engaging

recent college graduates. I am visiting universities, I know my colleagues are as well, to try and get folks on the nuclear track and interested in public service. But we are also working hard to recruit and retain mid-career folks as well, folks with expertise already that can come in the door and maybe hit the ground running a little bit more.

Certainly, competitive pay and benefits, maybe not everything that industry can do, but certainly the benefits that the Federal Government has there. But also things like student loan repayment and other kinds of Federal tools that we might be able to use to retain folks.

We also have specific programs for specific skill sets. It is not just folks in general, but we are looking for people like reactor systems analysts that were health physicists. We have specific initiatives aimed at getting those folks in the door.

Senator Stabenow. Right. Commissioner Baran, do you want to add to that?

Mr. Baran. I don't know that I can add too much. I agree with everything Chair Hanson said.

I would just note for a little bit of context, for a number of years, the agency has been shrinking. We had been doing very little external hiring. So only these last couple of years have we been starting to ramp this up. Because of attrition and a growing number of folks retiring, we need to hire a couple

hundred people a year just to stay flat. That is much more than we have been doing in the last several years.

So as the chair said, the folks we have, and to get our hiring ramped up again, and do it in new, smarter ways, how we bring in lots of folks that are going to be highly qualified and get them where we need them is really important. As he said also, I think the additional hiring flexibilities in the ADVANCE Act are really great, and we certainly appreciate that support as well.

Senator Stabenow. Thank you. Thank you very much.

Senator Carper. Senator Ricketts, good to see you.

Senator Ricketts. Thank you, Chairman Carper, Ranking Member Capito.

I always say I love being on this committee. We are not going to talk about ethanol today.

[Laughter.]

Senator Stabenow. I would be happy to join you in doing that.

[Laughter.]

Senator Ricketts. Thank you, Commissioners, for serving in this role and for being here with us today. Nebraska is very proud of our nuclear power that we have that is clean, safe, and reliable. Our Cooper Nuclear Station is an 835-megawatt facility that can generate power for about 385,000 residences,

even in the hottest part of summer. So we are very proud of our nuclear power, and look to continue to see how we can expand it going forward into the future.

Chairman Hanson, this question is going to be for you. I am going to start by quoting what Commissioner Caputo said, which is the principles of good regulation state that the American taxpayer, the rate-paying consumer and licensees are all entitled to the best possible management and administration of regulatory activities. The highest technical and managerial competence is required, and must be a constant NRC goal. That is the NRC's practice, or stated goal there.

However, in looking at the review process here, there are some questions I have about it. I will give you a little bit of background. As Governor of Nebraska, we were very focused on process improvement and how we could streamline our operations to be able to do a better job. The NRC has, looking at the time it takes in licensing hours for the initial renewals, and it doesn't appear that you are living up to what the goal here is. Because it says, the first 44 initial license renewals were completed in or on an average of 16,000 review hours. Most recently, review hours for initial license renewals have been estimated to be 23,000, an increase of 44 percent.

Then another thing I would like to you to answer, Chairman Hanson, is in subsequent license renewal applications which I

would think, and granted, I am a layman, so I don't know, I am not an expert on this stuff, but you would think you would be able to realize the efficiencies based upon the initial license renewal screening, safety, environmental review as well as the ongoing management of the programs that they have. Those have averaged 25,000. So for me, there is a disconnect between initial licensing being shorter than the follow-on licensing. I would think that would be easier to do.

Why have these subsequent license renewal reviews required more time and resources than the initial ones? Why is it taking longer just in general to do these initial license reviews?

Mr. Hanson. Senator, those are very good questions. I recently have become aware of this discrepancy in the hours myself. I am focusing on it and working with the career staff to find out what the issues are here. Oftentimes, the way we will approach these things is to look at the differences between like things, an initial license renewal for a particular reactor and then a subsequent, well, okay, what has changed, and look and dive into those.

So I don't have an answer for you today, but I will get back to you for the record on what exactly is going on there. I can share my concern about that as well. I want to understand better exactly what is going on there.

Senator Ricketts. Okay, well, I appreciate you following

up on that. Again, we leverage Lean Six Sigma; there are a lot of other process improvement methodologies out there that you can implement agency-wide to be able to drive better productivity, streamlining operations, reducing the number of steps it takes to do things, and not sacrificing anything with regard to the quality of the output or anything like that.

And of course, I think you are going to find broad support for the nuclear industry, especially, Commissioner Baran was talking about some of the exciting new technologies that are coming online, Nebraska is passing laws to be able to try and attract that to our State, when we are talking abut some of these advanced nuclear programs. So we are really excited about this stuff.

So, if you could, get back to me and describe some of those things. I am running close to my time, so I am not going to go over, because we also have some other people here. But I do want to say, if you would get back to us on that, and just follow up on some of the steps you will do there.

Then another question, as long as you are doing that, in the Inflation Reduction Act there are several provisions to incentivize power uprates of the current fleet of power reactors. Can you provide your strategy for how you are going to address the potential increase in power uprate applications in line with the Inflation Reduction Act?

Mr. Hanson. Yes. We haven't gotten formal notification yet from licensees about power uprates, but we have had some informal interactions. I know the Nuclear Energy Institute has a survey out there as well that folks are going to be pursuing those. In our operating reactors group, we are already starting to look ahead for that and make sure that we have the right skill sets in place. It is also part of our hiring strategy. I mentioned reactor systems analysts earlier. Those are going to be some of the critical skill sets that we are going to need to be able to move those in a risk-informed, performance based and timely way while keeping our safety mission front and center.

Senator Ricketts.

Yes, again, it would seem to me you can create a template for anybody who applies for the uprates about what they would have to do and where they could get to go with regard to this. Again, this is something that I think is, as we have increasing energy demands, I think it is something important for my State and the Nation to be able to accomplish.

Mr. Hanson. We have done that in other areas, Senator, where we have kind of gone through almost like a pilot process with a single licensee, then other licensees can follow that pattern, and it becomes more efficient over time.

Senator Ricketts. Great, fantastic. Thank you very much, Chairman.

Senator Carper. Thanks for those questions.

Senator Cardin, you are recognized.

Senator Cardin. Thank you, Mr. Chairman. Let me thank all the commissioners for your work. We appreciate it very much. I am proud of your location in our State of Maryland and the workforce, many of which live in Maryland.

I want to talk about the workforce issues. I know it has been brought up. I want to mention three issues and then try to get your response on how you are dealing with it.

The NRC has a higher-than-average attrition rate. We have a problem with attrition generally in Federal service, but your rates are higher than the norm.

We have a morale problem. In all the recent ratings in regard to the best places to work, the NRC has dropped in its rating, I think it is 21st out of 27 right now, and according to OPM, the Federal Employees Viewpoint Survey dropped from 81.8 in 2010 to 66.5 in 2022. There is a moral issue problem at the NRC.

Lastly, you have an age factor. One-third of your workforce, as I understand it, is eligible for retirement. The number of workers that you have that are under the age of 30 is about 4 percent, if my numbers are correct.

So what steps are you taking in an effort to try to reverse these three trends, the attrition, the age of the workforce, and

the spirit of the workforce to work under difficult circumstances because it is a good place to work?

Mr. Hanson. Senator, thank you. Let me try and tackle each one of those, if I can. You are right, attrition has gone up. I think last year we got up to about 9 percent, which is, you are right, higher than normal. I would say in terms of the age factor there, the average age of new hires in the agency is about between 36 and 39. So the folks that we are bringing in are significantly younger than a lot of the other folks in the agency.

We are also focused on knowledge management. This commission has been focused on it as well, so that the knowledge and the expertise of some of those older workers who are eligible to retire and will retire is getting transferred down so that we can continue to keep our safety mission front and center.

Finally, in terms of our FEV scores, I acknowledge those. Ten years ago or so, we were number one in FEV as the best place to work in government. We were also growing a lot. There was a lot of promotion potential, we were looking at the nuclear renaissance, we were 25, 30 percent bigger than we are now. We have shrunk a lot.

As the agency shrunk and we weren't sure about the future of nuclear, well, the nuclear for energy and climate security

reasons really picked up. But at that same time, the pandemic hit, and folks were forced to go home. Now we are in a hybrid work environment. The key to really making that environment work, I think, is really about trust and about making the staff know that we trust them to do a good job, that we trust them to come into the office when they need to, that we trust them to accomplish the mission.

That is really the theme throughout this. Before the pandemic, we were accomplishing the mission. During the pandemic, we accomplished the mission. And we are accomplishing it now. We are going to continue to do so going forward. And helping folks understand the importance of that mission in this dynamic time that I think each of my colleagues talked about is really important. I hope it can be a morale booster going forward.

Senator Cardin. I am a strong supporter of your workforce. I will continue to be a strong supporter for what you need. The challenges you are talking about have been confronted by many agencies in government. We have seen the decline in many of our agencies. Your relative score is dropping, and your absolute score has dropped pretty dramatically.

The building blocks you just mentioned are very important points. That has to be a key part. But it needs to be first acknowledged that you have a problem. You then need to work

with the workforce to find out the reasons for what is happening here and then have a strategy so that people want to work for your agency and that you can attract the young people that are going to be necessary to give you the continuity in a field that is very dynamic.

This is an area that is just absolutely essential in recruitment. If you have a reputation that it is not a good place to work, it is going to make it even more difficult for you to get the talent you need to meet the missions in the future.

So I would hope that you would share with us a strategy to take this issue on head-on with the workforce so it is not dictating how they should feel, but understanding how they feel and then deal with the challenges that you have moving forward.

Mr. Hanson. I am happy to provide more details on some of the things we are doing in that area, Senator.

Senator Cardin. Thank you. Thank you, Mr. Chairman.

Senator Carper. Thanks for those comments, Senator Cardin.

We have been joined by Senator Lummis, then Senator Whitehouse has slipped in here. Senator Lummis, good morning. How are you?

Senator Lummis. Thank you, Mr. Chairman. Welcome, thank you for being here, commissioners.

In Wyoming, we are really looking forward to the advanced

reactors like TerraPower's natrium reactor coming to Kemmerer, Wyoming. Much to be excited about.

Chairman Hanson, for agreement States like Wyoming, would it be possible for States to do early site permitting to grease the wheels for future reactors in communities that want them? Would that require agreement amendments, or is this allowed under current NRC regulations?

Mr. Hanson. Senator, I would have to get back to you with the specifics on that. I think the NRC retains authority for early site permits for reactors. So I think under the Atomic Energy Act that is not eligible for an agreement State. But as part of the early site permit process, we would work with and consult State and other parties throughout that.

Senator Lummis. Great. I will look forward to following up with you on that. That will be great.

Ms. Caputo. Senator, if I may?

Senator Lummis. Yes.

Ms. Caputo. Under our regulations, any individual can pursue an ESP. That definition of individual does include States and State entities. So it would be possible for the State, as an agreement State, to pursue an early site permit.

Generally, there is a requirement to have control over the land, so there would need to be some sort of an agreement, either possession of the property in question or some sort of an

agreement with the owner that would allow work and site characterization necessary to achieve a permit to go forward. There are precedents for that. I believe the reactor vendor Oklo has some sort of an agreement like that with the DOE site at Idaho National Lab.

But it is possible for a State to proceed and actually pursue an early site permit.

Senator Lummis. Thank you for that answer and also thank you for coming to Wyoming and looking at some of the in-situ recovery sites in Wyoming.

Ms. Caputo. That is always my pleasure.

Senator Lummis. My staff really enjoyed spending time with you. For anybody who hasn't seen it, it is always such a surprise. It was the first time I saw in situ, because we are used to visualizing a typical mining operation.

You go see an in-situ operation, it is like you are going out and looking at a bunch of beehives. It is very low profile, on the surface, and there is no surface disturbance that you can see. It is absolutely amazing. So for anyone who hasn't seen it, we would love to have you out and show it to you further.

I want to talk a little bit about remediation of legacy uranium sites. I know that the commission has had numerous public statements supporting remediation. Members of this committee also share that goal, especially given the development

of technology that can finally clean up the roughly 15,000 waste rock piles in the west. One of the technologies that is used is called high pressure slurry ablation, or HPSA. I am sure you know that, it was a new term to me.

But one of those technologies, which is basically a car wash for rocks, was recently declined a multi-site license by the NRC staff. You recently directed staff to reconsider and present options to the commission. My question is, who sets the policy for the NRC? Is it the NRC staff, or is it the commissioners?

Mr. Hanson. Senator, the policy matters reside with the commission. That was one of the reasons why we directed the staff, Commissioner Baran was actively involved in this issue, to provide us a paper with options and policy implications on this matter. Because there were some issues about legal authority and definitions in the statute, et cetera. We wanted to better fully understand that and fully understand what our options were.

Senator Lummis. May I ask you then, Commissioner Baran, does the commission believe it has the authority to revise its own interpretation of byproduct materials to exclude beneficial remediation technologies from being considered milling? It seems like that word milling has come into question in all of this.

Mr. Baran. We need to regulate remediation technologies in a way that makes sense. As a matter of policy, I think we want to incentivize the remediation, the cleanup of mine waste. We obviously need to comply with the Atomic Energy Act. That is kind of the issue with these definitions.

But I am not convinced that the statute requires us to apply a regulatory framework here that wouldn't make sense or doesn't fit. I know you have legislation that looks at this, and I think that would be very good legislation.

I don't think the Congress should need to act in this area. I think the commission has the latitude to develop a more appropriate policy. We have directed the NRC staff to think creatively about this and provide us with some viable options.

Senator Lummis. Thank you. Thanks very much for being here.

Ms. Caputo. Senator, this was one of the technologies that I was able to visit last week in Wyoming. I agree with the chairman and Commissioner Baran. It is difficult under the initial legal review by our Office of General Counsel, it is difficult to envision any remediation technology not falling under that interpretation for milling, which would necessitate functionally a milling license for cleanup of each and every uranium remediation site that is out there, and there are thousands.

So I do believe that there is room to look at this and perhaps get a fresher legal interpretation that would enable remediation.

Senator Lummis. Thank you very much. Commissioners, thank you so much for being here. I appreciate your testimony today.

I yield back, thank you.

Senator Carper. You bet. Senator Whitehouse, then Senator Padilla.

Senator Whitehouse. Thank you, Chairman. Chair Hanson and members of the commission, welcome. Particularly welcome to Commissioner Crowell, who is returning to this committee from his position here years ago.

The legislative status is that we got you both the Nuclear Energy Innovation and Capabilities Act and the Nuclear Innovation and Modernization Act, and we have pending Senator Capito's ADVANCE Act, which I have been helpful and supportive with. I am one of her Democratic cosponsors, if not her lead one.

I would like to know with respect to speeding up the pace of approval for new fourth generation technologies, are you satisfied with the authorities that we gave you, or is there something more that you need? I invite you, since there are five of you, to make that a question for the record and just let us know, are those two bills adequate? What more do you need?

Because the ADVANCE Act is filed, but it can still be amended. If there is more that you need, we could consider putting other things that you think would be helpful into the ADVANCE Act. So I would like to get your official views on that as individual chair and commissioners.

The second issue I want to raise with you is one that I raise pretty much every time, which is my worry that by relying so much on private sector initiative, we rely enormously on economic signaling and we could be in a situation in which two technologies, one which requires new fuel, and another technology, which would allow the re-use and reprocessing of spent fuel, of our existing nuclear waste stockpiles, that the spent fuel technology will fail the economic test because it will be cheaper to get new fuel. And that economic test will not have taken into consideration the very important national security and public safety values of finding out what we can do to make use of our spent fuel.

I am worried that that becomes a mistake because the economic signals are poorly aligned. In the same way that we saw safely operating nuclear plants shut down so that natural gas plants could light up, only because the natural gas plants were so-called cheaper, only because they were polluting for free and the nuclear plants got zero value for being pollution free, you could end up with decision making that is driven by

false economics.

So what more can we do? We established a prize in our bill to encourage that form of re-use of spent fuel in new technologies. Beyond having a prize, what more can we do to make sure that the value of figuring out how to use spent fuel gets baked into your preferences, even if it doesn't flow through into the narrow cost benefit analysis of the actual operator?

Again, time will run out, I am happy to have the chair lead off and if anybody doesn't have a chance to answer, then it is a question for the record, because you have one minute.

Mr. Hanson. From a regulatory perspective, I think the opening stakes here are that we are actively engaged with folks who are pursuing reprocessing technologies, so that we are not an impediment, and that we make sure our regulations can ensure safety, but that they are clear and transparent and efficient in that regard.

So I think we can have some influence on the economics. We talked about economic signals, you talked about economic signals, that being kind of important there.

I will hand it off to Commissioner Caputo.

Senator Whitehouse. I think there is a real danger of mis-aligned economic signals because the value of getting into that nuclear waste stockpile and figuring out more productive uses

for it is not one that accrues to the operator. So we have to make sure you are pushing in that direction firmly to overcome that built-in economic disincentive.

Ms. Caputo. Senator, I would just like to say that my first position out of school was in fact working in fuel procurement. The difference between the market price for uranium and reprocessed uranium was the difference between roughly $10 and several hundred dollars a pound.

But there are advanced reactor technologies out there that are looking at how to include some means of recycling in terms of how they use fuel and how they use the reactor. So with these other technologies in combination with advanced reactor design, I think there are opportunities there that may propel a different value chain to make that decision more economically competitive.

And I don't think those technologies have come before us yet in terms of requesting a review for a processing facility. But I do think there is potential there for improved economics and proliferation resistance with some of these recycling technologies.

Senator Whitehouse. Good. Well, it is not exactly entirely last call at the old ADVANCE Act saloon, because it has just been filed. But we are going to try to move it. The sooner you can get to us any advice on what we can do in

addition to the prize in that bill to encourage utilization of spent fuel, we would love to hear from you to try to make our own judgment about the wisdom of putting that into the bill.

Thank you, Chairman.

Senator Carper. Thanks very much for raising those points. Very timely and on target.

Senator Whitehouse. Well, much appreciation to our Ranking Member, who was so essential to it.

Senator Carper. Senator Markey, are you in need of permission from Senator Padilla to go ahead of him in line? Are you in a rush?

Senator Markey. If you don't mind.

Senator Carper. All right, thanks. Senator Padilla, thanks for that. Senator Markey.

Senator Markey. Thank you.

In December of 2021, Holtec, the company in charge of decommissioning the Pilgrim Nuclear Power Station, announced that it planned to discharge approximately 1 million gallons of radioactive wastewater into Cape Cod Bay. This news was met with concerns and questions from nearby families, fishermen, business leaders, and State and local elected officials who were worried about how such a large discharge of radioactive wastewater could affect public health, marine species, and the region's economic engines, including tourism and fishing.

Given these understandable concerns, local residents and businesses called for an independent expert analysis of the proposed discharge.

Chairman Hanson, is it true that effluent testing and analysis are generally considered legitimate decommissioning activities that can be paid for by a nuclear decommissioning trust fund as long as expenditures would not reduce the value of the trust below an amount necessary to maintain the reactor in safe storage condition, and ultimately release the site and terminate the license?

Mr. Hanson. As long as there are sufficient funds to conduct the decommissioning safely, then yes, those activities could be withdrawn from the decommissioning trust fund.

Senator Markey. Thank you. For decades, ratepayers paid into Pilgrim's decommissioning trust fund to support the decommissioning process. Now they are demanding independent answers about the risks of Holtec's proposed discharge. Holtec's refusal to fund this robust independent study has violated its commitment to our communities to ensure an open and transparent decommissioning process.

While we are on the topic of eligible expenses for decommissioning trust funds, I would also like to express my concern over the Nuclear Regulatory Commission's reconsideration of an industry request to use decommissioning trust funds to pay

for the maintenance of nuclear power plants that are still operating. Allowing licensees to use decommissioning trust funds to pay for major radioactive components disposal during plant operations is completely out of line with NRC regulations. Decommissioning trust funds are only authorized to be used for radiological decommissioning, not ongoing plant operations and maintenance.

Chairman Hanson, is it true that in 2021, the Nuclear Regulatory Commission denied a petition to change the decommissioning funding assurance regulation for that purpose?

Mr. Hanson. We did decline to pursue a rulemaking in that area, yes, Senator.

Senator Markey. Well, I would strongly discourage the Nuclear Regulatory Commission from reopening that decision. It was the correct decision. I will encourage the commission not to bend the rules on decommissioning trust funds and funding assurance. I think that we should keep a very bright line; nuclear plant operators shouldn't be pilfering funds reserved for decommissioning of the plant to protect their profits during operation. That is just two separate categories altogether. It is just wrong.

In the latest version of the proposed decommissioning rule, the Nuclear Regulatory Commission would have no ability to approve, change, or deny plants decommissioning proposals,

assuming post-shutdown decommissioning activity reports based on their content and feasibility. The NRC would simply acknowledge receipt and look at whether these critical reports checked the boxes for complete.

Chairman Hanson, is it true that under this rulemaking, the Nuclear Regulatory Commission just checks to make sure all the necessary parts of the shutdown and decommissioning plan are in the report, without having to formally approve the plan?

Mr. Hanson. Senator, that is the approach in the proposed rule. We have gotten a lot of comments in this area. I appreciated the opportunity to speak with you about this issue in your office. I think we had a very substantive conversation about this.

What I took away from our conversation was the importance of providing the public with an opportunity to weigh in at the beginning of the decommissioning process, whether that is through the PSDAR or something else. I understand the staff is taking into account those comments along the lines of those that you submitted and others at this area about the best way or a number of options for doing that.

Senator Markey. My feeling is that it is like having a mechanic who checks to make sure you have all four tires on your car and tells you that you are good to go, without having checked to make sure those tires don't have a hole in them. It

is a policy designed ultimately for a crash.

Chairman Hanson, if the NRC had to formally approve the Decommissioning Activities Report, would it be considered a major Federal action that would require a new national Environmental Policy Act review?

Mr. Hanson. I am sorry, Senator, I will have to get back to you on the specifics of that for the record.

Senator Markey. I hope the answer is yes. Although companies have to certify their belief that the decommissioning activities are bounded by previous NEPA reviews. I would conclude that that was the correct position.

Mr. Hanson. Yes.

Senator Markey. Chairman Hanson, if the NRC had to formally approve the Decommissioning Activities Report, would that provide an opportunity for stakeholders to challenge the activities outlined in the report through an adjudicatory hearing?

Mr. Hanson. Yes, if we had to approve that, that would be an action in which the public could challenge that or intervene in that process.

Senator Markey. So it makes a lot more sense to me to conduct an environmental review and give the public an opportunity to weigh in before the decommissioning process begins. Otherwise, you get situations like we have in

Massachusetts of potential boondoggle when nearby communities are feeling unheard and under threat by nuclear power plant operators. As I have expressed to you on multiple occasions, I sincerely hope the commission requires the NRC to approve post shutdown decommissioning activity reports in the decommissioning rulemaking.

Thank you, Mr. Chairman.

Senator Carper. You are welcome.

Senator Padilla, thank you for yielding so that Senator Markey could ask those questions. You are recognized.

Senator Padilla. Thank you, Mr. Chairman.

We have heard about Massachusetts, let's talk about California. California is very proud of the recent scientific breakthrough at the National Ignition Facility at Lawrence Livermore National Lab. I particularly want to recognize Livermore's director, Kim Budil, and her team, who made history for achieving fusion ignition and unlocking, Mr. Chairman, this new milestone for the future of clean energy.

Last week, the NRC voted unanimously to create a new regulatory pathway for fusion energy, separate and apart from the existing framework around fission energy. Mr. Chair, we will go straight to the top, can you describe how the separate regulatory pathway will provide the certainty needed to ensure that fusion energy can continue to advance in the years ahead?

Mr. Hanson. Thank you, Senator. I am really looking forward, I have a planned trip to Livermore, and I know Dr. Budil fairly well. I look forward to catching up and seeing that facility again in June.

By establishing this in what we call a byproduct material framework, it really recognizes the fact that there is not the risk associated with an ongoing fusion reaction. Oftentimes with these facilities, if you have a loss of power that the plasma just dissipates and that there is actually a relatively low inventory of nuclear material, oftentimes deuterium or tritium, something that poses much less risk to workers and the public than say, a typical fission reactor, although those operate safely, of course, as well.

By doing that, and by saying that we can regulate the materials involved, or like a particle accelerated, say used in a research facility or hospital, then that provides a certainty in the knowledge of technology developers that they will be then kind of outside of a lot of the big power reactor type requirements, that the focus really will be on the materials used in those things as well. Hopefully, then that allows that technology to develop and reach commercial scale and we can satisfy our safety requirements.

Senator Padilla. All in the next three weeks.

Mr. Hanson. All in the next three weeks. You got it.

Senator Padilla. That was a joke, for people watching at home.

[Laughter.]

Senator Padilla. On a serious note, can you describe the resources you will need to be able to fully support this new pathway? Obviously, if additional support from Congress is necessary, please articulate that as well.

Mr. Hanson. Thank you. No, we have the resources we need. That was incorporated into our Fiscal Year 2024 budget request. We have some resources from 2023 to get started on this. But of course, as you just noted, the commission just gave the staff direction, so they are going to get rolling here in pretty short order.

Senator Padilla. Wonderful. Another topic, also California-specific, not sorry. As you all know, there have been several recent developments surrounding Diablo Canyon, the nuclear plant in California. This includes dual tracking the process of relicensing and decommissioning, and the NRC's recent determination to allow Diablo Canyon to keep operating under its current license as PG&E seeks full approval to extend its lifespan.

Mr. Chair, given your previous work on this side of the dais, you are well aware of the strong feelings that many people in California have about Diablo Canyon. Can you discuss your

view of the recent events surrounding Diablo Canyon, and more specifically how the NRC will continue to maintain safety standards at the facility?

Mr. Hanson. Thank you, Senator. We are going to continue to conduct our normal inspection activities. In fact, we have series, I believe, of special inspections going into the fall that may normally happen after someone had submitted a license renewal application, but because of the timing of that we are going to move, those are going to get moved up a little bit. Of course, we will do that in full and open view of the public, as we always do.

We are also going to be participating in the public meeting out at Diablo Canyon on May 3rd. Our staff will be there to talk to the public about that license renewal process and what that means and how we are going to continue our oversight activities during that process.

Senator Padilla. And in the same spirit but more specifically, not just maintaining safety standards more broadly, but continuing to be operationally safe with specific concern about seismic risk, which we have talked about for years here, and maintaining of that. Any comments here would be helpful. Also a friendly reminder to anticipate that when you do have these public hearings.

Mr. Hanson. Of course. We are going to be looking at

updated safety information as part of that license renewal process. We did require all plants to take a look at the enhanced, re-look at their risks after Fukushima. Diablo, of course, did look at their seismic risk and we will take another look at that as part of the license renewal process.

We also have a process, it is the process on natural hazards information, basically, it is kind of an ongoing information gathering on external hazards to plants, where we look at that in conjunction with the licensee about maybe any changing conditions at the plant with regard to external hazards to make sure we are incorporating that into our safety bases.

Senator Padilla. Thank you very much. Thank you, Mr. Chair.

Senator Carper. Thanks very much for joining us today, and for your comments.

Senator Capito?

Senator Capito. Thank you, Mr. Chairman.

Commissioner Wright, I remember when you came before the committee, you said your mother was watching remotely. So in case she is watching, I wanted to make sure you got a good question.

[Laughter.]

Senator Capito. The bill that we have been talking about, the ADVANCE bill that Senator Whitehouse, Senator Carper, and I

are on, among others, directs the NRC to consider options to enable the timely licenses of new nuclear facilities at brownfields sites. This is where our State of West Virginia could really have some interesting prospects for retired conventional energy facilities.

First of all, are you aware of that in the ADVANCE Act? And can you give some examples of what States would be looking at if they were looking at retired power plants that might be perfect sites for these kinds of developments?

Mr. Wright. Senator, thank you for the question, and thank you for saying hello to Mom. I hope she is watching.

[Laughter.]

Mr. Wright. This is a really interesting time, and West Virginia is trying to be a leader here in looking at brownfields sites to put these plants at. There are some concerns that the NRC needs to really take a hard look at and be sure. Because if you are putting multiple units at one site, I would like to be sure and would be encouraging staff to look at whether or not an EIS is required for each one of these things. I don't think that would be necessary, that might be a little bit of overkill.

But from a prudency standpoint, from a State regulator kind of perspective, they are going to be looking at things that are of benefit to the ratepayer in the end. You have access to transmission; you have a site. It has already been used before.

So those are benefits to the ratepayers and the State.

Whatever these uses are going to be for these different reactors could have additional benefits, depending on whether you are in a vertically integrated State or a market State.

Senator Capito. Thank you.

Commissioner Crowell, do you have a comment on that?

Mr. Crowell. Thank you, Senator Capito.

I think the other thing that the NRC could do well to prepare for the eventually of using brownfields sites is to start working now with the EPA to sort out where the jurisdiction lines are and the liabilities, so that we can move quickly for approving re-use of such a site if we receive an application to do so.

I don't think we want it to get stuck in an endless process of whose jurisdiction is whose, because the idea of re-using these sites is for expediency.

Senator Capito. I think that is an excellent point. I think we run into this in other kinds of permitting when there is overlapping jurisdiction or not even overlapping, but maybe new jurisdictions that we are unsure where one ends and where the other begins.

So I would encourage the commission and the staff to begin those conversations. Because that is the vision that I think we and other States probably have in terms of being able to be a

player here, to be able to use this development. Thank you.

Chairman Hanson, just one last question, a slight beef here. We had written a letter to you on the draft rule, or the final rule establishing the emergency preparedness requirements, encouraging you all to make a decision. We got five sentences back. It didn't really exude enthusiasm for what we were trying to say, or much information.

So in the spirit of independence, openness, effectiveness, and clarity, which are your principles of good regulation and reliability, we have also received some questions from others in the stakeholder community, where some of the responses have been lacking. So I would just ask you to review that rule of openness to make sure that we are getting as good communication as we possibly can.

Mr. Hanson. Yes, Senator, I apologize for the paucity of that response. It is certainly not our intention to provide those kinds of meager answers. Certainly, it is my intention in my interactions with the staff, and I know my commissioners share this, to share all the available information with the committee and with you.

Senator Capito. Thank you. Thank you all.

Senator Carper. Thanks, Senator Capito. And thank you again for your leadership on our new legislation, the ADVANCE Act. I think it is well-titled, and I am excited about working

with you and Senator Whitehouse and others on its passage.

We have been joined by Senator Sullivan, and I am going to yield to him for his questions. Welcome.

Senator Sullivan. Thank you, Mr. Chairman. I appreciate the commissioners all being here.

My State, the great State of Alaska, has a very diverse energy portfolio. All of the above energy, oil, natural gas, coal, renewables, hydro, wind, solar. But one thing is missing from the mix in Alaska, and that is nuclear energy.

Despite our very incredible natural resources for Alaska, America, the world, we have the second highest electricity costs in the Country, 20 cents per kilowatt hour. The average in the U.S. is 11. And we have 190 rural communities in my State that do not have access to the power grid, 250 communities that are not connected by a road. We are very unique. My colleagues here hear this from me about every damned day. So almost all those communities use power generation through diesel generators.

So we are very interested in the process for microreactors, which we think has a lot of potential. Our governor recently signed into legislation a law that would help streamline the approval process for microreactors in Alaska rural communities.

But the big dog in terms of approval for any kind of nuclear reaction is all of you. So I am just really going to

ask an open question that relates to the promise of microreactors for rural communities, but more prominently, and I know Senator Capito is really working hard on this, which is great, we have this amazing potential resource, it is a great resource we use, but as you all know, because you are right in the middle of it, the permitting process by which to bring more nuclear power online, whether large scale or micro, is very, very time-consuming, cumbersome. I think it is discouraging in order to enable capital investments and capital formation that is needed to back these kinds of projects or innovations.

So my question to all the commissioners is, what should we do about it? How can we address it? Micro, broader, just a very open-ended question. I am always about trying to get more efficient, timely permitting for anything in America. That is really an Achilles heel for our Country. We need to do more, especially in your area.

So I will start with you, Commissioner.

Ms. Caputo. Senator, I would just like to make the observation, this isn't the first time that Alaska has looked at microreactors. Certainly, when I first started working in the House for the Energy and Commerce Committee on Energy Policy Act 2005, there was a lot of interest in Galena, Alaska and microreactor design.

Senator Sullivan. Yes. Correct.

Ms. Caputo. I think it was basically just ahead of its time. A lot more designs are out there now.

Senator Sullivan. And by the way, Iverson Air Force Base has requested a proposal to conduct a 2.5-megawatt microreactor. So we are kind of back to the future right now.

Ms. Caputo. Indeed. Yes, I think there is a fair amount of competition in this area and a range of designs.

I do think it is really incumbent upon us as a regulator to look at ways to create more regulatory predictability. There are a lot of issues and requirements in our regulations that really shouldn't apply when you get down to that scale.

Senator Sullivan. Should not?

Ms. Caputo. Right.

Senator Sullivan. Right. So that is the big question. It is not one size fits all.

Ms. Caputo. Exactly. So the challenge, I think, comes from the fact that some of these technologies are different, and they will need different sets of exemptions, which means it becomes an open question which of our requirements will apply and which won't. So I think we need to do a lot more to create clarity in the applicability of our regulations, so that applicants know exactly what they need to include in their applications, so that they can have more predictable and timely decisions.

Senator Sullivan. Great. Anyone else? Yes, sir.

Mr. Hanson. Senator, I think the key piece of this as well, in addition to some of the clarity and predictability around this, which I completely agree about, is the standardization.

So maybe we do a detailed look on the safety of the first one of these, but the next of those, if they are the same and the deployment is the same, then that becomes a pretty routine and very, very quick and efficient exercise. So the standardization on the part of vendors and designers I think will be critical.

Senator Sullivan. Is that happening?

Mr. Hanson. We are starting to see that. We are making progress I think on both fronts. There are some bright spots there.

Senator Sullivan. Great. Anyone else who has a thought? Mr. Wright?

Mr. Wright. Thank you so much, Senator. In my opinion, we are supposed to enable the safe use of nuclear technologies, not inhibit it or discourage it.

Senator Sullivan. Right.

Mr. Wright. So I agree with Commissioner Caputo and my colleague, Chair Hanson, that we have to take a really hard look at the efficiency of what we are trying to do and make it a more

efficient process. There are things that staff is looking at to do that. I know that the vendors and people who are looking at these technologies are certainly encouraging us to meet that moment.

Senator Sullivan. Great. Anyone else?

Mr. Baran. I agree with all that my colleagues said. We are getting this framework in place. We need to have a framework that is going to be effective and efficient, not just for 1,000 megawatt reactors, but for 1 or 2 or 10 megawatt reactors.

Senator Sullivan. Yes.

Mr. Baran. It is tricky and a lot of work has gone into that, and we have a lot more work to do on that big kind of rulemaking, the Part 53 rulemaking. But a lot of our first movers that are likely to move on advanced reactors and small modular reactors, they are going to be using the existing regulations. We call that Part 50 and Part 52.

We have other efforts underway to optimize those, because we know those are going to be the regulations people use first. Part 53, we need to get right. It is critical. Part 50 and 52 have to work, too, for the new designs, and we are on that as well.

Senator Sullivan. Great. Thank you. Thank you, Mr. Chairman, thank you, commissioners.

Senator Carper. You bet. As an aside, a number of years ago I was visiting my old Naval air station, Moffett Field out in California, and stumbled on a re-used building there, it used to be the hobby shop on the base. It was being used for research on energy projects for creating energy on Mars.

Out of that came technology which involves something called Bloom Boxes that use fuel cells and enable it to operate at widely divergent temperatures. I am going to make sure somebody from Bloom Energy reaches out to your office to explore and see if there is something there.

Senator Sullivan. I am a huge fan of Bloom Energy and the CEO there. They did their first experimentation on their big technology actually in Alaska. They have an Alaska connection. Senator Stevens was very helpful with those guys.

So I think their combination of technology, natural gas, coming together to produce electricity is very low-emissions, is very -- it is outstanding.

Senator Carper. All right, thanks.

Senator Sullivan. Thank you.

Senator Carper. I was asking a question earlier in the hearing, and I think I called on Commissioner Baran to respond to the question. I said we would come back and pose the same question for other members.

I am going to mention again that question. I am going to

ask the other members to respond for the record. Then I have some other questions I will ask you to respond to right here.

The question I asked Commissioner Baran to respond to was would you please take a moment to describe how easing these corporate support restraints will support the NRC's efforts to modernize and hire the highly skilled workers needed to carry out the NRC's important work now and into the future.

Again for the other members of the commission, I will ask you to respond to that, as Mr. Baran has already responded to it verbally.

I am going to come back to Chairman Hanson. We have had some discussion already on fusion, we might want to come back and revisit a little bit. I will ask you to respond to this. I think I speak for a lot of my colleagues, I am excited, and God knows, the Senator from California who was here with us earlier is excited about the potential for nuclear fusion to provide safe, clean, reliable energy to power our cities and our industries. That is one of the reasons why I am encouraged to see the commission's unanimous decision on the fusion regulation, which appears to balance safety on the one hand while providing a path for the deployment of fusion in the energy systems.

My question, Mr. Chairman, would be, what resources does the NRC need to both establish the basic rules of the road for

commercial fusion applications that are anticipated within the coming years, while also laying the foundation for long-term regulation of fusion energy systems?

Mr. Hanson. Senator, thank you. We have the resources we need in the Fiscal Year 2024 budget, or we are requesting the resources we need. I can get you the specific number for the record on what those resources are. And we are able to leverage some resources here in Fiscal Year 2023 as well to get rolling on that regulatory framework.

I would expect there will be a lot of public interaction as well. Both the commission and the staff will be working and communicating with both industry and the Department of Energy on technological developments to kind of understand and make sure that we have that framework in place in a time that is conducive for technology deployment.

Senator Carper. Okay. Thank you, sir. I think I misspoke when I said I was going to ask some of you to respond for the record. The question that I would ask Commissioner Baran to respond to would be to ask you all to take a moment to tell us how the new regulatory framework development process is going, and what is going well, what is an issue of concern. He responded in person. I am going to ask the rest of you to respond for the record.

I have two more questions, then we are going to wrap it up,

so I can go to the Finance Committee and ask questions there, and we have a vote underway. So there is quite a bit going on.

Again, I am excited that you are here. It is great to see you here. I think it is an exciting time for the folks who work at the NRC, and I think it is definitely a glass half full, maybe more than half full.

This question is for Commissioner Baran and Commissioner Crowell. Looking at the budget for Fiscal Year 2024, would you like to highlight for us any investments that you see as particularly important or noteworthy?

Mr. Baran. I would point to a couple, and Brad may have others. I would point to the investments throughout the budget request on recruitment, retention, and hiring. We talked a lot about that today. It is really critical for the work we need to do now and in the coming years. We are doing a lot more hiring than we used to just to kind of break even with staffing. Those investments I think are really important.

The other thing I would note is we talked a lot today about new reactor designs, new reactor applications. This is a budget request where you start to see those showing up. It is a request to perform technical reviews on a number of designs, construction permits, combined license applications that are expected.

So it starts to get real, I think, in this budget, that

kind of anticipation that we have been talking about.

Senator Carper. All right, thank you. Commissioner Crowell, same question.

Mr. Crowell. Thank you, Mr. Chair. While agreeing with Commissioner Baran's response, I would also highlight something in the budget which is specific to the Minority Serving Institutions Grant Program, which is part and parcel to the future of the workforce at the NRC. I think the more we can do in the space of promoting the upcoming generation to be in the fields that are important to the NRC, it is going to serve our purposes well. So that budget item is an important one for the NRC.

Senator Carper. Thank you. Let me ask in closing, starting with the chairman and going right down the line, any final thoughts, anything else you want to share with us on the committee? Just briefly, any final thoughts, please, before we close.

Mr. Hanson. Thank you, Chairman Carper, for the opportunity to be here.

I would just like to highlight the NRC's international activities briefly, and how important they are both for the agency in terms of the things that we receive with our counterparts around the world, but also the kinds of expertise that we are able to provide.

I would highlight three main countries very briefly. The first is Poland, obviously. They signed an agreement to buy a Westinghouse AP1000. There were a lot of things that went into that deal.

But I would note the decade-long relationship that the NRC has had with the Polish regulator, and how we have ramped up the intensity of that relationship to prepare them to safely license and oversee U.S. technology. We value that relationship a lot.

The second one I would highlight is Ukraine. I appreciate the support the Senate has given both for Ukraine generally but also for the NRC's activities to support our Ukrainian regulatory counterparts, from an active communication with them about the status and the safety status of those plants in Ukraine. We are providing things, both technical expertise but also just some basic things like equipment and helping them keep their offices staffed and the lights on and so forth. That is a great privilege for us to be able to support our Ukrainian counterparts. Thank you very much.

Senator Carper. Thank you. Every day I get up and get dressed and I put a lapel pin here, some of you can probably see it, it is our flag, it is the Ukrainian flag. My wife and I, along with a lot of other Americans, are supporting with their own modest means the folks in Ukraine. I applaud the efforts that you are doing there to be of support and encouragement to

them.

Mr. Baran?

Mr. Baran. Just very briefly, I know it is not a legislative hearing, but we talked a lot about the bipartisan ADVANCE today. I would close by saying I think there are some terrific provisions in that bill. We talked about several of them, but easing corporate support restrictions, additional hiring flexibilities, the brownfields program, I think those are all really beneficial.

Another one that we didn't talk about at all today that I think is a really good provision is modernizing the foreign ownership control and domination restrictions that have been on the books since the 1950s. That is a provision there that really recognizes there is a global nuclear market today that wasn't there back when the Atomic Energy Act first was enacted. So I think that is another really thoughtful and well-designed provision.

I would just say, I think there is a lot of good work that went into that bill and a lot of provisions that will be very beneficial.

Senator Carper. Good, thanks.

Commissioner Wright, any closing thoughts you have?

Mr. Wright. Thank you so much. One of the things I love about hearings with you is that you ask this question. Thank

you for this.

Really to steal your line a second ago, it is an exciting time to be a safety regulator. There is no place that I would rather be than right here, right now. We have an opportunity, the five of us, to meet a very special moment in time, not just here in the U.S., but to our allies around the world.

Doing things a certain way because that is the way we have always done them is not a recipe for success. Myself, any person, much less an agency, we are not going to be able to grow if we continue to do things the way we have always done them.

Now, having said that, safety is our mission. That is our focus. Reasonable assurance of adequate protection is the standard, that is the floor and the ceiling, and our strike zone over home plate. So it is non-negotiable.

How we do things, though, how we do things at every level should always be up for discussion and debate and ways to be innovative, novel, transformative, and to just be better and improving effectiveness and efficiency, and using our resources that we have been entrusted with.

Thank you for your interest and your support and your help.

Senator Carper. Our pleasure. Thanks.

Ms. Caputo?

Ms. Caputo. I would like to add my thanks to Commissioner Wright's, that it is wonderful how you ask this question at the

end. I would respond with two quotes: you can't manage what you don't measure, and people will meet expectations. We have a brilliant and dedicated staff at the NRC, and they will strive to meet the goals set for them. I think we need to do a much better job of setting ambitious goals and using meaningful metrics to spur performance improvement.

In 2008 and 2009, when the NRC was the best place to work, it was the start of the renaissance and the agency was executing a heavy workload with challenging schedules and a sense of urgency. I believe recognition of success is a strong contributor to job satisfaction, and I think demonstrating that we can achieve recognized success is the fastest path for us to improve our morale.

So I would leave you with that thought.

Senator Carper. That is good. You were prepared for that question.

Ms. Caputo. Yes, I was.

Senator Carper. Commissioner Crowell?

Mr. Crowell. Thank you, Mr. Chair, and thank you for giving the most junior member of the commission the last word.

[Laughter.]

Mr. Crowell. I think what I said in my opening statement, which is as we sit here, in what we all hope is a meaningful and lasting, the precipice of a meaningful and lasting nuclear

renaissance, the NRC really needs to double down on its efforts in public engagement and building public trust. That needs to apply not just to the existing reactor fleet and advanced reactors, it needs to apply to all of the things that the NRC oversees. Because if we are not doing things well in the waste management and decommissioning and materials space, we are not going to have the trust of the public to do all the other, more high-profile things that we talk about in these hearings.

So I think the NRC needs to look at how they can do engagement with the public and build that trust in a new way.

Senator Carper. Good. Thank you for that.

I would just conclude by thanking each of you. Mr. Chairman, thank you and each of the commissioners, Commissioner Baran, Commissioner Wright, Commissioner Caputo and Commissioner Crowell, we are grateful to you for your appearance today, for your preparation and your responses to our questions and willingness to work forward on this as we go forward.

We especially appreciate your insight regarding the Nuclear Regulatory Commission's proposed budget for the upcoming fiscal year. A well-functioning nuclear industry is critical for the future of our economy, and I think for the future of our planet. We look forward to continuing to work with you and your team to ensure that this future is realized and to ensure that the NRC has the assets and resources that you need to carry out your

critical responsibilities.

Before we adjourn, some housekeeping. Senators will be allowed to submit questions for the record through the close of business on Wednesday, May 3rd. We will compile those questions, we will send them to each of you, and ask that you reply to those questions by Wednesday, May 17th.

As my colleagues know and our staffs know, I like music a lot. I used to promote concerts, the first one at Ohio State when I was 21 years old, and my last one when I turned 64. We had a great concert with the three best rock and roll bands in Delaware at the Queen Theater. At the end of the evening, 1,000 people sang "When I'm 64," which was huge fun.

I go back and forth on the train just about every day, and I drive to the train usually pretty early in the morning in Wilmington. I am always listening to music, it is about a 10, 12-minute drive. Interestingly, I heard a great song by Carly Simon, some of you remember Carly Simon, whose husband was James Taylor. What a combination they made.

But there is a Carly Simon song called "Coming Around Again" that some of you have heard. I see people nodding in the audience. I was thinking that might be an appropriate theme song here for this industry that is coming around again. At a time when we see great threats to our climate from the threat of climate crisis, we need every arrow in our quiver to be there,

to be available. I think nuclear maybe this time may be coming around again at a time when we really need that.

So we want to make sure that we make the most of that, and we work actively and use other ways as well as we address climate change.

The last thing, whenever we talk about climate change, I mention jobs, economic opportunity. I don't care whether you are creating electric vehicles or you are deploying charging stations or whatever, there is a lot of economic opportunities and job creation coming out of our climate change work.

There is economic activity and job creation potential coming out of what we are talking about here today. If we are smart, we will not only do the right thing for our planet and for the people who are here now and will live here in the future, but we will make sure that future generations have some great jobs that will flow from this activity.

With that, I want to thank our staffs for the work you have done in preparing us for this. We look forward to driving off into a brighter future with all of you.

With that, this hearing is adjourned. Thanks so much.

[Whereupon, at 11:59 a.m., the hearing was adjourned.]