

**HEARING ON THE NOMINATION OF
CHRISTOPHER T. HANSON TO BE A MEMBER
OF THE NUCLEAR REGULATORY COMMISSION**

HEARING

BEFORE THE

**COMMITTEE ON
ENVIRONMENT AND PUBLIC WORKS**

UNITED STATES SENATE

ONE HUNDRED EIGHTEENTH CONGRESS

SECOND SESSION

APRIL 17, 2024

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COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS

ONE HUNDRED EIGHTEENTH CONGRESS
SECOND SESSION

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HEARING ON THE NOMINATION OF CHRISTOPHER T. HANSON TO BE A MEMBER OF THE NUCLEAR REGULATORY COMMISSION

WEDNESDAY, APRIL 17, 2024

U.S. SENATE,
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS,
Washington, DC.

The committee met, pursuant to notice, at 10:04 a.m. in room 406, Dirksen Senate Office Building, Hon. Thomas R. Carper (chairman of the committee) presiding.

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

OPENING STATEMENT OF HON. THOMAS R. CARPER, U.S. SENATOR FROM THE STATE OF DELAWARE

Senator CARPER. Good morning, everyone. I am pleased to call this committee to order.

We are here today, as you know, to consider the nomination of Christopher T. Hanson to serve an additional 5-year term as Commissioner on the Nuclear Regulatory Commission. Welcome back to our committee, Chair Hanson. We thank you for the time you have taken to meet with us in anticipation of this hearing and with other members of the committee and with our staffs.

In a few minutes, Senator Stabenow has asked for the privilege of introducing you, and at an appropriate time, I will yield to her.

Let me just start off by saying a few words about what I think is a crucial, that may be the wrong word, but I am going to say it is a crucial moment, or a critical moment, maybe, for the Nuclear Regulatory Commission and for the future of nuclear energy in the United States and abroad. I like to quote Albert Einstein, who used to say, in adversity lies opportunity. There is plenty of adversity around the world, and in this Country also plenty of adversity, but plenty of opportunity. The NRC can be and has been part of that opportunity.

Today, the Commission is facing some new challenges, but I believe that, again, in adversity lies opportunity. We are going to make sure that it actually works out that way.

As we all know, nuclear power plays a critical role in our electricity grid. It is also indispensable in our ongoing efforts to address the climate crisis that we face and to strengthen our Nation's energy security, while also creating economic opportunity and jobs, lots of jobs. Nuclear energy is currently the largest source of reliable, clean energy in our Nation, providing, I am told, about 20

percent of our Nation's electricity and nearly half of our clean power.

At last year's United Nations climate conference, known as COP28, over 20 countries, including the United States, agreed to triple global nuclear energy capacity by 2050, triple global nuclear energy capacity by 2050. Let me just say that again: by 2050, triple our global nuclear energy capacity. I was amazed to see that. Let me say that again: at last year's U.N. climate conference, over 20 countries, 20 countries, including the United States of America agree to triple global nuclear energy capacity by 2050.

The consensus is clear. New nuclear energy development can help us limit global warming to our target of 1.5 degrees Celsius.

That is why I have long believed that nuclear energy must be a part of our work to address climate change. My interest in nuclear goes back to my days as a Navy ROTC student at Ohio State University and later as a Naval flight officer tracking nuclear submarines all over the world, Russian subs and all that, as well as our own. I am happy to report that it was easy to find their submarines and very hard to find our own. It still is that way, it is still that way.

I went back to Ohio State, actually, just last weekend, and had the opportunity, rejoined with some of my colleagues from all those years ago during the Vietnam War. Anyway, I witnessed in my early days as a junior officer how our submarines and aircraft carriers traveled millions of miles on nuclear power.

While a great majority of my colleagues and I support research and development of nuclear technologies, the Nuclear Regulatory Commission is charged with ensuring that current and new nuclear designs are safe and that they are secure.

The Nuclear Regulatory Commission is recognized globally as the gold standard for the regulation of nuclear technology. Other countries around the world look to our Commission because of its independence, because of its technical expertise, and because of its emphasis on safety. That is what the Congress and the American people expect from the Nuclear Regulatory Commission.

The climate crisis we face today presents new challenges and, again, opportunities for the Nuclear Regulatory Commission. It is imperative that the Commission carefully review the many new nuclear plant designs that companies, entrepreneurs, and the U.S. Government are bringing forward. At the same time, the Commission must ensure that existing reactors can continue to operate safely, in many cases, well past their original design life.

It is up to us in Congress and particularly in this committee to ensure that the Commission has the right leadership and resources it needs for the 21st century. That is why I have been working for years now with Ranking Member Senator Shelley Moore Capito and others on the committee to pass our ADVANCE Act, which she is the lead on.

I am joining her, along with a bunch of the Democrats and Republicans on this committee, and in the Senate, and as it turns out, I think maybe, in the House, too. More about that later. I believe the ADVANCE Act will provide the Commission with the tools, the resources, and the work force that it needs in order to usher in the future of nuclear energy.

At this crucial moment for new nuclear technologies and our climate, the Nuclear Regulatory Commission needs a full slate of Commissioners in place to succeed. Fortunately, President Biden has nominated Chair Hanson to serve another term as Chair on the Nuclear Regulatory Commission.

Chair Hanson is a proven leader and a dedicated public servant with decades of government experience. Before beginning his service on the Commission, Chair Hanson worked as a staff member on the Senate Appropriations Committee, who I believe, did you know him then?

Senator CAPITO. No.

Senator CARPER. Before beginning his service on the Commission, Chair Hanson worked as a staff member in the Senate Appropriations Committee, where he oversaw civilian and national security nuclear programs. Prior to his time in the Senate, he was a Senior Advisor in the Department of Energy's Office of Nuclear Energy. He has also worked in the Department of Energy's Office of the Chief Financial Officer, where he oversaw nuclear and environmental cleanup programs and managed the department's relationships with the House and Senate Appropriations Committees.

Under Chair Hanson's leadership, the Nuclear Regulatory Commission has undertaken significant efforts to modernize the agency while dealing with constrained resources. He has skillfully led the Commission's development of policies to prepare for new technologies. That includes, for example, the Commission's work to establish a new regulatory framework for the safe licensing and operation of the next generation of nuclear reactors, as well as fusion energy systems. Through initiatives like this one, the Commission is improving efficiency while maintaining high standards for safety.

In his time on the Nuclear Regulatory Commission, Chair Hanson has gone above and beyond to engage with both industry and with the public. For example, in 2022, he convened the first Commission meeting outside of Washington, DC. in decades in New Mexico, where he facilitated a dialog with Navajo Nation members about the cleanup of legacy uranium mining and milling sites.

Finally, he has also demonstrated a commitment to promoting environmental justice during his tenure by directing Commission staff to provide recommendations for updating the agency's environmental justice policy.

In closing, the Nuclear Regulatory Commission is most effective when it has a full slate of commissioners who can carry out its critically important mission: to protect the safety of our nuclear facilities and maintain public trust while facilitating the safe deployment of clean nuclear energy.

I believe that Chair Hanson is the right person for the job at this time. I hope to work with members of this Committee, including our Ranking Member, to move his nomination through the confirmation process.

Chair Hanson, I want to thank you for your service and I want to thank your family, your long-suffering wife, Ann, and your mother, sitting out there, who brought you into the world and helped raise you and shared you with all of us. He has turned out pretty well, ma'am. You gave him a good start in life. Thanks for sharing him with us.

With that, I want to turn to Senator Capito for her opening remarks. Senator Capito?

**OPENING STATEMENT OF HON. SHELLEY MOORE CAPITO,
U.S. SENATOR FROM THE STATE OF WEST VIRGINIA**

Senator CAPITO. Well, thank you, and welcome to everybody. Thank you, Chairman Carper, for calling today's hearing, and thank you, Chair Hanson, for being here today.

I certainly have appreciated our conversations, both in-person and on the phone. We probably did a few Zooms during COVID, and you have always been very open and ready to respond, so I appreciate that.

During your tenure, the Nuclear Regulatory Commission has been preparing for the expected increase in advanced nuclear licensing and regulatory work, while also ensuring the safe and secure operation of today's nuclear reactors and nuclear materials.

Based on projections, we will need significantly more reliable electricity generation, including from nuclear energy, in the future. Nuclear power already provides 20 percent of our Nation's electricity, emissions-free electricity, that is on 24–7, 365 days per year.

Electricity demand is projected to increase rapidly in the short term in part due to the buildout of data centers. When I heard how much power data centers use, it really astounded me, and increased use of artificial intelligence. If the Administration continues to push an electrify everything agenda, from cars to trucks to trains to buildings, electricity demand will rise even faster.

Meanwhile, in the face of increasing power demand, the Biden Administration is advancing their radical climate agenda to close down fossil-fuel-fired power plants that supply reliable, affordable electricity. I have repeatedly raised the red flag on this looming threat of increasing demand and decreasing supply since the beginning of this Administration.

I most recently raised that flag in an amicus brief and an oversight report from the committee Republicans, and I will continue to highlight that going forward. It just makes sense to me.

Unless stopped by Congress or the courts, the Administration's regulatory attack on the power sector will cause dispatchable baseload electricity resources to retire prematurely. This will lead to major reliability challenges and stunt economic development and increase the costs paid by American families and businesses. We should be focusing on increasing, not decreasing, the supply from baseload, reliable power sources, and increased nuclear energy deployment should be and must be a part of that solution.

That will require the NRC to be prepared to efficiently review and approve novel reactor designs, to enable the safe use of nuclear power, and license a high volume of applications in a timely, affordable, and predictable way. The projected increase in the NRC's workload will overlap with the 5-year term that Chairman Hanson has been nominated to serve.

Chair Hanson has supported some important policies since he joined the Commission 4 years ago. He supported finalizing the emergency preparedness rules for advanced reactors and correcting a flawed staff proposal to establish a new regulatory framework.

That said, Chair Hanson has also made a few policy decisions that I have some concerns about. For example, he voted to reverse a previous Commission decision to issue license extensions, a vote that resulted in a cascade of uncertainty for the nuclear industry. We can talk about that in the questioning.

Chair Hanson's nomination must be judged not only on his policy positions, but also on his management decisions as Chairman. The Chairman oversees and supervises the NRC staff's work and is responsible for developing policy planning and guidance for consideration by the Commission.

Chair Hanson has a duty to ensure that the NRC staff, including the Executive Director of Operations, the EDO, are responsible to the Commission in the performance of its functions. The Chairman and the EDO, through the Chairman, are responsible for ensuring that the Commission is fully and currently informed about matters within its functions. The Chairman supervises the development and execution of the Commission's budget and comes before us once a year to talk about that.

I have concerns with some of the ways that the Commission has been managed recently. Last year, senior NRC staff, under the supervision of the Chair, proposed to drastically expand telework, cutting the required time in office to just 4 hours per week. This staff proposal bluntly contradicted the Biden Administration's directive to get Federal employees back in the office. I expressed concern with the staff's proposal, noting the likely unintended consequences from reducing personal interaction, both within the NRC staff and between the staff and licensees, applicants, and the public.

The Commission believed that this dramatic departure from in-office culture was a policy matter and therefore subject to approval by the entire Commission. This appears to reflect the view that the Commission was not fully informed on the course of the staff's proposal, as the Chairman is responsible to do.

When presented with the opportunity to directly weigh in on this decision, Chair Hanson doubled down in his support of what I think is an outlandish proposal, breaking with the other three commissioners. I appreciate the efforts of the other members of the Commission to reset the staff's proposal.

We similarly saw the NRC staff present the Commission with a flawed proposed rulemaking to establish the regulatory framework for advanced nuclear reactors, as the Chairman talked about how critical this is, despite countless public comments that the rule was unworkable. In this instance, Chair Hanson aligned with the entire Commission to rectify those flaws, and thank you for that, although the senior NRC staff and the Chairman probably should have acted earlier to address these well-documented issues.

I look forward to getting more information from Chair Hanson about the execution of his role to supervise and direct the NRC staff.

We are at a critical time for the nuclear industry, and I appreciate how members across the political spectrum are working together to provide the Commission with the necessary direction and tools to fulfill its mission.

Chairman Carper, Senator Whitehouse, and I continue to work tirelessly to see the Accelerating Deployment of Versatile, Advanced Nuclear for Clean Energy—we always have a good name—called the ADVANCE Act signed into law, we got really close at the end of last year, so that America remains the world's leader in nuclear energy.

As the saying goes, personnel is policy, and as we work to advance these laws, we need to make sure we have the right personnel in place at the NRC. I look forward to learning more about Chair Hanson's plans for the Commission's work and how he will consider these critical policy matters.

Again, thank you for coming, and I thank the family for joining him.

Senator CARPER. Thank you, Senator Capito.

Senator Stabenow has asked for the opportunity to introduce you, and I have rejected that request.

[Laughter.]

Senator CARPER. Everybody else wants to introduce you, too. Senator Stabenow, go right ahead. Thank you.

Senator STABENOW. That is right. Well, thank you, Mr. Chairman. Yes, thank you, Mr. Chairman and Ranking Member. It really is my pleasure to introduce the Chair of the U.S. Nuclear Regulatory Commission, who has been renominated to serve out a second term in his position.

I am so glad that your wife, Ann, is here, and son Andrew, and mother Linda, who has traveled all the way from Michigan, I understand, to be here. That is great, and your father-in-law as well, George, so we welcome all of you for being here. We are so pleased.

Mr. Chairman, Chair Hanson was born and raised in Michigan, so his work ethic, his values, his perspectives come from hard-working people in Michigan. In fact, growing up—

Senator CARPER. If I could, let me just say, I was back in Ohio at Ohio State University—

Senator STABENOW. You do not have to talk about Ohio State.

Senator CARPER. No, no, no, no, no, but I sit—

Senator STABENOW. You know, we like our competitor, just in case, Mr. Chairman, you didn't realize, we are competitors with Ohio State.

Senator CARPER. What are you saying, just because someone is your opponent that they do not have to be your enemy?

Senator STABENOW. That is right.

Senator CARPER. I am a huge Detroit Tigers fan, along with Senator Stabenow. Huge fan, huge fan. There you go.

Senator STABENOW. Yes, and we will welcome you back to a game.

Senator CARPER. All of our grandchildren go to the University of Michigan, so there.

Senator STABENOW. Somebody got it right, yes.

Let me just say that growing up, his family home in beautiful South Haven along Lake Michigan, you have to come see beautiful South Haven, it was only a few miles from the Palisades Nuclear Power Plant in West Michigan. His family, friends, and neighbors worked at the plant, an NRC resident inspector lived just up the block, I understand. I mention that just because Chair Hanson

knows what a nuclear facility can mean for a community, as both a source of emissions-free electricity, but also a source of good-paying jobs.

As a Michigander, he also knows well the vital importance of protecting our environment and particularly our Great Lakes. In fact, the Great Lakes are in our DNA.

In college, he worked as a park ranger for the Michigan Department of Natural Resources at Van Buren State Park. Each summer, he and his family head back to Michigan to visit his mom, Linda, and they visit Sleeping Bear Dunes and camp at the State parks along Lake Michigan. They know all there is to protect and preserve for Michigan.

It is that stewardship, that perspective as a guardian of safety, and stewardship of our natural resources that I believe has made him an excellent Chair of the NRC, and why I urge my colleagues to vote for his renomination.

Under his leadership, the NRC has built up their capacity to evaluate both existing and emerging technologies, all while keeping its safety mission, safety mission, safety mission front and center. They have improved agency engagement with licensees and the public alike, which I appreciate, and they have spearheaded critical efforts to ensure that we have the nuclear work force to meet future needs through the educational and R&D grants to institutions like the University of Michigan.

I can not stress enough how important a position like this is, as we know, and Chair Hanson is the right person for the position. He has proven as much during his first term. I know he is going to continue to do a great job in his second term.

Chair Hanson, I am pleased to welcome you back to the committee, and I look forward to supporting your nomination.

Thank you, Mr. Chairman.

Senator CARPER. Senator Stabenow, thank you for that introduction. Thank you for just being a great member of this committee. It has been such a joy. I think we came to the U.S. Senator together.

Senator STABENOW. We did.

Senator CARPER. We will someday leave together. About 20 more years, I think that is what we are thinking. Maybe not that long. [Laughter.]

Senator CARPER. I think, with that, we are ready to rock and roll here. Thank you very much, Chair Hanson, for joining us, and your family and friends that are out in the audience. We welcome your testimony, and we look forward to having the opportunity to ask a couple of questions once you have concluded. You are recognized. Go ahead, please.

STATEMENT OF CHRISTOPHER T. HANSON, NOMINEE TO BE A MEMBER, NUCLEAR REGULATORY COMMISSION

Mr. HANSON. Thank you very much, Chairman Carper.

Senator CARPER. If you want to start by introducing your family, please do.

Mr. HANSON. Yes. Thank you, Chairman Carper and Ranking Member Capito. Please allow me to introduce my family seated behind me: my wife Ann, our son Andrew, who, contrary to appear-

ance, is not on the basketball team at Washington College, but is rather on the rowing team. He is a sophomore there.

My mom Linda, who, as Senator Stabenow noted, travelled from Michigan to be here, and my father-in-law, George, who now lives in the area. Two of our boys, Sam, is in the U.S. Army. He is serving down at Fort Sam Houston in San Antonio these days.

Senator CARPER. Sam is serving at Fort Sam?

Mr. HANSON. Fort Sam, yes.

Senator CARPER. That is pretty good.

Mr. HANSON. It is not lost on us, either. We have a good time with that in our house.

In the Army Medical Corps. Our son Theo is a junior in high school. He lucked out and is on his way on a school field trip to Orlando.

Senator CARPER. He would rather do that than be here?

Mr. HANSON. Right.

[Laughter.]

Senator CARPER. I do not get it.

Mr. HANSON. I want to just express my gratitude to all of them for their love and unwavering support. Thank you.

I wanted to thank you, Senator Stabenow, for your very kind words of introduction, and particularly to thank you for your distinguished career in service to the people of Michigan, to say nothing of the entire Country. Thank you so much.

Senator Carper and Senator Capito, it is a real pleasure and an honor to appear before you. As I get into my opening statement, I just want to take a moment to remember my former boss on the Appropriations Committee, Senator Dianne Feinstein, who introduced me to this committee at my confirmation hearing in March 2020.

As you know, she passed away last September. One of the things that I most admired about her was her pragmatism, her constant drive to make a difference and to get things done. That is what really makes her a role model for me and what I have strived for at my time at the NRC and what I hope to continue to strive for.

I am deeply honored to be renominated by President Biden. I am humbled and grateful for his confidence in my ability to continue serving the American people as Chair of the Nuclear Regulatory Commission. I want to take a moment to sincerely thank the hard-working and dedicated staff at the NRC who work tirelessly to fulfill our mission to regulate the civilian use of nuclear material and protect the public health and safety and the environment.

I am proud of the accomplishments of the NRC staff and my Commission colleagues over the past 4 years, ushering in a new era at the agency. These include paving the way for a technology-inclusive framework to license new and advanced reactors, charting a path for regulating fusion energy systems, licensing the first non-light water reactor in the United States in over 50 years, efficiently overseeing the addition of 2,500 megawatts of new nuclear generation at the Vogtle Plant in Georgia and strengthening America's leadership role abroad as a reliable partner to embarking nations seeking national and energy security.

During my tenure at the NRC, I have embraced building a culture of trust and confidence, both internally and externally. As the

NRC becomes even more proficient in applying risk information and making further efficiencies in our licensing reviews and decisions, we must continue to uphold our commitments to the American public.

There is more work still to be done. If confirmed by the Senate, I pledge to continue leading the agency in tackling the challenges ahead for both the existing fleet of reactors and next generation nuclear technologies while upholding the agency's critical safety and security mission.

I believe the NRC can adapt to a dynamic landscape where new and existing nuclear technologies will play a greater role in our energy future. We can pursue excellence and exercise safety oversight without sacrificing timeliness and effectiveness.

We can build on the tremendous expertise this agency has accumulated over its nearly 50-year legacy by staying true to our principles of good regulation: independence, openness, efficiency, clarity, and reliability. We can and will meet, anticipate the changes ahead and we will rise to meet them.

If confirmed, I commit to working with my colleagues on the Commission and leading the NRC staff into the next chapter of the agency's long and distinguished history.

Thank you, Senators, for your consideration of my nomination, and I welcome your questions.

[The prepared statement of Mr. Hanson follows:]

Statement of Christopher T. Hanson
Nominee to the U.S. Nuclear Regulatory Commission
before the
U.S. Senate Committee on Environment and Public Works

April 17, 2024

Good morning, Chairman Carper, Ranking Member Capito, and members of the Committee. It is a privilege to appear before you today.

Thank you, Senator Stabenow, for your kind words of introduction. And thank you for your very distinguished career in service to the people of Michigan and the country.

Mr. Chairman, please allow me to introduce my family members seated behind me – my wife, Anne; Andrew, our middle son and a sophomore at Washington College; my mother, Linda, who traveled from Michigan to be here today, and my father-in-law, George Ellestad. Two of our boys, Sam and Theo, couldn't join us. Sam, our oldest, is serving in the United States Army at Fort Sam Houston; and Theo, our youngest, a junior in high school, lucked out and is on a school field trip to Orlando. I want to express my gratitude to them and to the rest of my family for their unwavering support.

I want to take a moment to remember my former boss on the Appropriations Committee, Senator Dianne Feinstein, who introduced me to this Committee at my confirmation hearing in March of 2020. As you know, she passed away last September. One of the things I most admired was her pragmatism—her constant drive to make a difference and get things done. That's what makes her a role model for me and what I strive for in my time at the NRC.

I am deeply honored to be renominated by President Biden; I am humbled and grateful for his confidence in my ability to continue serving the American people as Chair of the Nuclear Regulatory Commission.

I also want to sincerely thank the hardworking and dedicated staff of the U.S. Nuclear Regulatory Commission who tirelessly work to fulfill our mission to regulate the civilian use of nuclear material and to protect the public health and safety and the environment.

I am proud of the accomplishments of the NRC staff and my Commission colleagues over the past four years ushering in a new era at the agency. These include:

- Paving the way for a technology-inclusive framework to license new and advanced reactors;
- Charting a path for regulating fusion energy systems;

- Licensing the first non-light water reactor in the U.S. in over 50 years;
- Efficiently overseeing the addition of 2500 MW of new nuclear generation at the Vogtle Plant in Georgia; and
- Strengthening America's leadership role abroad as a reliable partner to embarking nuclear nations seeking national and energy security.

During my tenure at the NRC, I have embraced building a culture of trust and confidence both internally and externally. As the NRC becomes even more proficient in applying risk-information and making further efficiencies in our licensing reviews and decisions, we must continue to uphold our commitments to the American public.

There is more work still to be done. If confirmed by the Senate, I pledge to continue leading the agency in tackling the challenges ahead for both the existing fleet of reactors and next-generation nuclear technologies while upholding the agency's critical safety and security mission.

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If confirmed, I commit to working with my colleagues on the Commission and leading the NRC staff into the next chapter of the agency's long and distinguished history.

Thank you, Senators, for your consideration of my nomination, and I welcome your questions.



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

April 30, 2024

The Honorable Thomas R. Carper
Chairman, Committee on Environment
and Public Works
United States Senate
Washington, DC 20510

Dear Mr. Chairman:

On April 17, 2024, Mr. Christopher T. Hanson appeared before the Senate Committee on Environment and Public Works for a hearing to consider his nomination to be a Commissioner of the U.S. Nuclear Regulatory Commission.

Following that hearing, members forwarded questions for the hearing record. Mr. Hanson's responses to the questions from Senator Fetterman are enclosed.

If I can be of further assistance, please do not hesitate to contact me.

Sincerely,

A handwritten signature in blue ink, appearing to read "E. Dacus", written over a horizontal line.

Eugene Dacus, Director
Office of Congressional Affairs

Enclosures:
As stated



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

April 30, 2024

The Honorable Shelley Moore Capito
Ranking Member, Committee on Environment
and Public Works
United States Senate
Washington, DC 20510

Dear Senator Capito:

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Sincerely,

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Eugene Dacus, Director
Office of Congressional Affairs

Enclosures:
As stated

Identical Letter sent to:

The Honorable Thomas R. Carper
Chairman, Committee on Environment
and Public Works
United States Senate
Washington, DC 20510

The Honorable Shelley Moore Capito
Ranking Member, Committee on Environment
and Public Works
United States Senate
Washington, DC 20510

Senate Committee on Environment and Public Works
Hearing Entitled “Hearing on the Nomination of Christopher T. Hanson to be a Member
of the Nuclear Regulatory Commission”
April 17, 2024
Questions for the Record for The Honorable Christopher T. Hanson

Senator Fetterman:

1. Late last year, the Treasury and Energy Departments released a proposed rule for hydrogen tax credits under the Inflation Reduction Act. This tax credit could be huge for Pennsylvania energy, but the requirements make it difficult for nuclear energy to be eligible. NRC may not be involved in this regulation, but nuclear energy is an important issue for hydrogen producers in my commonwealth. Will you commit to working with DOE and Treasury to bring more nuclear energy production into eligible use for hydrogen tax credits?

RESPONSE:

Yes, consistent with the NRC's role as an independent regulator, the agency coordinates with the Department of Energy and the Department of the Treasury on matters related to reactors used for hydrogen production. The NRC staff continues to take actions to ensure our resources and processes are adequate so as not to create unnecessary obstacles or barriers in carrying out our role in support of the Administration's goals of sustaining the existing fleet and ensuring energy security.

2. Pennsylvania is home to universities doing critical research on nuclear energy. Penn State even has its own test reactor. Both Penn State and the University of Pittsburgh have shared truly innovative research with my office. How will you work with universities to continue promoting nuclear energy research?

RESPONSE:

Through the NRC's University Nuclear Leadership Program, the agency funds \$16 million in grants each year to faculty and students to support research and development at universities across the country. I spearheaded the re-establishment of the Minority Serving Institution Grant Program to support academic programs that benefit the NRC by building a pipeline of diverse talent to support future hiring needs. The NRC also has funding opportunities for research in support of nuclear-related topics through the Office of Nuclear Regulatory Research. The University of Pittsburgh and Penn State University have engaged with the agency's various grant programs, with 7 NRC grants received between the two schools since 2022, totaling over \$3 million. These active grants contribute to student and faculty development programs and cutting-edge research, benefitting the schools and the NRC.

Workforce planning is critical to the future of the agency. There is fierce competition for qualified candidates, both within the industry and between government agencies. That is why I have prioritized visits to universities of all types to build long-term relationships, learn about

research that can benefit the NRC, and engage students to encourage them toward a career in public service.

In addition, the agency has re-energized its University Champions Program, where we have designated staff leads for over 100 universities. I have been actively supporting the important recruitment work our staff is doing through this program. It is important for the agency to gain as much visibility on college campuses as possible to assure it has the workforce it needs to meet future challenges.

If confirmed, I will continue to focus my attention on building an adaptable, diverse workforce to meet future needs and challenges through university engagement.

3. Energy production is very important to my state. Pennsylvania has over two-hundred thousand energy workers. DOE data also shows that the nuclear industry wage is the highest in the energy industry. As the Biden administration continues to invest in clean energy, we need to ensure that energy workers in all sectors continue to have access to good, high-paying jobs and workforce development. Can you speak on how N.R.C. supports industry workers, and how this work benefits Pennsylvania? How does the Commission support employees in coal plants, for example, who want to work in nuclear energy?

RESPONSE:

We are seeing significant interest in building new nuclear facilities across the United States and increased focus on projects that involve coal-to-nuclear transition. Workforce needs in the nuclear sector are only growing as the demand for skilled labor increases. The nuclear industry pulls workers from several areas of expertise including engineering, electric, welding, and general construction. Many of these skill sets are similar to those used in other energy industries, including coal, which provides significant opportunities for individuals seeking to transfer those skills and work for the nuclear industry in Pennsylvania and across the country.

Earlier this month the Department of Energy released an information guide for communities considering replacing their retired or retiring coal power plants with nuclear power plants. The underlying technical report found that with proper planning and training, most workers at a retiring coal plant would be able to transition to work at a replacement nuclear facility.

The NRC is currently engaged in pre-application discussions with TerraPower for a demonstration project at a retiring coal plant in Kemmerer, Wyoming. TerraPower has indicated that they intend to utilize the transferrable skills of the existing workforce to transition the site to nuclear power generation.

The NRC's regulations support current workers in the industry by ensuring their safety on the job and providing protection for individuals seeking to raise safety concerns. I actively engage with representatives from the International Brotherhood of Electrical Workers and other labor organizations when I visit facilities and encourage the NRC's resident inspectors to regularly engage with union representatives. Building an environment of trust and respect is critical to maintaining a strong safety culture in the nuclear industry, in turn assuring the safety of the

American public. I've had the pleasure of visiting three of Pennsylvania's four operating plants in my first term, Limerick Generating Station, Beaver Valley Power Station, and Peach Bottom Atomic Power Station.



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

CHAIR

April 29, 2024

The Honorable Thomas R. Carper
Chairman, Committee on Environment
and Public Works
United States Senate
Washington, DC 20510

Dear Mr. Chairman:

I appeared before the Committee on Environment and Public Works on Wednesday, April 17, 2024, at a hearing entitled, "Hearing on the Nomination of Christopher T. Hanson to be a Member of the Nuclear Regulatory Commission." In response to the Committee's letter of April 22, 2024, enclosed please find my responses to questions for the record, directed to me, from that hearing.

If I can be of further assistance, please do not hesitate to contact me.

Sincerely,

Christopher T. Hanson

Identical letter sent to:

The Honorable Shelley Moore Capito
Ranking Member, Committee on Environment
and Public Works
United States Senate
Washington, DC 20510

Senate Committee on Environment and Public Works
Hearing Entitled “Hearing on the Nomination of Christopher T. Hanson to be a Member
of the Nuclear Regulatory Commission”
April 17, 2024
Questions for the Record for The Honorable Christopher T. Hanson

Senator Markey:

1. The Nuclear Regulatory Commission is updating its regulations for burial of nuclear waste. Current regulations allow for the burial of nuclear waste in unlined soil trenches with certain allowable leak and radioactive dose rates. However, in recent years, leaks at several nuclear waste storage sites have been reported.
 - a. How will the Commission’s update of waste burial regulations address the issue of waste site leaks and the proper classification of waste radiation levels?

RESPONSE:

To date, there have been no offsite releases that exceed the performance objectives from any of the four existing low-level waste disposal facilities. NRC regulations for land disposal of low-level radioactive waste are found in 10 CFR Part 61. Under these regulations, the licensee has flexibility to employ a range of design choices, including liners, to demonstrate compliance with the performance objectives and dose limits to protect the public during and after operations. These requirements are tied to the classification of the low-level waste, with longer-lasting and higher-concentration waste requiring additional protection from the environment (e.g., through deeper burial or additional isolation measures). While licensees may use unlined soil trenches in their disposal facility design, they would likely be required to use other engineering features to isolate the radioactive waste from migrating to the environment and to demonstrate compliance with the regulations. The NRC or Agreement State monitors the licensee’s ability to meet the requirements and performance objectives during and after operations.

The NRC staff is developing an update to 10 CFR Part 61 that would require new and revised site-specific technical analyses and permit the development of site-specific criteria for low-level radioactive waste acceptance based on the results of these analyses.

2. The Nuclear Regulatory Commission recently issued a draft final rule on decommissioning. In this rule, the Commission opts to amend its backfit rule to expand its application to plants in decommissioning. However, in the proposed rule on decommissioning released in 2022, the Commission stated that “two of the factors used in evaluating a backfit—costs of construction delay/facility downtime, and changes in plant/operational complexity—are targeted to power operation and are conceptually inappropriate in evaluating the impacts of a backfit on a decommissioning plant.”

- a. What changes to the backfit rule does the draft final rule make to address this issue?

RESPONSE:

The draft final rule, which is currently before the Commission for consideration, would amend NRC's regulations in 10 CFR 50.109 to create a new backfitting provision solely for nuclear power plants in decommissioning. This new section would establish a separate list of evaluation factors applicable to nuclear power reactors in decommissioning. The evaluation factors include: 1) installation and continuing costs associated with the backfit, including the cost of decommissioning delay; and 2) the potential safety impact of changes in major decommissioning activities, including the relationship to proposed and existing regulatory requirements.

Ranking Member Caputo:

1. On August 29, 2023, Commissioners Wright and Caputo issued a memo titled "Measuring NRC Success." The memo outlines the scope of the NRC's near-term challenges to be prepared to review advanced reactor applications in a timely manner. The memo proposes that the Commission direct the staff to "implement detailed, transparent, near real-time performance metrics to provide Congress, licensees and applicants, stakeholders, and the public a window into our execution so they can track our progress and see for themselves."

Establishing these detailed performance metrics will help provide for predictable and efficient licensing reviews for advanced nuclear reactors.

- a. Have you voted on this memo?

RESPONSE:

No.

- b. If not, will you prioritize voting on this memo?

RESPONSE:

After voting on a significant backlog of policy papers before the Commission, I have turned my attention to their proposal. My staff has engaged with their Commission counterparts with questions regarding potential resource implications. I recognize the importance of operational management and I am conscious of the efforts the NRC staff has already made to improve review time efficiency across the agency without formal Commission direction. Given those efforts, I would like to ensure that Commission direction to the staff in this area accounts for work already completed and is reflective of agency needs.

- c. Once you have voted, will you publicly release your vote?

RESPONSE:

As a matter of ordinary course and consistent with the Internal Commission Procedures, Commissioner votes are not released publicly until the completion of the voting process. There are several reasons for this, namely, to preserve collegiality within the voting process and to assure that the Commission can deliberate unencumbered by outside pressure. I have chosen not to release votes prior to the completion of the voting process because I believe this is important to the integrity of the process. Therefore, I would be very reluctant to change that approach going forward.

2. Will you direct the staff to update the NRC Staff's goals in SECY-24-0026A, "Achieving Timely Completion of License Renewal Safety and Environmental Reviews" to approve subsequent license renewal applications:
- a. in 18 months or less;
 - b. with less than 14,000 staff hours to complete the review;
 - c. to review up to 12 applications at a time; and
 - d. be prepared to meet the above goals by the end of this calendar year?

RESPONSE:

The staff sent SECY-24-0026A, "Achieving Timely Completion of License Renewal Safety and Environmental Reviews" to the Commission for information. It has not been converted to a voting matter. As I noted in my testimony, I expect the staff to meet more ambitious goals—including a reduction in review hours and a tighter review timeline—and to begin implementing those goals starting immediately. Specifically, assuming high quality inputs from applicants, I expect the staff to be able to complete reviews efficiently, using 14,000 staff hours and an 18-month review schedule as an upper bound. Based on public and non-public letters of intent from licensees, the maximum number of applications currently expected to be under review at once is seven, based on an 18-month review. I commit to working with my Commission colleagues and the staff to ensure the agency is doing all it can to review applications as expeditiously as possible while maintaining our safety standards. Likewise, I commit to keeping the Senate Committee on Environment and Public Works and other members of Congress apprised of progress in this area.

3. The NRC staff updated NUREG-1409, "Backfitting Guidelines," to provide additional guidance on the "implementation of the backfitting and issue finality provisions" in 10 CFR Part 1 and NRC's Management Directive (MD) 8.4, "Management of Backfitting, Forward Fitting, Issue Finality, and Information Requests."

I understand a former Commissioner converted the staff's updated NUREG-1409 to a Commission voting matter, requiring the Commission to vote to approve the staff guidance instead of having the document take effect. As you noted in your nomination hearing, a single Commissioner can choose to convert a staff proposal to voting matter. Under the NRC's Internal Commission Procedures (ICPs), when an individual departs the

Commission, that individual's votes are no longer a part of the record. In this instance, NUREG-1409 should take effect absent further Commission action, unless a current Commissioner separately requests to convert NUREG-1409 Rev. 1 into a voting matter.

- a. What is the status of the staff's proposed update to NUREG-1409?

RESPONSE:

NUREG-1409 Rev. 1 is currently under consideration by the Commission as a voting matter (SECY-21-0037). The Internal Commission Procedures do not automatically revert an item that was previously converted to a voting matter by a Commissioner at the end of their term.

- b. If any Commission action is necessary to revert NUREG-1409 Rev. 1 to an info paper, so it can take effect, will you initiate such action?

RESPONSE:

NUREG-1409 Rev. 1 is currently under Commission consideration as a voting matter and will remain as such until the voting process is completed, or a majority of the Commission determines it should be addressed in a different manner. I hesitate to initiate such an action before proper discussion with my colleagues.

The provision in the Internal Commission Procedures that allows a single Commissioner to convert a staff item into a voting matter is an important part of the Commission's operations. This mechanism allows each Commissioner an equal opportunity to bring an item of particular interest before the entire Commission. In considering whether to reverse a Commissioner's (current or former) determination that an item should be considered by the entire Commission, I would need to carefully consider the implications of such an action on the integrity and the collegiality inherent in the Commission's processes.

4. Previous Commissions have requested that Congress remove the Atomic Energy Act's requirement to hold what is known as the "mandatory hearing."

While the NRC may take incremental administrative steps to expedite the hearing process, as you acknowledged to my question, it is still required by statute.

- a. The previous Executive Director for Operations (EDO), whom you appointed, testified to Congress that removing the mandatory hearing would not impact the Commission's safety conclusions, nor would it impact the public's perception of the reactor's safety. Do you agree with the EDO?

RESPONSE:

In February, I tasked the Office of the General Counsel to develop a paper outlining current requirements and providing options to the Commission for conducting uncontested mandatory hearings going forward. My tasking memorandum on this subject outlined some of the history of

these statutory provisions, which was to provide information to the public and improve the transparency of the agency's review process for specific applications.

If Congress were to remove the uncontested mandatory hearing provisions from the Atomic Energy Act, the agency's safety and environmental regulations would not change, and the NRC would continue to evaluate applications against the same requirements. Further, the agency would continue to engage with the public throughout the review of an application and during its deliberations. However, removing the requirement would change the public-facing process that the Commission uses to reach its finding.

As I noted in the tasking memorandum, the information landscape and the agency's ability to engage with the public has improved significantly over the course of the many decades these provisions have been in place.

The agency has a goal in its Strategic Plan to "inspire public confidence in the NRC." While I hesitate to make a sweeping conclusion about the impact removing these provisions would have on public confidence, I acknowledge that much has changed, particularly regarding the potential for standardized, serial reactor deployment. This was a large part of my motivation for seeking process improvements within the bounds of Congress's current direction. If that direction changes, I will work with my colleagues to assure implementation of Congress's decision.

- b. In 2008, the Commission submitted a legislative proposal to Congress to statutorily eliminate the requirement for a mandatory hearing. Do you support that 2008 proposal?

RESPONSE:

The determination of whether to retain the uncontested mandatory hearing provisions in the Atomic Energy Act rests with Congress. Since the Commission's 2008 legislative proposal, Congress has considered the retention of these provisions in multiple draft bills. Acknowledging this, I am focused on seeking process improvements within the current statutory parameters at the Commission level. I look forward to working with my colleagues on the options provided by the Office of the General Counsel in response to my tasking memorandum direction. The agency has provided technical assistance on the ADVANCE Act to the Senate. The agency continues to stand ready to provide technical drafting assistance in this area, if requested by Congress.

- 5. Please list all instances in which the Chairman-delegated emergency authorities, in part or in whole, pursuant to Chapter 1 of the NRC's ICPs, including the date, to whom authorities were delegated, what authorities were delegated, and the duration of the delegation.

RESPONSE:

In accordance with Section 3(b) of Reorganization Plan No. 1 of 1980, the Chair may delegate the authority to perform emergency functions, in whole or in part, to any other members of the Commission. Such authority may also be delegated or re-delegated, in whole or in part, to the

staff of the Commission. To date, in my term as Chair, I have not delegated the authority to perform emergency functions.

Prior Chairs have exercised this delegation authority to Commissioners, the Executive Director for Operations, and the Deputy Executive Director for Operations. The most recent record of a Chair exercising this delegation authority was in 2018, by then Chair Kristine Svinicki.

6. I appreciated your following statement during a previous nomination hearing about the Commission's "reasonable assurance of adequate protection" regulatory standard:

"I agree that the NRC's mandate is to ensure reasonable assurance of adequate protection of the public health and safety and the common defense and security. I also agree that while the NRC does not promote nuclear energy, *the NRC should not be a barrier to its development and operation.*"
[emphasis added]

Can you provide examples of actions you have directed as Chairman to ensure the NRC is not "a barrier to [nuclear energy's] development and operation?"

RESPONSE:

As Chair, I have several different mechanisms at my disposal to provide direction to the staff and facilitate specific action. First, through the voting process I exercise my role as a member of the policymaking body that is the Commission. The Commission's primary role is to provide policy direction to the staff. This role is particularly important now, as the agency is faced with an influx of novel issues associated with advanced reactors. As a Commissioner, and especially in my role as the Chair, I have prioritized voting through the backlog of policy papers before the Commission to communicate a sense of urgency to the staff and provide necessary direction to move forward on key issues—consistent with the agency's Principles of Good Regulation.

Timely and thorough review of the technology-inclusive, risk-informed rulemaking for advanced reactors (known as Part 53) was particularly important. After initial voting, I worked closely with my colleagues to assure the resulting staff requirements memorandum provided timely and specific direction to the staff on how to proceed and address complex policy issues. While Part 53 has attracted significant attention, it is only one part of an overall strategy for licensing advanced reactors that involves Commission direction. For example, we issued the final emergency preparedness rule for small modular reactors and other new technologies, which appropriately scales emergency planning based on risk insights. Further, the staff recently updated siting guidance to account for the safety features of new reactor designs, consistent with Commission direction. I have voted on the limited scope physical security rulemaking, which, if approved by the Commission, would provide flexibility for alternative approaches to security for advanced reactor applicants and licensees. I am looking forward to working with my colleagues to develop the Commission's direction on this matter. On the environmental side, the Commission just voted to approve the draft proposed Advanced Nuclear Reactor Generic Environmental Impact Statement (GEIS) and gave direction to the staff to allow the use of the GEIS for any new reactor that meets the plant and site parameters used in the GEIS. These are

just a few examples of direction the Commission has provided regarding advanced reactor development. There is more work to be done. If confirmed to a second term, I intend to continue to keep pace with significant policy considerations before the Commission.

As Chair, I have issued two tasking memorandums to staff. The first directed the staff to propose options and potential use cases for artificial intelligence to improve the quality and timeliness of the agency's work. The second directed the Office of the General Counsel to propose options for Commission consideration to streamline the uncontested mandatory hearing process within our current authorities under the Atomic Energy Act. The Commission is currently reviewing these papers (SECY-24-0035 and SECY-24-0032, respectively).

The examples above are actions I have taken through formal mechanisms. However, I also provide direction through less formal means. I meet with direct reports, including the Executive Director for Operations, the General Counsel, and the Secretary of the Commission on a regular basis and regularly provide feedback and direction. In fact, I meet with staff at all levels of the organization to gain awareness of ongoing efforts and to set expectations. Through my public speeches, internal agency events, and small bi-weekly coffee chats in my office I take the opportunity to connect with staff members and express my perspectives and priorities. Specifically, in my conversations with staff, I've emphasized my interest in seeing the agency do better in exporting best practices. Much of the enthusiasm for innovative thinking is focused on the new reactor regulation groups, but I would like to see best practices shared more widely throughout the agency. I focused on this in my speech at the Regulatory Information Conference and have discussed the concept in public meetings and other forums.

7. In a press interview last year, you said the NRC is "an independent agency" and "[w]e don't take policy direction, even from the administration."

a. Do you agree that the NRC takes policy direction from Congress?

RESPONSE:

Yes. Congress establishes policy through legislation, whether through authorization or appropriations and accompanying reports or joint explanatory statements, with which the NRC complies.

b. If so, how do you incorporate that policy direction into account – both in fulfilling your specific roles and responsibilities as Chairman, as well as in how you vote as a Commissioner?

RESPONSE:

I follow the laws as enacted by Congress and signed by the President in the execution of duties as Chair and as expressed in my voting record. In addition, I consider the views of Members of Congress, as expressed both in correspondence and formal and informal interactions. For example, I recognize strong interest by Members of Congress in the NRC increasing the

efficiency of our regulatory processes while maintaining our safety standards, and this recognition is reflected in expectations I have set for the agency and in my voting records.

8. During your initial nomination process, you stated that you intended to focus on three policy issues: “licensing of accident tolerant fuel, the nation’s university research and test reactors as incubators for the next generation nuclear workforce, and the licensing of advanced reactors.” How would you assess the status of the Commission’s work in those areas at present and what additional work do you intend to pursue if confirmed to a second term?

RESPONSE:

During my tenure, I have prioritized what I call “The Three A’s”: accident tolerant fuels (ATF), advanced reactors, and academic programs. Below is a synopsis of progress to date and future planned activities.

Accident Tolerant Fuel

I have focused on the agency’s activities on ATF to drive action on the application of new technologies to currently operating reactors, including new fuel formulations and licensing actions for digital instrumentation and control. The NRC’s licensing reviews for new fuels, including ATF, are progressing and we have completed our reviews by all the industry’s requested dates. We have issued 13 fuel facility license amendments, seven amendments to existing transportation packages to allow the shipment of ATF with increased initial enrichment light water reactor fuel, five amendments to support the shipment of high-assay low enriched uranium fuel, and certification of a package to ship uranium hexafluoride enriched up to 20%. In addition, we have made significant progress in reviewing reports on ATF-related topics such as higher burnup and increased enrichment to increase the efficiency of the licensing process and reduce the burden on licensees.

If confirmed for a second term, I will continue to focus on our regulatory readiness for the front- and back-end of the nuclear fuel cycle to prepare for the review of advancements in reactor fuel designs to support ATF. I will continue to support staff in their assessment of our regulatory infrastructure to identify any challenges and data needs for both near and long-term ATF concepts. I also will oversee the staff’s work on a rulemaking addressing the use of increased enrichment of conventional and ATF designs for light-water reactors. In addition, I will closely monitor the staff’s development of a comprehensive roadmap to provide transparency in tracking key milestones related to near-term ATF technology licensing pathways.

Advanced Reactors

As noted above, significant progress has been made in building the regulatory infrastructure needed to license small and advanced reactors during my tenure. The agency approved the first small modular reactor design and issued a construction permit for the first non-light water reactor in the U.S. in 56 years. The staff is now reviewing construction permit applications for two other advanced reactors and is engaged in pre-application activities with nearly a dozen advanced

reactors entities. Last year the agency issued a final emergency preparedness rule providing a scalable approach to emergency planning zones for small modular reactors and other new technologies. The Commission recently approved a proposed rule to create a new framework (known as Part 53) for licensing a variety of technologies and reactor designs, marking a major evolution in risk-informed regulation. The Commission also recently approved a proposed rule for a technology-neutral approach to a generic environmental impact statement for new nuclear reactors.

If reconfirmed, I will continue to work with my colleagues to increase the efficiency of the advanced reactor licensing process by engaging and providing direction on proposed rulemakings, including in the areas of physical security and lessons learned from implementation of recent application reviews under the existing light water reactor-centric regulations.

Academic Programs

Workforce planning is critical to the future of the agency. There is fierce competition for qualified candidates, both within the industry and between government agencies. That is why I have prioritized visits to universities of all types to build long-term relationships, learn about research that can benefit the NRC, and engage students to encourage them toward a career in public service. I spearheaded the re-establishment of the Minority Serving Institution Grant Program to support academic programs that benefit the NRC by building a pipeline of diverse talent to support future hiring needs. The agency has also re-energized its University Champions Program, and I have been actively engaged in supporting the important recruitment work our staff is doing through this program. It is important for the agency to get as much visibility on college campuses as possible to assure it has the workforce it needs to meet future challenges.

If confirmed, I will continue to focus my attention on building an adaptable, diverse workforce to meet future needs and challenges through university engagement and other workforce planning mechanisms.

9. At your nomination hearing, you said you would like to prioritize “repeatability” on licensing reviews. What actions – both staff actions and potential policy decisions made by the Commission – would you intend to pursue if confirmed to a second term to achieve this priority?

RESPONSE:

Prioritizing repeatability in licensing reviews will involve work in three major areas: process improvements, preparation for the future, and culture change. We need to identify and pursue initiatives within our existing capabilities, set the groundwork to be able to meet future needs, and ensure that changes are lasting by fostering an environment of continuous learning.

The staff is implementing initiatives that are important to support repeatability of licensing reviews. First, the NRC has embarked on a new initiative focused on standardizing our reviews and giving credit to applicants who standardize their designs and licensing approaches and rely on prior NRC safety and environmental decisions. Carrying this effort forward will be crucial to

making repeatability a regular occurrence as new applications are submitted. Second, I initiated a joint project with the Idaho National Laboratory to look at how small and advanced reactor construction costs intersect with our codes and standards so we can right-size both to better account for the enhanced safety of many designs. Third, the staff is considering design-centered approaches to conducting construction oversight to improve the efficiency of inspections. I will be monitoring the progress of each of these efforts closely and if confirmed to a second term, I will continue my work to expand these types of initiatives to not only enhance repeatability in licensing reviews for new reactors, but across the agency.

In the policy realm, several issues are either currently before the Commission or will be coming in the near term. These issues are critical to laying the groundwork for repeatability and reliability going forward. First, earlier this year, I asked our General Counsel to recommend to the Commission options for improving the uncontested mandatory hearing process, seeking efficiencies where possible. The Commission recently received the recommendations, and I will be working with my colleagues to provide direction moving forward. I am particularly interested in exploring how to accommodate standardized, serial deployment within the current statutory requirements for uncontested mandatory hearings. Second, the staff sent the Commission the first paper of a series on licensing of microreactors. While the Commission will have the opportunity to weigh in on long-term licensing solutions, this paper is a good first step to get started on accommodating potential near-term applications within our current framework (SECY-24-0008). Third, the Commission voted to address fusion energy regulation through a byproduct material framework, and we expect to see the proposed rule sometime this summer. Like microreactors, this conversation will continue as the agency tackles major issues and engages with stakeholders. Setting the stage for the regulation of fusion energy will be critical to not only be able to smoothly license facilities, but to reach a reliable level of repeatability. Fourth, the Commission worked closely together to provide clear and decisive direction on the proposed technology-inclusive Part 53 framework for advanced reactors. The proposed rule puts probabilistic risk assessment and risk insights in a leading role, balancing flexibility and predictability while assuring the safety of the public. As this is the proposed rule, the Commission will have more work ahead in shaping this framework into a useable and predictable pathway for future advanced reactor applicants. If confirmed to a second term, I will continue to work with my colleagues to provide the staff with the policy direction they need to move forward on these and other important issues.

Finally, setting the stage for repeatability will not garner lasting results unless agency culture can adapt to meet coming change. Right now, I am working with the staff to encourage them to look closely at issues, to question the way we do things, and to embrace change. The goal is to not have to encourage this behavior, but to have it come naturally as a matter of ordinary process. If confirmed to serve a second term, I will continue to pursue a culture at the agency that can demonstrate repeatability and evolve as needs change.

10. The Chairman is responsible for appointing, subject to Commission approval, certain senior NRC staff. These staff positions are the key leaders that guide the staff's work to oversee and regulate nuclear energy.

As you select senior NRC leadership, how do you evaluate the respective candidate's

ability to lead, make tough decisions, effectively run complex licensing projects, and inspire needed culture change?

RESPONSE:

First, I believe it is critical to have leaders at the agency who understand the urgency of the moment. Much is changing in the energy sector, and the staff need to be able to trust their leaders to navigate the agency through this period. Those leaders, in turn, need to trust that the staff will prioritize our health, safety, and security mission; will innovate in new ways; and will get the job done. Staff also need to trust each other; they need to see each other as essential in their roles to accomplishing the mission; and they need to know they can rely on each other as our workload grows.

Second, I am looking for leaders who are able to inspire staff confidence in the agency's vast intellectual capital to make better, smarter, more efficient, and more durable regulatory decisions. At this critical point for the agency, our leaders need to drive staff confidence not only in our ability to get things done but in our ability to keep striving to do better.

Finally, I am looking for leaders with superior communication skills who are not only focused on shaping the culture within the agency but expanding this principle of high trust and high confidence to include the public and external stakeholders. The trust of the public is critical to the integrity of the agency, and stakeholders should have confidence that the agency's decisions are durable and sound. I need leaders with a sense of external awareness that will allow them to engage, as appropriate, outside the agency both domestically and internationally.

11. The Reorganization Plan No. 1 of 1980 designates the Chairman to serve as the principal executive officer of the Commission. In this capacity, the Chairman delegates the performance of the agency's functions to the NRC staff, subject to the Chairman's direction and supervision. What does direct and supervise the staff mean to you, as you have served as the NRC Chairman since 2021?

RESPONSE:

Three years ago, when I was honored with the position of Chair, I quickly recognized that my role at the agency would be frustrated if I did not strike an appropriate balance in my oversight of staff work. Shirley Jackson, a former Chair, said the following in a speech she gave about leadership: "leaders need to recognize that they cannot run every aspect of an organization on their own. They need to delegate responsibility and allow subordinates to develop and exercise their own leadership skills. The long-term health of any Organization depends on there being competent managers, able to assume positions of increasing responsibility over the course of time." I quote her here because her perspective on leadership resonates strongly with me and reflects the approach I have taken at the NRC. The agency's functions are subject to my direction and supervision—and I believe in empowering managers to deliver results based on that direction. To me this means my job is to set expectations and to allow the agency's leaders to meet those expectations using their judgment and experience. It means trusting the individuals

the Commission has put in place to lead the agency, while holding them accountable to meet the policies and direction that I, along with my colleagues on the Commission, have given.

12. You have previously stated that “It isn’t enough to describe a perfect culture and hope it will just appear – we need to listen, and we need to lead. We need to make sure that praise for our employees is public and generous, that corrections are constructive, that motivation is commonplace, and that trust is paramount.” What actions have you taken in your role as the Chairman to provide leadership in these areas and to shape the culture of the NRC?

RESPONSE:

I firmly believe in that statement, and my actions demonstrate my commitment to creating the desired culture at the NRC. As I have described in multiple settings, my vision for the culture of the NRC is one of high trust and high confidence. Getting to that culture starts at the top, with leaders modeling the behavior and building trust while displaying confidence in the staff and the important work of the agency.

I do this in several ways in my capacity as Chair. First, my role includes being the spokesperson of the agency. That means that my appearances and speeches reflect on the agency as a whole. I regularly recognize and praise the hard work of the staff, highlighting their recent achievements in my public remarks. The staff need to hear that their work is valued and recognized as important to the agency’s mission. I repeatedly remind staff of the importance of their service to the American people. In doing this, I hope to build trust and confidence with the staff and set an example for senior leaders of the agency. When needed, I also state where I think we can and must do better. Importantly, in these instances, I take accountability and facilitate solutions.

Second, I play an important role in selecting candidates for my colleagues to consider for top leadership positions at the agency. We have a number of vacancies currently, and it is incredibly important that the right leaders are chosen to fill these positions. Working with my colleagues, I am dedicated to finding the right people to lead the agency in this time of dynamic change. They will be very important in achieving a culture of high trust and high confidence going forward.

Third, as the leader of the agency, I recognize the importance of modeling behavior. I expect the staff to reflect a sense of urgency in their work, and so I seek to model that in my position. I do this by addressing policy issues that come to the Commission in a timely and thoughtful manner. I do not expect more of the NRC staff than I expect of myself and my own staff.

Fourth, I seek to support the NRC staff by connecting with them and supporting them on a personal level. I hold regular coffee chats with staff throughout the agency. These small discussion sessions allow me to get to know individual members of the staff and gain insight into their daily work. I also have regular meetings with the agency’s advisory committees and affinity groups, supporting initiatives and events where possible.

Culture change is a holistic endeavor, and it requires leaders to lead so that others may follow. If confirmed to a second term, I intend to continue these important efforts. It is easy to set ambitious metrics and deliverables, it is much harder to foster an environment that motivates an organization to rise to meet them.

13. Congress established the Advisory Committee on Reactor Safeguards (ACRS) as an independent advisory committee to the NRC in the 1950s, prior to the first commercial nuclear power plant. This was also at the time when the Atomic Energy Commission exercised both promotional and regulatory responsibilities.

ACRS's outdated statutory mandates do not reflect the current maturity of our nuclear technology and will hamper the rapid deployment of safe, new advanced nuclear reactors.

Last year, the Nuclear Innovation Alliance issued a report that included a series of recommendations to improve and focus ACRS to prioritize its work on novel and safety-significant issues. A number of those recommendations can be implemented by the Commission, the NRC staff, and by the ACRS itself.

- a. Do you support efforts to streamline the NRC's and ACRS' current processes to provide for a more efficient and effective review?

RESPONSE:

Yes. The ACRS, which is an independent advisory group, has been receptive to input for improving the effectiveness and efficiency of its advisory role to the Commission in the review and resolution of technical issues. I regularly meet with the ACRS Chair to maintain awareness of their activities and priorities.

Over the past two years, the NRC staff and the ACRS have continued to make significant strides and improvements associated with re-envisioning the staff's engagement with the ACRS. The staff and the ACRS worked together on aspects associated with planning and implementation of meetings and technical reviews. Through these proactive efforts, the ACRS has focused its reviews on those documents essential to demonstrating that the design is safe (e.g., topical reports critical to the license application at hand). Further, the ACRS and the staff have worked together to consolidate the two ACRS review phases into one phase for recent reviews that were not complex. The ACRS successfully implemented these enhancements during the later stages of the NuScale design certification review, and more recently in the review of the SHINE operating license and the Kairos test reactor construction permit applications. Their implementation has proven effective in providing both time and cost savings for new small modular and advanced reactor applicants. The statutory provisions governing the ACRS do not stand in the way of further improvements to its efficiency and effectiveness.

- b. If so, what actions have you taken – or intend to take – to modify the NRC’s current processes to improve how the NRC staff engages with the ACRS, and to make better use of the ACRS’s expertise and limited time?

RESPONSE:

I have supported and will continue to support the ACRS’s efforts to continually seek ways to improve its performance. These efforts include increased coordination with NRC program offices, improved communication with staff on application submittals, reduced overall timeframes for scheduled reviews, and early identification of any risk- or safety-significant issues concerning reactor designs. I support the ACRS making improvements to more effectively and expeditiously conduct reviews of license renewal and subsequent license renewal applications and implementing lessons learned from advanced reactor application reviews. I also support early alignment on major ACRS actions, measures to proactively conduct early reviews of critical topical reports for new and advanced reactor applications, and status updates during the planning portion of each full Committee meeting.

The ACRS continues to identify and take actions to improve its effectiveness and efficiency and already has implemented improvements to increase its focus on novel and unique design features as well as risk- and safety-significant aspects of new reactor designs. The ACRS is open to input from all stakeholders and makes common-sense modifications to its processes and procedures as they are identified. It has demonstrated the ability to continually adapt and provide timely, independent technical advice to the Commission.

14. Last year, during testimony to the House Energy and Commerce Committee, you were asked what needs to be done to permit a high volume of reactor applications in the coming decades. You said that you think the NRC can review and approve standardized designs in less than a year. What specific steps – both near-term steps and long-term changes – need to be undertaken to enable the NRC to achieve that goal?

RESPONSE:

The NRC is well-positioned to review multiple standardized reactor design applications over the coming years. The agency has identified specific steps to be taken to achieve this goal.

First and foremost, the staff will need to leverage knowledge from the initial review of a reactor design to enhance the staff’s ability to license subsequent applications for the same design. Currently, the agency is embracing this in the review of Kairos’s application for the Hermes 2 test reactor. While the Hermes and Hermes 2 facilities are not exactly the same, there are substantial similarities that will allow the staff to leverage significant information.

Second, the staff will need to develop guidance on a design-centered review approach. If an applicant is seeking standardized, serial deployment this type of guidance will help the staff perform a consistent and streamlined review. It will also assure that knowledge management is appropriately captured.

Third, accurate forecasting of application submittals will be crucial to allow the agency to have appropriate resources to complete anticipated work. Having the right staff ready and able to perform the reviews will be critical to efficiency. Potential applicants will benefit from providing the agency with up-to-date and realistic timeframes for submitting planned applications.

Fourth, along the same lines, encouraging robust pre-application engagement between applicants and the NRC staff is very important. Not only does this allow the staff to appropriately allocate resources and make strategic workforce planning decisions, it also allows the staff to engage early on major technical issues and address challenges up front.

Fifth, as an agency we need to continue to learn from reviews we have done and look for opportunities to improve our processes. For example, the agency has seen success in the use of core teams to focus reviews and promote consistency and efficiency in the process. I expect the agency to continue to find ways to improve our processes as we add to our base of knowledge with every review.

Finally, I recently directed our General Counsel to provide recommendations for improving the uncontested mandatory hearing process. The Commission is considering the resulting notation vote paper that presents options to shorten the overall timeframe and streamline hearing decisions, within the existing statutory framework. The paper addresses the concept of serial, standardized designs in the context of the uncontested mandatory hearing process. Deciding how to address this issue within our statutory mandate will help provide a clear path for future applicants going forward.

15. A broad reconsideration of how the NRC examines environmental justice issues as part of the Agency's licensing and regulatory program may signal that there is a two-tiered system to protect public health – either a member of the public is part of an environmental justice community, thus providing special consideration of how the NRC requirements apply, or a member of the public is not part of such a community. This bifurcation will serve only to muddle risk communication unnecessarily. The NRC is charged with ensuring the safety of all communities, regardless of circumstance.

- a. What in the NRC's statutory authority requires the agency to consider environmental justice concepts in its licensing and regulatory responsibilities, particularly as it relates to maintaining reasonable assurance of adequate protection of public health and the environment?

RESPONSE:

I consider environmental justice the fair treatment and meaningful involvement of all interested stakeholders with respect to potential federal actions and decision-making processes. This includes equal access to information and ensuring that information and processes are both timely and understandable. The goal is not to improve accessibility for only members of certain groups, but to raise the baseline for all interested stakeholders who choose to engage in any capacity in the future of their respective communities.

As described in the NRC's 2004 Environmental Justice Policy Statement, the National Environmental Policy Act (NEPA) requires the NRC to consider environmental impacts, including environmental justice-related issues, in its licensing and regulatory actions. The disparate impact analysis within the NEPA context is the NRC's tool for addressing environmental justice issues.

The Commission is currently considering recommendations from the staff on enhancing its approach to environmental justice as part of SECY-22-0025, "Systematic Review of How Agency Programs, Policies, And Activities Address Environmental Justice." One such recommendation is to update and revise the NRC's Environmental Justice Policy Statement in part to clarify that there may be other statutory authorities beyond NEPA that may be pertinent to environmental justice matters.

- b. Does the concept of the NRC applying its regulatory process differently – or providing separate considerations for what is necessary to meet the NRC's statutory authority – create different standards for fulfilling the NRC's statutory mission depending on where someone lives?

RESPONSE:

No. The NRC holds applicants and licensees to the same standards, as applicable and appropriate, for each licensing or regulatory action. The agency currently considers environmental justice in its implementation of NEPA, and NEPA requires agencies to evaluate the environmental and related social and economic effects of the proposed Federal action. The NRC is not contemplating any changes that would result in disparate application of regulatory processes or standards. That said, outside of implementing regulatory requirements, when the NRC is working with communities that have very limited or no prior experience in the NRC regulatory process, the agency should take extra measures to reach out to community leaders and members to offer education and information regarding a proposed project or NRC decision and the roles and responsibilities of the NRC, applicant or licensee, and other stakeholders with respect to the full lifecycle of a proposed facility.

Senator Lummis:

1. As you likely know, the Wyoming Energy Authority is working on several innovative projects, including the possibility of deploying BWXT's micro reactor technology as a power source for our state's trona mining industry. If this project is to be successful for all stakeholder parties involved, I understand that it will require a multiple reactor block buy in order to be economical. I believe this would be the case for most micro reactor technologies, including industrial heat applications like the trona mines. Does the NRC have the ability to license a single design once and not have to go back to the beginning of the review process each time that reactor design is going to be deployed, even if it is just a few miles away?

RESPONSE:

The NRC's 10 CFR Part 52 licensing process includes standard design certifications, standard design approvals, and manufacturing licenses that allow for early staff review and approval of a standard reactor design. Applicants can incorporate standard design certifications and standard design approvals by reference in site-specific license applications.

- a. How can we cut down on the licensing review timetable once the NRC has a declared a particular design safe?

RESPONSE:

Under NRC's current regulations, applications that reference an NRC-certified design have the potential to significantly reduce the staff review time compared to a review of a first-of-a-kind design. The draft proposed Part 53 rule contains licensing processes that would increase standardization and potentially reduce licensing review schedules. Additionally, the staff is exploring ways to optimize and adapt its licensing framework to support timely deployment of micro-reactors of the same design.

- b. How have recent new reactor initiatives [Part 53 rulemaking, Advanced Reactor Content of Application (ARCAP) guidance] enabled the NRC staff to execute more efficient reviews?

RESPONSE:

The NRC staff recently issued nine advanced reactor content of application project (ARCAP) interim staff guidance documents and one technology-inclusive content of application project (TICAP) regulatory guide to clarify the applicability of existing requirements under the current regulations in 10 CFR Parts 50 and 52 for non-light water reactor applications. These guidance documents establish clear and predictable expectations to promote efficient licensing for non-light water reactor applicants. The NRC anticipates that some advanced reactor designers may file applications using these guidance documents in the near future. The Commission recently approved the draft proposed Part 53 rule, which will provide future nuclear developers a clear, additional pathway for licensing.

- c. Can Part 53 help with common design approvals?

RESPONSE:

The draft proposed Part 53 rule has the capability to support common design approvals. It contains all the licensing efficiencies that allow for the pre-approval of a standard design under the current NRC regulations and, additionally, includes new licensing processes that increase opportunities for standardization by allowing a reactor that has received an operating license or a custom combined license to be referenced in a subsequent standard design certification application.

2. Are there legislative authorities you need to be more agile when it comes to scaling up the NRC's capability and capacity for licensing actions commensurate with the needs of end users like the trona mines?

RESPONSE:

Currently, the staff has not identified any additional authorities necessary to improve the efficiency of the NRC's decision-making on advanced reactors. The staff continues to evaluate additional deployment scenarios, such as transportable microreactors with preloaded fuel discussed in SECY 24-0008, "Micro-Reactor Licensing and Deployment Consideration: Fuel Loading and Operational Testing at a Factory," and will continue to consider whether additional legislation may be needed.

3. With respect to environmental reviews there seems like some duplication between state and federal regulations. Does the NRC take state reviews and permitting into account when examining projects?

RESPONSE:

Yes, the NRC takes State reviews and permitting into account during its environmental reviews.

- a. Are there areas to improve or leverage one off the other to cut down review timelines?

RESPONSE:

The NRC is increasing the use of Memoranda of Understanding with cooperating agencies to streamline National Environmental Policy Act (NEPA) reviews and reduce duplication. Additionally, the NRC participates as a member agency in the Federal Permitting Improvement Steering Council and the activities related to the Fixing America's Surface Transportation Act ("FAST-41").

Section 107 of the Fiscal Responsibility Act (FRA) established requirements for timely and unified federal reviews with lead and joint lead agencies. The NRC is implementing the "lead Federal agency" concept to improve NEPA documentation timeliness, accountability, and transparency. Further, the FRA set completion times for NEPA documents, one year for an environmental assessment and two years for an environmental impact statement.

This spring, the staff will provide recommendations to the Commission to revise the NRC's NEPA implementing regulations as a result of the FRA.

Senator CARPER. We welcome them, as well. Thank you.

Thanks for your testimony, your willingness to be here with all of us, and to bring along with you your family. This is great.

Now, we are ready to begin the questioning for our witness. Senator Capito and I have agreed to two rounds of 5-minute questions.

To begin, this committee has three standing yes-or-no questions that it asks of all nominees who appear before us. I am going to ask the first question.

Do you agree, if confirmed, to appear before this committee or designated members of this committee and other appropriate committees of this Congress and provide information subject to appropriate and necessary security protections with respect to your responsibilities? Do you?

Mr. HANSON. Yes.

Senator CARPER. Do you agree to ensure that testimony, briefings, documents, and electronic and other forms of communication of information are provided to this committee and its staff and other appropriate committees in a timely manner? Do you?

Mr. HANSON. Yes.

Senator CARPER. Finally, do you know of any matters which you may or may not have disclosed that might place you in a conflict of interest if you are confirmed? Do you?

Mr. HANSON. I am not aware of any matters of conflict of interest, Senator.

Senator CARPER. Thank you.

With that, I am going to start the questioning. Really quick question, I can spend the rest of the morning telling about what I learned from my parents in order to enable me to serve in the military and the State of Delaware and here. I could spend a long time talking about what was really helpful to me as a kid growing up.

Mention one of the things that, from your mom, with her sitting there, one of the things that she helped instill in you that helped prepare you for this responsibility. Go ahead.

Mr. HANSON. Thank you, Senator. Really, I would highlight both my parents. My mom was a middle school English teacher and a librarian for many years. First of all, she made sure I didn't leave the house without knowing how to write and communicate clearly in the written word, but also just a deep appreciation from both of my parents for public service.

My dad was a teacher as well as a public school administrator in western Michigan, and I watched him toil over budgets and teacher contracts and school construction and all kinds of things.

While we may operate on a bigger scale here in Washington, the issues are not that different. Tackling those things with a real attention to detail and some integrity really made a difference. I got that from both of my parents.

Senator CARPER. Great. Well, thanks very much for sharing that with us.

The NRC, I will talk a little bit about 2024 priorities that you have embraced, and we will be talking about today. The NRC is focused on its charge to ensure the safety of the existing nuclear fleet. The Commission is also meeting the moment to safeguard new technologies, including advanced reactors, something that Sen-

ator Capito and I and others on the committee have worked on a lot.

Navigating these priorities requires a clear vision and decisive leadership, which you have demonstrated, I think, throughout your first term. Here is my question: could you detail for us your goals for the Commission heading into this year and update us on your progress?

Mr. HANSON. Thank you, Senator. We have had some successes in the last few years. We have successfully issued, as I noted, that construction permit for a non-light water reactor. It was a small reactor, but we learned a lot, and we learned a lot from past reviews during that time.

My focus is really building on the learning that we have accumulated over not only our 50-year history, but even in the last five or 10 years on timely and efficient reactor reviews, and understanding and adapting our regulations to these new technologies. As we get some further successes under our belt, we have another license application, the Bill Gates Company, TerraPower, came in with its construction permit application just a couple of weeks ago, expecting, again, an efficient and timely review on that.

As we build on that success, I am focusing on the repeatability of these efforts to build confidence outside the agency that the NRC can either adapt its existing frameworks or, again, chart new paths with the Part 53 rulemaking and other things.

As Senator Capito noted, we put out an emergency planning final rule. We have issued siting guidance. We have a security paper in front of us. I have directed the staff and just received a paper on options on reforming the uncontested mandatory hearing process that I think could be important in terms of making nth-of-a-kind reactors more efficient.

I and my colleagues are focused on microreactors and how to send the right signals and adapt our regulatory frameworks there as we work with you on potential legislative changes that may be needed.

I think there is, as I said, we have a lot of things in progress. I think we have had some successes, but building on those and getting repeatability, building that muscle memory within the organization I think will be critical moving forward.

Senator CARPER. I have a number of other questions I am going to ask, but not right now. I want to give Senator Capito and the other members of our committee to jump in on the questions.

I will telegraph my pitch, like baseball, telegraph my pitch. The next question I will ask is, how do the actions that the NRC take today matter for the future? How do the actions that the NRC takes today matter for the future of the agency? I will be asking that when it is my turn again. Thank you.

Senator Capito?

Senator CAPITO. Thank you, Mr. Chairman.

Chair Hanson, you know this is one of my, I mentioned it in my opening statement, is the staff telework decision. You select and appoint the Executive Director of Operations. The recommendation, which was to reduce the amount of in-person work at the NRC from the current minimum of 2 days a week to just 4 hours per

week. It was determined that the Commission has the authority to vote on this, and it was an administrative decision.

Your colleagues on the Commission decided, I mean, thought that this policy should be a policy which requires full Commission approval. Do you agree with your colleagues that the Commission had the authority to determine the proposed changes in the NRC internal telework guidance? Was it a matter of policy, authorizing the Commission to vote on the new proposal? Do you agree with what went forward, the way it was handled?

Mr. HANSON. Yes, my colleagues, any member of the Commission, can take an information paper that wouldn't necessarily be a voting matter and turn it into a voting matter for the entire Commission.

Senator CAPITO. That is what happened. Do you agree with that, that is something the Commission should have considered?

Mr. HANSON. Telework, Senator?

Senator CAPITO. Yes.

Mr. HANSON. I thought it was more, at the time, I thought it was more of an operational decision for the EDO. I had a number of concerns about taking that authority, in this case, away from the EDO.

Senator CAPITO. It was taken away, the Commission voted on it?

Mr. HANSON. It was. The Commission voted, absolutely, and we have implemented that direction going forward.

Senator CAPITO. I know what you are going to say when I ask this question, because every time I ask it to a Cabinet member, I get the same answer. How do you consider potential impacts of dramatic reductions in in-person staff work? I know you are going to say, the work gets done because we are checking on everybody.

I think corporate America and others are seeing, and we are seeing this in government functions, whether it is a slowdown in visas or whether it is the messing up the FAFSA, Free Application for Federal Student Aid form, and all these other kinds of, these lack of in-person interaction in the workplace, obviously, an outgrowth of COVID, has had impacts.

What would you say about the fact that your policy says that you only are, I think it is 2 days every 2 weeks, and a day is 6 hours? How do you feel about that? The impacts that it has on the NRC.

Mr. HANSON. Senator, if I could, I want to just take a step back. We were one of the first agencies to come back into the office in November 2021, led by our EDO at the time. Even throughout that subsequent 18-month period, we were still in the office more than anybody else.

It generated a lot of frustration on the part of the staff, because people, even at 2 days a week, which was the standard, people were coming into empty offices, and they were coming into their offices to sit on Zoom meetings when other people weren't there, and so on and so forth.

The mission, we accomplished the mission during that time. We issued licenses; we oversaw the completion of Vogtle, we got a lot done in that both full-time telework and hybrid work environment. The proposal, while it may have had the effects that you described, the proposal that the EDO put forward was actually to delegate telework decisions down to the lowest level possible.

During that time, when we were in the office more than almost any other agency in government, it created a real lack of trust between staff and senior leaders, and I think the EDO at the time was trying to address that. He said, OK, let's delegate that decision down to the lowest level, the team leaders, about what works best on an individual team lead in terms of the telework posture that people should have.

The accountability mechanisms were still going to be in place. We have a strategic goal about having a healthy organizational culture. People are still going to be held accountable for that. We have goals about accomplishing the mission. People would still be accountable for that.

It is not that I took any pleasure whatsoever in disagreeing with my colleagues or that I saw the matter as my personal views, even, about 1 day a week or any number of days a week. It was about the level of decisionmaking for me and about, I didn't want the Commission to be in a position of having to negotiate with the union, for example. I was looking on some of the knock-on effects, as well.

Senator CAPITO. I would just comment on that. I kind of disagree, I definitely disagree with the track that you are taking there, because I think that is part of the problem that we see governmentwide, is the President is in charge of the government. He makes a statement: everybody should come back to work, but nobody is coming back to work. They are not coming back to work full-time.

I think the person running the organization is the one who has the responsibility, because if you leave it to everybody individually, to me, that would be sort of chaotic.

I have a lot, another, can I ask one more question before? I mentioned this in my opening statement, and I want to give you a chance to respond to that, and thank you for your answer on the other.

You have stated, and you restated again that reliability is critical in terms of decisionmaking because it ensures a level of predictability and certainty. You did, despite your statements, you did choose to side with former Commissioner Baran to overturn previously issued license renewals. Your decision ignored extensive staff analysis and justification, multiple previous Commission licensing actions without any new information really being used. The resulting vote occurred solely because two commissioners that had previously been in the majority were no longer on the Commission.

How does your vote to reverse previously issued licenses align with your 2020 statements that the NRC must be reliable and predictable, and your statements here again today, and its regulatory actions, so licensees can act with a minimum of uncertainty in the regulatory arena?

Mr. HANSON. Senator Capito, thank you for the opportunity to address this issue. I appreciate it very much.

The decision to overturn the previous Commission decision was not taken lightly at all. It was my firm belief at the time, and it continues to be, that there was a significant, that the agency and, by extension, our licensees faced significant legal risk. It was because of that that the decision was necessary to comply with

NEPA, National Environmental Policy Act, and APA, Administrative Procedure Act. It was my belief that, in short, that we were going to get sued, and the people who sued us were going to win.

While I recognize and I very much regret the disruption that that reversal caused, while having issued one or two or even three license renewals now, fixing that situation expeditiously, which we did, and that fix has been in front of the Commission, I hope to see a decision imminently on that, that it was better to fix that now than to get 10 or 12 or 15 licenses down the road and have a Federal court overturn us.

Senator CAPITO. Let me just ask a technical question, then, of the previously issued licenses in the time which you voted to overturn those in 2022. Are you just now telling me that two and a half years later, you are getting to looking at these that you denied and deciding what to do with them? Or have some of them already been—

Mr. HANSON. No, the safety evaluations have been completed on those. We have one licensee who elected to do a site-specific analysis on that, and I believe that—

Senator CAPITO. None of those licenses have been reissued from 2022?

Mr. HANSON. There is one other that I believe is waiting to incorporate the new generic environmental impact statement.

Senator CAPITO. Well, this kind of gets to the point of timeliness of some of these things. I will let it go to the next question.

Mr. HANSON. I understand. I guess I would like to make the point, Senator, that I guess I saw my decision also as a matter of reliability. For me, reliability means the Commission making decisions that can hold up and are durable over time. This was one that I honestly didn't think was.

Senator CAPITO. Right. The staff didn't agree with you at this point, right? The staff had made a recommendation to keep going with these licenses, correct?

Mr. HANSON. Because of the previous Commission decision.

Senator CAPITO. Right, yes. Thanks.

Senator CARPER. All right.

Senator Whitehouse, welcome. Good to see you.

Senator WHITEHOUSE. Thank you, Chairman. Thank you for being here.

First of all, congratulations on the Part 53 instructions. That seems to have received good stakeholder feedback, and the Ranking Member issued supportive comments. That is good.

As you know, I am a strong advocate for the repurposing and reprocessing of our existing nuclear waste stockpiles into productive fuel. I want to make sure, since there is no specific process for reprocessing that as the NRC is looking at its priorities, you keep in mind the really important value to the Country of trying to whittle away at that nuclear waste stockpile.

My concern is that all of this energy and effort that is going into next-gen nuke goes to brand-new nuclear fuels, which if they come in a nickel cheaper than reprocessing can move the entire market toward that and eliminate the opportunity to begin to address the nuclear waste problem in this way. I think that is really important.

It is a weird thing that when you are the United States of America, the liability for that nuclear waste is not on your books anywhere. If we were the United Corporation of America, that liability would be on our books and would be giving the board a strong economic signal every single year, hey, we have a multi-million dollar liability. Spending a few million to clean it up, a few billion to clean it up.

Without the incentives in the right place and without a specific procedure, how can you reassure me that the reprocessing side of next-gen will not be treated as the orphan side if it ends up being a little bit more expensive?

Mr. HANSON. Senator, thank you for the question. As I think we have discussed, I have a long history on the spent nuclear fuel issue. I really believe that a Country as wealthy and creative and dynamic as the United States should have more than one way of dealing with nuclear waste. I know there is a lot of interest these days in reprocessing.

I can tell you that we are interacting with companies. There are a number of companies that are interested in this area, and they are coming to talk with us. We are working with the Department of Energy about these different technologies. We elected not to pursue a specific rulemaking on reprocessing several years ago. Then of course, not 6 months later, there was a lot of interest in this again that I think has really picked up since.

We are interacting with companies in this space. We are keeping track of it. We have companies coming into us on preapplication engagements to talk about their designs, about their technology, about their facility concepts, et cetera. We are really staying on that, so that should somebody come in to us with an application, should one of these things really take off or be the subject of investment by the Department of Energy, we are ready to go on that.

Senator WHITEHOUSE. You get my point that there is significant value to making a success of reprocessing.

Mr. HANSON. I think the NRC should not be the impediment for the folks that want to come up with safe concepts for that.

Senator WHITEHOUSE. The other thing I wanted to talk with you about is the process of refueling, for instance, existing coal plants. There is huge logic to that. You have a community that already supports a utility plant. You have a work force there, the necessary electricians and engineers and experts. You have the turbines, which will spin in nuke steam just as readily as coal steam, and transformers, and you have the grid centralized.

The DOE is moving forward trying to encourage that kind of investments, our ADVANCE Act specifically encourages that kind of investment. Are you running up against any issues with your processes in making sure that that refueling from coal to nuclear can go forward? Do you need any existing authorities? Are you involved in that in any way? Do you need to be? What is your role?

I would like to see it expedited. Do you need help to do so, or is it simply not your problem?

Mr. HANSON. I appreciate very much the provision in the ADVANCE Act. I do not know at this time if we need any additional authorities. One of the advantages of a coal site, as you say, is the work force. We have developed some guidance already about taking

folks, the operators at a coal plant, and then kind of an expedited capability based licensing for nuclear, to kind of move those folks over. Oftentimes at coal sites you have something that is very well characterized. I would expect that to help with the environmental assessments if a nuclear plant were to go in that place.

I think we are OK at the moment. We would love to see somebody go first and to kind of plow that ground with us and show how we can do that in a number of other places.

Senator WHITEHOUSE. Good. When that entity does show up to go first, I hope you will treat them with upmost cordiality and dispatch.

Mr. HANSON. Absolutely, Senator. Thank you.

Senator CARPER. Thank you for your very thoughtful questions. Very thoughtful .

Senator Ricketts, welcome. Good to see you today. Thanks for joining us.

Senator RICKETTS. Thank you, Chairman Carper.

Senator CARPER. This man gets an A+ for attendance. He is the best we have on either side. He shows up as much or more than me.

[Laughter.]

Senator RICKETTS. Thank you, Chairman Carper, for doing this important hearing with regard to the Nuclear Regulatory Commission. Nuclear energy is very important to Nebraska. We have our Cooper Nuclear Station that generates 835 megawatts of power that helps supply energy to 385,000 residential homes, even when it is the hottest in the summer. That is a big part of our energy mix in the State of Nebraska.

In order to ensure that our Cooper Nuclear Station can continue to supply clean, reliable, affordable energy, we need to make sure that we have an expeditious license renewal process. Cooper Nuclear Station has actually begin their process already coming up for the year 2030, I think is when their licenses renew.

In November, Senator Capito and I sent you a letter which requested specific steps that the NRC is taking to ensure that the SLR review and approval process is efficient, timely, predictable and affordable. I wanted to first of all thank you for your timely response back, your letter to our letter. Thank you for doing that. I in my little over a year being in the U.S. Senate have sent in numerous letters to different government agencies. I have only received a response back on 22 percent. You are in an elite category there of people who actually respond.

In your December response, you mentioned the road map to restore the license renewal program onto a path of timely and predictable reviews and achieve a goal of 18 month reviews. After looking through a road map published at the end of last month, it is really below the level of ambition that we would expect to be able to get these license renewals expedited. The goal of 15,000 review hours included in the April 15th updates to the road map are closer to what should be the standard for approval.

What are your personal goals for the review timelines from start to finish, hours to process, the amount of applications the NRC is processing, that sort of thing? Can you give us an idea, Chairman, what are you thinking you ought to be doing?

Mr. HANSON. Thank you, Senator Ricketts, for that question. I think underwhelmed is how I would characterize my response. I am not satisfied with what the staff sent us. They sent us an initial iteration that talked about the path to kind of get to 18 months. I understand there is some wonkiness to work out as we get the process going and we get applications. We probably have 10 or 12 of these in right now. There is always a little bit of a spike at the beginning of the process.

I think waiting 18 months to get to 18 months is, I think we need to sharpen our pencils in a pretty big way there.

One of the things that the road map didn't address was the number of hours. You mentioned affordability. We got a supplement, I believe Monday, that we have now released publicly on this that again didn't have a specific goal with the number of hours. I think we should have one.

We did the Clinton, that's a plant in Illinois, license renewal in about 17,000 hours. About 25 percent of where we were the last time I talked to you. We did a license renewal for a plant in Minnesota that was down to about 14,000 hours. I think we need to have aggressive but achievable goals in this area.

If I were going to put a thumb in the air, I might cause panic back at our headquarters in Rockville. I think getting in the range of 14,000 hours sounds about right. If we can do better, even better. I think given high quality inputs, given appropriate aging management plans, which is really what those license renewals are about, seems like a very achievable goal to me. I am going to be going back to the staff, working with my colleagues to move us in that direction.

Senator RICKETTS. I think the last time we had this conversation I talked a little about process improvement methodologies, like Lean Six Sigma. Can you talk a little bit about, have you made progress in getting more of those put in place, or where are you with that?

Mr. HANSON. Yes, we have. I can get back to you on the details of some of these. I am pleased that one of the aspects of the road map that came in was kind of a three-step to process improvements. The staff has really gathered the low-hanging fruit on some of that, particularly around project management reforms. They have two more of those to go, and they are going to pursue those. That is another area where we can, I think that is how we are going to get down to that 14,000, 15,000 hour benchmark. I will be watching that closely as well.

Senator RICKETTS. All right, great.

Mr. Chairman, if I may beg your indulgence for just one more question?

Senator CARPER. Yes, please.

Senator RICKETTS. Great, thanks.

One of the things during the Commission's consideration of a proposal for generic EISs, environmental impact statements, you support limiting the revised document to just one renewal period, from 60 to 80 years, instead of making it more broad. A site's environmental impacts are limited by the operation of a nuclear reactor in general. Any new environmental data would be covered in a required supplemental EIS.

It seems to me this is going to create more work for the NRC staff in future. What was your rationale for limiting the generic EIS to just one renewal period?

Mr. HANSON. One of the rationales was to get the rule out sooner than later. Revising that generic environmental impact statement was to fix a particular legal infirmity with regard to the word initial versus subsequent. Adding the extra term would have required additional analysis and would have delayed that. I thought, again, getting back to reliability and certainty, we needed to fix that issue and get it back out into the world, so that the people who were pursuing license renewals today for that 60 to 80 year period could use it as soon as possible. That was the big thing.

Then the other one was really that we weren't getting any signals from industry about the pursuit of 80 to 100 years, that that issue, both on the environmental side and the safety side should probably be considered down the road and based on specific interactions with licenses as they pursue that.

What I hope we will see is, we have a process to evaluate that generic impact statement every 10 years. As we get signals from the industry about their interest in that, then we can take up that issue, figure out what those impacts are and then move forward.

Senator RICKETTS. Great. Thank you very much. I know I am over my time. I appreciate it, Chairman. If we can followup on the process improvement methodology and how you have been implementing that, that would be great.

Mr. HANSON. Happy to.

Senator RICKETTS. Thanks, Mr. Chairman.

Senator CARPER. You are welcome. Thanks for those question.

Next, we are joined by Senator Padilla, twice, I think now. Second time is a charm. You will be followed by Senator Lummis.

Senator PADILLA. Thank you, Mr. Chairman. I want to start off by thanking you for your remarks about Senator Feinstein earlier in the hearing. As you know, she pulled no punches on issues important to California and Californians and our Nation. I appreciate that acknowledgement.

It is in that same spirit that I ask the following. When you live in California, it is not a matter of if, it is a matter of when we experience another major earthquake. That is why seismic safety was important to Senator Feinstein and is important to me and has always been important to political leaders in our State.

California is home to numerous dangerous fault lines, which can pose significant challenges and threats to the safety of buildings, infrastructure, including critical infrastructure and our energy infrastructure is no exception, particularly infrastructure that is intended to last decades without severe consequences of these types of challenges. Understandably, there are a lot of communities who have this concern, what is the seismic safety of nuclear power facilities among other things.

My question is this: can you speak to the standards that the Commission uses and the practices that are in place that are used to evaluate and manage seismic risks in nuclear facilities?

Mr. HANSON. Thank you, Senator, for the question. We apply a probabilistic analysis for this that takes into consideration all possible earthquakes in an area, of the magnitudes, the ground motion

acceleration, the source to site distances, the depths, et cetera. We take all of that information and combine it.

What we have found is that that probabilistic approach is more defensible kind of compared to the previous deterministic approach, which is to kind of assume one kind of earthquake for a particular site. Then we are really incorporating the full panoply of information that we have.

What we really want to do is, we want to make sure the plant is protected from a ground motion kind of acceleration frequency, basically of anywhere from 1 to 10,000 to 1 to 100,000 years, which is consistent with our overall approach to reactor safety, to make sure that the systems and structures and components and the additional equipment that licensees installed after Fukushima is adequate then to address that wide range of seismic scenarios.

Senator PADILLA. I think the bottom line question is, can you commit, here publicly and on the record, to upholding the highest standards of seismic safety, to ensure that communities around these facilities are safe in the event of incident?

Mr. HANSON. Absolutely. I would note that, Diablo Canyon, that the plant today is meeting those standards and is operating safely.

Senator PADILLA. Speaking of Diablo Canyon, as you know, the Diablo Canyon facility in California is currently undergoing a relicensing process. One of the major issues that has arisen around Diablo Canyon and the continued operation is the possible embrittlement of Unit 1. How does the NRC currently evaluate embrittlement and what is the acceptance criteria?

Mr. HANSON. Thank you for that, Senator. In each reactor, there is insertion of, we call it a coupon, but basically a strip of metal that is made of exactly the same material as the reactor vessel itself. We require licensees to take that strip of metal out occasionally, we cut a piece off and we send it for analysis and testing to basically get an overall sense of what is going on inside the reactor.

We make sure that coupon is actually placed in a very conservative spot within the reactor itself. That is, it is exposed, in many cases, to more neutrons than probably the reactor vessel itself, in order to bound that analysis. We have prescriptive equations and acceptance criteria within regulation, and we require our licensees to validate that and show how they are meeting those requirements.

The next coupon withdrawal at Diablo is going to be in the spring of 2025. That will be time then to allow the licensee to look at that coupon, analyze it, and then get that data into our licensing reviews. Currently, based on the last analysis, we fully expected the reactor vessel to meet safety criteria well into the 2030's.

Senator PADILLA. Thank you very much. I look forward to working with you to stay on top of this one.

Mr. HANSON. Absolutely.

Senator PADILLA. Thank you, Mr. Chair.

Senator CARPER. Senator Padilla, thanks for coming. As a former resident of California, I understand full well your concerns, and those oftentimes were shared with us by Diane Feinstein when she was one of our colleagues.

Speaking of one of our colleagues, another one has just passed away, former Governor, former U.S. Senator from Florida, Bob

Graham. His death was reported last night. What a wonderful human being and great leader in Florida, and a great leader here. We celebrate his life, and mourn his passing.

Senator Lummis?

Senator LUMMIS. Thank you, Mr. Chairman. Thank you for stopping by and visiting with the kids from Cheyenne South High School yesterday. They loved meeting you.

Senator CARPER. Was that fun or what?

Senator LUMMIS. It was great fun. I really appreciate it.

Senator CARPER. They were probably pretty amazed to see that Democrats and Republicans actually like each other.

Senator LUMMIS. It was very cool. Your bury the hatchet story was awesome.

Senator CARPER. Thank you. In some States, in New Jersey, they would say breaking the back of the neck of their opponents. In Delaware, we actually do bury the hatchet in a civil kind of way.

[Laughter.]

Senator LUMMIS. In sand, which is far less messy.

Thanks, Chairman Hanson. Thanks for coming in yesterday as well to meet with me.

I mentioned that I would probably be following up with you today about Wyoming's uranium and the need to remediate other abandoned uranium sites in Wyoming and elsewhere. I think this needs to be done in a timely manner, and the latest technologies that will require forward thinking at the NRC. It is just going to be necessary to approve them.

I know you mentioned yesterday that you would like to find ways to accommodate innovative solutions. I want to visit again with you about high pressure slurry ablation. This option is really not new to you. The Commission has had 10 months to evaluate the vote notation paper and the technology was something you were aware of before that. It is really not a novel approach anymore.

I am trying to understand further the hesitation at the NRC. The EPA evaluated the technology and the Navajo Nation, joined by the Governors of Arizona and New Mexico, are eager to move forward with addressing abandoned uranium mines. My Senate colleagues from Wyoming, Arizona, Utah and West Virginia joined in my letter to you last month. Our response was a little bit like gee, got your letter, cream of wheat, compared to a nice breakfast taco.

In our meeting, you mentioned a study involving that technology that showed different results at different sites. If you are referring to the USEPA treatability study, I want to raise some of their conclusions. Waste rock material, treated with the ablation technology, had up to a 98 percent reduction in the concentration of uranium and up to a 93.5 reduction in the concentration of radium 226.

On average, ablation was able to remove over 90 percent of the uranium and radium 226 contaminants from numerous sites and samples tested. Treated materials met water quality standards, so materials could be disposed of onsite without concerns for surface water and groundwater.

These success rates above 90 percent sound to me like really welcome outcomes, even if they might differ a little bit by location. It would be a huge improvement over the existing condition on the ground.

A couple of questions. First, do you agree that the cleanup of abandoned uranium mines is an urgent environmental priority?

Mr. HANSON. Yes, Senator.

Senator LUMMIS. Can you offer me any assurances today that the Commission will prioritize a pathway for adopting an EPA validated remediation technology for AUM, Abandoned Uranium Mines, cleanup?

Mr. HANSON. We will prioritize this. This has been a subject of ongoing conversation within the Commission and I remain committed to working with my colleagues to reach a resolution here.

As I said yesterday, I do not want us to be the impediment to the implementation of a technology that clearly has an environmental benefit, particularly for Native American communities. We have to figure out how to do that under the existing provisions of the law, and we talked yesterday about kind of a case by case or a site specific solution versus a device solution.

I want to mention the conversations that we are having with the Environmental Protection Agency and the potential application of this technology under the Superfund law.

Senator LUMMIS. I want to just say, that makes me a little nervous. That just seems like a good way to stall. That is a great tool for kicking the can down the road.

I want to call your attention to, again, Option 2(b). I think that is the best option. I hope you will give it your thorough and diligent review and consideration. May I once again ask you to revisit Option 2(b) and just give it a thorough ablation?

[Laughter.]

Mr. HANSON. I promise to take a close look at it, Senator. I am hoping we can find a specific approach to this to move forward, maybe as a pilot project in some way, rather than potentially a universal solution. I understand and appreciate your concerns on this.

Senator LUMMIS. I really feel like sometimes the perfect is the enemy of the good here. A solution that gives you a 90 percent remediation rate over where we are now is a really good solution in my opinion.

Mr. Chairman, I have another question, but I am out of time.

Senator CARPER. Go ahead. Just briefly if you will.

Senator LUMMIS. OK, thanks. This is with regard to microreactor technology and Wyoming trona. As we talked about in our meeting, we are interested in the BWXT critical work to produce fuel in reactor cores for the U.S. Navy. Does the NRC have the ability to license a single design once and not have to go back to the beginning of the review process each time that reactor design is going to be deployed, even if it is just a few miles away?

Mr. HANSON. We have regulations for that where you can get a design kind of preapproved, and then apply for a license basically for site-specific types of issues and operations. You can have preapproved designs and then deploy that in multiple places under our regulations today.

Senator LUMMIS. I know I am out of time, Mr. Chairman. I may want to submit some more questions for the record that are specific to microreactor technologies and Wyoming trona.

I really do appreciate the time we had together yesterday and again today. Thank you, Mr. Hanson, and thanks, Mr. Chairman.

Senator CARPER. Just make sure that when you receive those questions for the record that you respond in a timely way.

Mr. HANSON. Of course.

Senator CARPER. Thanks. Our next Senator is a Senator who knows a thing or two about nuclear energy. I am delighted he is a member of this committee. Senator Kelly, you are recognized.

Senator KELLY. Thank you, Mr. Chairman. Mr. Hanson, I want to followup on Senator Lummis' questions about abandoned uranium mines and the high pressure slurry ablation option for clean-up. She highlighted how this produces upwards of 90 percent removal of hazardous waste at sites. We have 500 abandoned uranium mines in Arizona on the Navajo Nation that have waited and waited and waited to be cleaned up. The health effects to the Navajo people are substantial.

You mentioned that you want to reach a resolution on this, that this clearly has an environmental benefit. You want to do it under existing provisions of the law. Senator Lummis referenced Option 2(b), which is licensing the technology.

Mr. Hanson, what progress has the NRC made specifically in licensing the technology? What are the steps to get it licensed? How many steps have been completed? What remains to be done?

Mr. HANSON. Thank you, Senator. This license, this technology could be licensed today under our existing regulations, but we do not have an application in front of us from a company for this. The paper that is in front of us is about the overall approach to how we might do this forward and the options that the staff has provided us, you mentioned Option 2(b), which is really technology specific, where we license the technology and then allow it to be deployed in multiple locations.

The staff's recommendation on that was, because of, even with the significant environmental reduction in harm that you and Senator Lummis mentioned that there is still a need to go back and double check that on the site and monitor that. That is kind of how that case by case basis would be. Yet that is potentially, we would want to figure out for the serial application at multiple sites of this how to kind of figure out and do that efficiently.

In light of that, the EPA feasibility report was very helpful. We knew that was coming, and I think a number of us on the Commission were saying, OK, well, let's kind of see where that comes in. There were some differences, you are right, and often cases, Senator Lummis, you are absolutely correct, that there were reductions in the radioactive constituents there. Yet there were also some differential outcomes about whether or not it met the residential radiation standard, which the Navajo Nation, Navajo EPA adhere to.

If I could, Chairman Carper pointed out, I led the Commission in holding the first Commission meeting outside of Washington, DC. in over 40 years. We did that on the Navajo Nation, and we visited with their Red Water Pond community and I held a public meeting in Gallup. I heard firsthand and got to see firsthand the environmental legacy of these over 500 uranium mine and mill tailing sites. I do not want the agency to be an impediment to the timely application of this.

That is why we are working through this paper and we are working with the Environmental Protection Agency to figure out, hey,

can we do a pilot project here in partnership with the Navajo to test out the technology, test out our regulations, develop the efficiency around this, et cetera, so that we can move forward.

Senator KELLY. If the company submitted an application for a license, how long do you think it would take to be approved?

Mr. HANSON. I would have to get back to you on the record on that. I really would hesitate, I find our regulations in this area pretty efficient. I think we would just want to know, again, followup on the how are we going to verify on a site by site basis that we are achieving the results that are intended through that technology.

Senator KELLY. If you did a pilot program with this technology, any sense for how long it would take to get to a point where you could make a decision to expand the pilot program across the mines that require cleanup in the States of Arizona and Wyoming?

Mr. HANSON. I would hesitate to speculate on that at the moment. I would be happy to go back and ask the NRC staff and consult with EPA about something like that. Hopefully I can provide you a clearer answer for the record.

Senator KELLY. Could you get an answer? We could probably make a request or communicate that to the company to say, hey, if you submit an application, we might get it licensed. You start with a pilot program at one mine, and we will see what the results are and then expand it.

Mr. HANSON. If I could, Senator, I think one of the benefits of something like that, of an approach where it is selected as the remedial technology under the Superfund law is that EPA would be overseeing that and would be making sure at those individual sites on the Navajo Nation that the technology was working as intended. That is why I think that conversation that is just getting started between the NRC and EPA is so important.

Senator KELLY. Thank you. Thank you, Mr. Chairman.

Senator CARPER. Thanks so much. Thanks for those questions and for being here today.

I am going to start a second round of questions and be followed by Senator Capito. I had the privilege of joining her in support of legislation called the ADVANCE Act, as you know, and others of our colleagues, Senator Whitehouse has been very much involved in that as well. I want to say thanks to our staffs, both on the Democratic and Republican side, on this, the progress that has been made.

I want to ask, the legislation supports the NRC in a variety of ways, by among other things providing needed support and direction to improve the agency's readiness for advanced reactor licensing.

Would you take a couple of minutes for us today to share your thoughts on the ADVANCE Act? Are there provisions in the bill that you think are especially helpful to the work of the NRC? Are there some provisions that are unhelpful to the work of the NRC? We will not be offended if you say there are. We look forward to your just being candid with us. Go ahead.

Mr. HANSON. Mr. Chairman, thank you for the question, and thank you for your leadership and Senator Capito for her leadership, Senator Whitehouse and others, who have really come to-

gether and put together what I think is a very beneficial piece of legislation that could be very beneficial to the agency going forward.

I will start with the provisions with regard to our ability to recruit and retain talent. The nuclear work force, there is a huge amount of competition for talent in the nuclear space right now. The NRC is in the middle of that. Having things like expanded direct hire authority and the ability to pay folks a little bit more and get some flexibility on compensation is absolutely critical.

I go out and I sell the mission, the importance of the mission, the importance of public service, of serving your country in this really important way in this important time. Having these tools behind the scenes when we try to bring people in the door is absolutely critical. I very much appreciate that.

I also want to express appreciation for the flexibility around some of the budget issues, reclassifying some of the costs that we have, whether it is in the Commission or whether some of the real eState costs and other kinds of things that we have will, I think, help streamline and improve the reliability, I hope, and the predictability of our budget going forward.

As I mentioned to Senate Whitehouse, the coal-to-nuclear, the Brownfields Site provision I think is also important and very helpful. Like I said, I would really like to get an application in the door to prove out how we can do that in an efficient and timely way while upholding our standards for one of these sites.

I will just mention two more, if I could. The Foreign Ownership Control and Domination (FOCD) provision and the potential for investment on the part of our allies in the United States in this sector, I think we have seen since the invasion of Ukraine the importance of like-minded nations coming together around all parts of the fuel cycle to work together. Various nations have strengths in various areas, whether it is enrichment or fuel fabrication or reactor technology or whatever.

These nations working together to replace and compete against Russia in this space I think is more critical than ever. I think the FOCD provisions in that law could play an important role.

Finally, just the recognition of our international efforts within the agency. I saw that as an exclamation point on the good work that our folks in the Office of International Programs are already doing, and I appreciate it very much.

Senator CARPER. Thanks for that response.

Senator Capito has rejoined us. I am going to yield to her and once she asked whatever questions she has in mind, I will ask a couple more questions. I think Senator Markey may be joining us as well. There are a lot of committees meeting today. I am very pleased by the attendance, but people are coming and going, as you can tell.

Senator Capito?

Senator CAPITO. Thank you. Good to be back. Sorry for my absence there.

I am going to kind of read a statement. I just want to get your commitment that I have this right. It is sort of dealing with some of the things you said previously when I was out of the room.

In response to direction from the Commission, last week the NRC staff released a road map to improve the NRC's review of subsequent license renewal applications. The road map's goal with respect to timeliness, cost, and number of applications in review are insufficient.

I would like a commitment from you, Chair Hanson, that you will direct the staff, utilizing the chairman's authority to directly supervise the staff, to update the road map to achieve an 18 month review schedule, with 14,000 staff hours to complete the review and capacity to review up to 12 applications at a time. Staff should be prepared to achieve these goals by the end of this calendar year.

Is that basically what you said to, I think Senator Ricketts' questioning?

Mr. HANSON. I do not know about the 12 applications at a time, Senator. I am not trying to walk that back, I just want to understand from the staff better what their actual capacity is and what a reasonable stretch goal would be in that area. I want them to understand better that the road map needs, that I am not satisfied with the road map and that we need to do better.

Certainly I did say 14,000 hours. Again, that seems like a reasonable goal to me. I think that is something we should shoot for.

Again, getting to 18 months before 18 months is also something that I think we should, and that I will be engaging with the staff directly on.

Senator CAPITO. Thank you. Just a quick question on the mandatory hearing. You mentioned this in my statement, we talked about it in my office. It adds about 6 months to the review and millions of dollars to regulatory costs.

Previous Commissions have requested that Congress remove this requirement. Yesterday, the Commission released a memo drafted by your general counsel at your request that identified options to administratively streamline this mandatory hearing.

Do you agree that even with administrative changes to streamline the process the mandatory hearing is still statutorily required and Congress would need to eliminate that requirement from the law? Do you agree with previous Commissions' recommendations to do that?

Mr. HANSON. Yes, ma'am. The requirement in the Atomic Energy Act still stands. We have had flexibilities on this. The process that we have used for a long time was really about large light water reactors that were, all of which, as we know in this Country, turned out to be pretty unique. I think given the serial deployment and the standardized designs that we are going to see, we have an opportunity really reform that process. Maintain the public communication portions, but really streamline that.

Senator CAPITO. Yes, I do not interpret that as an effort to eliminate any public hearings or public communications. That is not the interpretation I would have.

I have 2 minutes left. I would say, if we are sitting here 5 years from now and you could say that you had achieved two things in the 5-years that you really wanted to achieve as a re-nominated and re-confirmed chair, what would those two things be?

Mr. HANSON. I would say repeatability on licensing reviews for new technologies to show again and again that we can take these

new technologies and we can tackle them, we can evaluate the safety and get back to our licensees very expeditiously. I think that would be the first one.

The second would be closely aligned to it, and I think that is making progress on microreactors in the agency as well, and charting the path for that. Again, these are things that could potentially come out of factories. Being able to either license the factory itself as well as potentially check the thing that is coming out of that factory I think is going to be really important.

Senator Lummis, of course, is interested in trona mining, but in it for a lot of other locations as well, oil and gas production, et cetera. I think proving that out, working with the Congress on any changes that we need to make that happen to the Atomic Energy Act I think will also be really important.

Senator CAPITO. The other thing I would say, and thank you for those, one thing that is repeatedly coming into the mix is not right, it is not your regulatory responsibility, but it does weigh into the timeliness of being able to move forward, is permitting. The length of time, the money, the people that walk away from trying to get things permitted, no matter what type of energy production it is, is really slowing us down. I would hope we can use your expertise and work together to try to figure out the best way, we have been talking, the Chairman and I have, to make some strides in the permitting process.

Thank you very much for coming. Thank all of you for being here.

Mr. HANSON. Thank you.

Senator CARPER. Thank you, Senator Capito.

Maybe my last question, I have at least one more question, dealing with public trust and transparency. We have already talked a little about that. I want to focus on it a bit more, if we could. Building and maintaining public trust is at the core of the NRC's mission to ensure that the benefits of nuclear technology are used safely. This trust is especially important for communities who host operating or decommissioning nuclear power plants, spent nuclear fuel and other nuclear materials.

Also because much of the NRC's work is highly technical, it can oftentimes be inaccessible to members of the public seeking to better understand the agency's decision. My question is, will you please take a minute or two to describe for us how you work, how you and your colleagues work, to maintain or increase public confidence and transparency in the NRC's decisionmaking and regulatory processes?

Mr. HANSON. Thank you, Senator. I agree, this is absolutely critical to our mission. If we for whatever reason lose the public's trust, we are not fulfilling our mission. Not only trust, but also the confidence. A key part of that is explaining in plain language how we do our work and how and why we reach our conclusions.

We communicate a lot; we hold almost all of our meetings with licensees and on licensing matters out and open to the public. In fact, there is a big public meeting tonight about the Palisades plant and the effort to bring that back, with over, I think, 300 people registered at this point, where we are going to be outlining our proc-

esses. I continue to direct and encourage the NRC staff in this regard.

I remember being up at Indian Point outside New York City and that decommissioning reactor a few years ago. I had the opportunity to meet with representatives from the State of New York and others. They said, well, we have a decommissioning oversight board meeting coming up. Do you think you could come and participate? I said, yes, why wouldn't we, of course we will.

Since then, we have been to at least half a dozen of those. That was probably 18 months or more. I was absolutely happy to commit to things like that. I think it is critically important, where we are out in the community and explaining in plain terms our rules, our standards, and how we are upholding those.

I continue to be focused on this. I try to make myself available to community groups and external stakeholders whenever I can.

Senator CARPER. All right.

Senator Markey is trying to join us. I am going to ask one other question until he arrives. The question is, sometimes I ask this if we have time in a hearing, I like this question. Is there a question you wish you had been asked that you have not been asked? If there is, what would that question be?

Mr. HANSON. Perhaps about our international work.

Senator CARPER. Go ahead.

Mr. HANSON. The importance of that on the world stage, for long-standing partners as well as emerging nations. One of the greatest honors and privileges of this position, Senator, and if confirmed, I sincerely hope to continue, is to represent the Country with my regulatory counterparts around the world. There are numerous countries who want to work with the United States and who are pursuing nuclear energy for the first time for national security, economic security, economic development, human health, et cetera.

It is to go and work with those nations in places like Poland the Philippines and Romania and others, and not just talk about the technical work that we have done, about a particular technology, but talk about our overall approach, about the transparency, how we engage the public, the importance of an independent regulatory body outside of the policy apparatus in a particular country. It is really one of many, many rewarding aspects of our position, of my position and the work of the Commission.

Senator CARPER. That is good. I will ask you one more quick question. I think it was Mark Twain who used to say that the most important days of our life are one, the day we are born, and two, the day we figure out why. When did you figure out this was why, at least in part, you were born?

Mr. HANSON. This role? I do not know if I was born for it or not, Senator. Hopefully, I have earned it over time, and hopefully, I continue to earn the trust and respect of the incredibly dedicated public servants at the NRC as well as the American people.

Senator CARPER. Thank you.

Senator Markey, we are delighted to see you.

Senator MARKEY. I was born and then I figured out why. It was to be the centerfielder for the Red Sox. Then I needed a backup plan after Dickie Timmons [phonetically] could throw a fastball 87 miles an hour. I had a backup plan, and that is what this is.

Ultimately, maybe I can become major league commissioner, baseball commissioner. It could still come out.

Chairman Hanson, the House passed a nuclear energy package known as the Atomic Energy Advancement Act, which would alter the mission of the NRC to promote nuclear energy in the United States and would promote the export of emerging nuclear technology. That bill passed the House. To have our Nation's nuclear safety expert take on a second job as a promoter for nuclear technologies would be like having the EPA moonlight as a chemical distributor. You can not focus on safety if you are also focused on sales.

Again, that is why the Nuclear Regulatory Commission was created, to break it off from the Atomic Energy Commission, which was a promotor and a regulator. It was to set up a separate agency which would just focus on the regulation of these plants to make sure they are safe in the communities in which they are in. That is when I joined the committee, 48 years ago, the Nuclear Committee. It was right after the NRC was created for that purpose.

Chairman Hanson, do you agree that the mission and duty of the Nuclear Regulatory Commission is to act as a regulator, not as a facilitator of nuclear energy in this Country and around the world?

Mr. HANSON. Senator, it is our job to act as a regulator. One of the messages, there has been a lot of conversation in both the House and Senate and other places about the mission of the NRC. What I really take away from that is I think Congress wants us to feel the urgency of the moment. It might be fair to say that they do not want us to inhibit the safe and secure use of nuclear power. We have gotten that message.

Again, the emphasis there in terms of our standards is on the safe and secure use. We have to make those decisions.

Senator MARKEY. You agree that safety standards can not change, so that it is easier to promote sales of the power plants.

Mr. HANSON. I do not think we should change our standards for the sake of promoting sales. I think we need to revisit our standards on occasion to make sure that we are focusing on the most safety significant things.

Senator MARKEY. OK. The Nuclear Regulatory Commission staff recently sent you their final rule on decommissioning. This draft final rule comes nearly 10 years since the Commission first voted to initiate it. It is critical that we have the strongest necessary safeguards and security guardrails for the decommissioning process. Just because the risks are lower than operating facilities does not mean there are no risks at all.

I am very worried that this rule which regulates by rubber stamping requests to be exempted from the NRC's rules by operating plants does not consider how safety considerations might be altered, not ended, during decommissioning.

Chairman Hanson, do you agree that radiological risks continue to exist after a nuclear facility begins to decommission?

Mr. HANSON. They do exist, but at a much lower level than an operating reactor.

Senator MARKEY. They do exist?

Mr. HANSON. They do exist.

Senator MARKEY. They do have to continually be monitored by the NRC to make sure those risks do not spread into those communities that surround a nuclear power plant as it is being decommissioned?

Mr. HANSON. That is right. They do continue to need to be monitored, and we need to make sure that the decommissioning facilities are meeting our standards.

Senator MARKEY. Chairman Hanson, does the decommissioning rule address FEMA's concerns that it phases out radiological emergency planning before all spent fuel is stored in dry casks?

Mr. HANSON. I would have to get back to you for the record. I am not 100 percent sure of FEMA's specific concern on this. I know we have had a number of interactions and engagements with them on this. It has been a longstanding practice of the NRC to allow for the exemption from the emergency planning zone prior to the removal of all the spent fuel from the pool because of the significantly reduced radiological risk.

Senator MARKEY. Yes, so we need that response back in writing to my office, to the committee, just balancing FEMA's concerns against NRC's actions.

Then, plants, Mr. Chairman, should not be able to walk away from safety planning after benefiting from community support for years, and communities have a right to know how their health and safety could be affected during the decommissioning process. The decommissioning of Plymouth's Pilgrim Nuclear Power Plant serves as a strong example. Community members have been repeatedly blindsided by Holtec's plans to release radioactive water from Pilgrim's spent fuel pools into Cape Cod Bay or to evaporate that radioactive water into the air above their homes.

As written, the final rule does not include approval of licensees post-shutdown decommissioning activities, reports which would prompt meaningful public engagement and new environmental reviews, before the decommissioning process, giving communities an opportunity to weigh in.

Chairman Hanson, do you believe that the NRC can do better in its efforts to enable public engagement before enduring decommissioning process?

Mr. HANSON. Senator, I spoke to the Chairman about how important it is for the NRC to be out and engage with the public regularly and in plain language about our standards and our processes, and how we are monitoring and holding licensees accountable.

Senator MARKEY. Yes. We need transparency, Mr. Chairman, we need the public to be able to understand what is happening in their communities with regard especially to those already existing power plants. This month, Mr. Chairman, the Government Accountability Office released a report on how the Nuclear Regulatory Commission is failing to address climate-fueled risks to nuclear facilities.

The threat is clear. All 75 operating and shut down U.S. nuclear power plants will face climate-fueled heat, drought, or wildfire risks. Nearly two-thirds of plants are located in areas with exposure to Category 4 and Category 5 hurricane storm surge or high flood hazard.

As we saw over 10 years in Fukushima, extreme weather events can wreak havoc and devastation on communities surrounding nu-

clear facilities. Addressing climate risks before they become reality can save countless lives.

Chairman Hanson, do you agree that the Nuclear Regulatory Commission licensing and oversight processes should consider the threat of climate change fueled extreme weather on nuclear facilities?

Mr. HANSON. Senator, a couple of things. First of all, the existing fleet of nuclear reactors, everywhere in the United States, are operating safely. They are incredibly resilient to natural hazards, including severe storm events, seismic events, et cetera. We do consider climate change impacts. We have a way of assessing and incorporating information about natural hazards on an ongoing basis. We certainly agreed, up front, with the GAO recommendation that we can evaluate how we are incorporating climate change modeling and projections into our licensing processes.

I can tell you that the natural hazards that are out there and at least in the foreseeable future are being incorporated into plant design bases, and those plants are operating safely and within that bases.

Senator MARKEY. OK, well, again, the public is very concerned about these climate-related issues. A lot of them are built along rivers, on oceans, to use that water as the basis for cooling the plant.

I would just say that we are heading into a catastrophic period of time right now in terms of the climate change impacts near these nuclear power plants. I guess what I would say, and this just follows up on your earlier answer—

Senator CARPER. Senator Markey, I need to leave and go vote at another committee. Go right ahead.

Senator MARKEY. Just a few seconds. This communication can not be one-sided. It just can not be the NRC telling communities. It should also listen to communities and respond to communities' concerns as well. That is in response to my last question but also this one as well. People are asking legitimate questions.

We are in the process of hardening down the seaport of Boston against climate change. What is the plan for nuclear power plants?

Thank you, Mr. Chairman, and I have a question on radioactive waste burial that I would ask for you to respond to in writing.

Senator CARPER. Thanks so much for joining us today.

In closing, I want to thank you, Chairman Hanson, for appearing before us today, to remind us all that the NRC is a vitally important agency in our fight to reduce greenhouse gas emissions and to help maintain the reliability of the grid. To Senator Markey's point about the threat that climate change poses to our nuclear power plants, there is a nuclear power plant, two of them, actually, on the other side of the Delaware River not far from where I live, my family and I live. Actually, with sea level rise, there is great awareness and concern relating to that.

We are depending on the NRC to ensure that the continued development and use of nuclear power is safe and secure. The NRC needs strong leadership, and I have confidence that you can provide the agency that kind of leadership during this challenging time.

We thank you for your testimony today. We look forward to the committee's consideration of your nomination in the closing weeks.

Before we adjourn, some housekeeping. First, I want to ask unanimous consent to submit into the record a variety of materials relating to today's hearing, including several letters of support for Chairman Hanson's nomination. Without objection, so ordered.

[The referenced information follows:]



Generation Atomic
1878 Pascal Street
Saint Paul, MN 55113

The Honorable Tom Carper
Chairman
U.S. Senate Committee on Environment
and Public Works

The Honorable Shelley Moore Capito
Ranking Member
U.S. Senate Committee on Environment

April 30th, 2023

Dear Chairman Carper and Ranking Member Capito:

Generation Atomic, a non-profit organization dedicated to promoting the safe and effective use of nuclear energy, expresses our strong support for the renomination of Christopher T. Hanson as Chairman of the U.S. Nuclear Regulatory Commission (NRC).

Since his appointment as Chairman in 2021, Mr. Hanson has demonstrated exceptional leadership and a clear vision for the future of nuclear energy regulation. His commitment to modernizing the NRC's approach to regulating advanced nuclear technologies has been instrumental in preparing the agency for the challenges and opportunities ahead. We believe his continued leadership is crucial for the NRC to effectively carry out its mission of protecting public health and safety while enabling the deployment of innovative nuclear technologies.

One of the most notable achievements under Mr. Hanson's tenure has been the issuance of the NRC's first design certification for a small modular reactor. This milestone demonstrates the NRC's ability to adapt to the evolving nuclear energy landscape and paves the way for the deployment of these innovative technologies.

We also commend Mr. Hanson's commitment to engaging with stakeholders and the public. His decision to hold a Commission meeting in New Mexico, where he engaged with the Navajo Nation to discuss important issues, demonstrates his willingness to listen to and address the concerns of communities affected by nuclear activities. This type of proactive engagement is essential for building

public trust and confidence in the NRC's regulatory processes, and is particularly relevant when considering the use of innovative technologies, such as Disa's High-Pressure Slurry Ablation (HPSA), to remediate orphaned uranium tailings piles on Navajo lands.

While the regulation of HPSA technology presents legal complexities due to the Uranium Mill Tailings Radiation Control Act (UMTRCA), we believe Chair Hanson will pragmatically evaluate the spirit of the regulations (to protect the public) when making decisions on such promising technologies, balancing the need to maintain the integrity of UMTRCA with the benefits of remediating legacy contamination sites and protecting the health of affected communities.

In conclusion, Generation Atomic strongly supports the renomination of Christopher T. Hanson as Chairman of the NRC. His leadership, vision, and commitment to public engagement make him well-suited to guide the agency through the challenges and opportunities presented by the resurgence of nuclear energy in the United States and around the world.

We urge the Committee to swiftly confirm Chair Hanson for another term, ensuring the NRC remains under capable leadership as it works to regulate the safe and secure use of nuclear technology.

Sincerely,

A handwritten signature in black ink, appearing to read "Eric Meyer", with a stylized, flowing script.

Eric Meyer
Executive Director
Generation Atomic



April 17, 2024

The Honorable Tom Carper
Chairman
U.S. Senate Committee on Environment
and Public Works

The Honorable Shelley Moore Capito
Ranking Member
U.S. Senate Committee on Environment
and Public Works

Dear Chairman Carper and Ranking Member Capito:

Good Energy Collective supports the reconfirmation of U.S. Nuclear Regulatory Commission Chairman Christopher T. Hanson to a second five-year term.

As a women-led nuclear policy organization, Good Energy Collective reimagines how nuclear energy can support a community-led, low-carbon energy future. Realizing this vision requires leaders throughout the nuclear ecosystem who recognize both the value of nuclear energy and the necessity of earning and maintaining public confidence in nuclear technology.

Mr. Hanson is this type of leader. As chairman since 2021, Mr. Hanson has capably and accountably carried forward the NRC's safety-driven mission. Under his leadership, the agency has issued its first design certification of a small modular reactor and the safety evaluation report for an advanced nuclear test reactor. These achievements are significant feats for the NRC. Only in the last few years has the NRC, spurred by direction from Congress and by increased interest and investment in advanced reactors, engaged productively with the developer community and attended to the review of advanced reactor licenses and permits. Mr. Hanson has shown his effectiveness in ensuring NRC staff can meet the scaling demands on their time.

We are further impressed with Mr. Hanson's square focus on strengthening the agency's relationships with its international counterparts in Canada and abroad. The climate challenge is global, and Mr. Hanson has spearheaded NRC's activities in support of U.S. allies as they establish or enhance nuclear regulatory agencies that can enable the safe,

secure, and efficient use of civil nuclear technology to generate electricity without emissions.

Good Energy Collective particularly appreciates Mr. Hanson's recognition of the importance of clear and frequent communication within the NRC and throughout the agency's external-facing activities. He has emphasized that the agency's diversity is an asset and has elevated the agency's team-building initiatives. He has overseen an internal assessment of the NRC's approach to environmental justice to identify options for improving the agency's responsiveness to overburdened and underserved communities around the country. And he has considered actions that would focus and improve the agency's engagements with the public.

The use of nuclear energy is technically viable and sociotechnically challenging. True leaders in nuclear energy address this challenge head-on. They work to earn confidence in nuclear systems by involving, engaging, and listening to the public before, during, and after operation. We are confident that Mr. Hanson recognizes this challenge and will continue to work toward durable regulatory decisions on the Commission.

We urge the Committee to ensure that the NRC remains in competent hands and to vote expeditiously in support of Mr. Hanson's reconfirmation.

Sincerely,

A handwritten signature in black ink, appearing to read 'JAT', with a stylized flourish extending from the 'J'.

Jackie Toth
Managing Director of Policy and External Affairs
Good Energy Collective

FUSION



INDUSTRY ASSOCIATION

Fusion Industry Association
800 Maine Ave SW
Suite 223
Washington, DC 20024

April 18, 2024

The Honorable Tom Carper
Chairman
Committee on Environment and Public Works
410 Dirksen Senate Office Building
Washington, DC 20510

The Honorable Shelley Moore Capito
Ranking Member
Committee on Environment and Public Works
456 Dirksen Senate Office Building
Washington, DC 20510

Dear Chairman Carper and Ranking Member Capito,

I'm writing on behalf of the Fusion Industry Association (FIA), whose 37 members are commercializing fusion energy. The FIA is the voice of the private fusion industry. As you know, on April 14, 2023 the Nuclear Regulatory Commission (NRC) voted unanimously to regulate commercial fusion under a 10 CFR Part 30 approach, building on the agency's existing process for licensing the use of byproduct materials. As the Commission noted in announcing its decision, "Dozens of companies are developing pilot-scale commercial fusion designs, and while the technology's precise future in the United States is uncertain, the agency should provide as much regulatory certainty as possible given what we know today. Licensing near-term fusion energy systems under a byproduct material framework will protect public health and safety with a technology-neutral, scalable regulatory approach."

The Commission's vote last year was a key milestone in what is now more than three years of engagement and analysis for how best to regulate and license commercial fusion facilities. FIA would like to commend the NRC staff and the Commissioners themselves on their openness and engagement with FIA and other fusion stakeholders throughout this process. The open process

succeeded in building a better understanding in the NRC and in the public of the technical issues and hazards presented by fusion and how they are more like particle accelerators than like nuclear fission plants. FIA appreciates the willingness of staff to engage with industry and stakeholders on these issues.

The process the Commission ran to come to this conclusion was as important as the outcomes. They followed the science, engaged with a broad universe of stakeholders, asked tough questions, and came to a decision that is protective of public health and safety while providing industry with the certainty it needs to develop here in the US.

As part of that process, we would especially like to thank the Commissioners and their staff who worked diligently to understand fusion energy technology, industry's planned machines, and our commercialization timelines.

The FIA strives to be a non-partisan, policy-oriented association. For that reason, we were pleased that the vote was bipartisan. The FIA notes that the President has nominated Christopher Hanson for another five-year term on the Commission. Chairman Hanson was a constructive leader in the NRC's deliberations on how to regulate commercial fusion.

Chairman Hanson's openness to finding the appropriate regulatory approach to fusion will provide our industry with the regulatory certainty we need at an important time when many fusion companies are in the process of demonstrating their proof of concept machines and siting their first commercial fusion power plants. As such, we support his confirmation by the US Senate to a second term on the Commission.

We appreciate this Committee's commitment to commercial fusion and look forward to working with you on these issues now and in the future.

Sincerely,



Andrew Holland
Chief Executive Officer
Fusion Industry Association



April 29, 2024

The Honorable Tom Carper, Chairman
 The Honorable Shelley Moore Capito, Ranking Member
 Committee on Environment and Public Works (EPW)
 410 Dirksen Senate Office Building
 Washington, DC 20510

Dear Chairman Carper and Ranking Member Capito:

We are in a period of unprecedented bipartisan and bicameral support for nuclear energy. There is a broad consensus among policymakers, analysts, and advocates that the safe and secure expansion of nuclear deployment will be vital to our climate, energy security, commercial, and national security interests. The key question at hand is whether the United States acts with the clarity necessary to ensure a flourishing domestic nuclear sector, with the ultimate goal of advancing the nation's energy security and climate future.

Stable and capable leadership in the U.S. Nuclear Regulatory Commission (NRC) is urgently needed to lead the country to this future. To foster continued growth in and strong stewardship of American nuclear energy, Third Way strongly supports the renomination of Chair Christopher T. Hanson and encourages the Senate to proceed with the confirmation process as quickly as possible.

Chair Hanson has led the NRC during a transformative period. Through his leadership, the agency has made strides in developing a new licensing framework for US advanced nuclear technologies, reviewing pathways and opportunities to enhance licensing efficiency, and working with existing nuclear operators to preserve the US nuclear fleet as long as technically feasible.

The work Chair Hanson has led must continue. Before the end of this year, several advanced nuclear developers are planning to submit applications for innovative reactor designs. We will soon also witness important milestones in the buildout of domestic nuclear fuel infrastructure and rulemakings related to advanced reactor licensing, physical security, and environmental reviews. In the midst of these important developments for US nuclear energy, continuity of leadership and vision at the commission level is essential.

We thank you for the opportunity to weigh in on this pressing matter before the Committee on Environment and Public Works (EPW), and thank both the Chairman and Ranking Member of the committee for their tireless work and support on these issues.

Sincerely,

Josh Freed
 Senior Vice President for the Climate and Energy Program
 Third Way



March 21, 2024

The Honorable Chuck Schumer
Majority Leader, U.S. Senate
Washington, D.C. 20510

The Honorable Mitch McConnell
Minority Leader, U.S. Senate
Washington, DC 20510

The Honorable Thomas Carper, Chair
Committee on Environment and Public Works
Washington, D.C. 20510

The Honorable Shelley Moore Capito, Ranking Member
Committee on Environment and Public Works
Washington, D.C. 20510

Re: Nomination of Christopher T. Hanson to be Member and Chair of the Nuclear Regulatory Commission

Dear Majority Leader Schumer, Minority Leader McConnell, Chair Carper, and Ranking Member Capito,

The Nuclear Innovation Alliance (NIA) is a non-profit, non-partisan “think-and-do” tank working to help create the conditions for success for advanced nuclear energy so it can be part of the climate and energy solution. We are writing to express our support of President Biden’s nomination of U.S. Nuclear Regulatory Commission (NRC) Chair Christopher T. Hanson to another five-year term and urge the Senate to move swiftly to confirm his nomination before Chair Hanson’s current term expires in June 2024. There are numerous important matters before the Commission that are critical to the future of nuclear power, and the NRC functions best with a full slate of Commissioners led by an experienced Chair.

Nuclear energy plays a critical role in our nation’s economy providing a source of reliable, affordable, and clean energy. The Commission and staff are currently working on important issues that will impact both the existing 94 nuclear reactors that provide approximately 20% of U.S. electricity (and 45% of U.S. carbon-free electricity) as well as new advanced nuclear reactors that can play an important role in our nation’s clean energy future.

Congressional commitments to nuclear energy have helped create the conditions for success for both existing and new nuclear reactors. Tax credits in the Inflation Reduction Act have enabled investments in existing nuclear power plants to ensure the continued operation of existing nuclear power plants and have encouraged many utilities to extend the operational lives of existing nuclear power plants as an invaluable baseload clean energy source. Funding and tax incentives for advanced reactors and new domestic nuclear reactor fuel production in the bipartisan Infrastructure Investment and Jobs Act, the Inflation Reduction Act, and congressional appropriations are helping catalyze the development and deployment of new advanced reactors in the coming decades. These new advanced reactors will play an important role in meeting the administration’s recent commitment to triple nuclear energy production by 2050. Realizing the economic, energy security, and climate benefits of continued and expanded use of nuclear energy, however, requires effective, efficient, and predictable regulation by the NRC.

The past five years have seen significant changes in both the nuclear industry and at the NRC. Growing interest in extending the operation of existing reactors and constructing new reactors, spurred by federal and private investments in technology development and deployment, have created new demands on the NRC. During Chair Hanson’s first term, the NRC successfully reviewed and approved a new reactor design (NuScale) and a construction permit for an advanced reactor (Kairos Power), and oversaw the completion and start-up of the first Generation 3+ reactors in the United States (AP1000 reactors at Vogtle Units 3 and 4). In addition to these

licensing successes, Chair Hanson has demonstrated a commitment to transforming the NRC into a modern, risk-informed regulator that remains focused on safety, transparency, and public accountability.

The Commission, led by Chair Hanson, has worked to create effective, efficient, and predictable licensing pathways for new nuclear power plants. Chair Hanson shaped Commission decision making on novel policy issues including a new licensing framework for commercial fusion technology and creation of a more performance-based and risk-informed methodology for emergency planning for advanced reactors. Under Chair Hanson's leadership earlier this year, the Commission voted on the draft proposed rule for 10 CFR Part 53, which will create a new regulatory framework to enable more effective and efficient licensing of advanced reactors. NIA believes the clear direction provided by Chair Hanson and the rest of the Commission in their vote clarifies the intent of the draft proposed rule and refocuses NRC staff on creating a new rule that aligns with congressional intent and the needs of external stakeholders. He has also directed NRC's Office of General Counsel to identify efficiencies in the mandatory hearing process under existing law to help ensure a more predictable and efficient licensing process while still maintaining agency focus on safety, transparency, and public accountability. These decisions have helped create a more flexible path forward for the effective and efficient licensing of new advanced nuclear technologies.

There will be additional policy and regulatory challenges in the next five years as the NRC works to license a wide range of advanced reactor technologies, with up to 25 applications expected, according to the agency's own estimates. Commission leadership and guidance to resolve these regulatory challenges will be critical to maintaining NRC management and staff momentum on new reactor licensing. The Commission and NRC staff are also in the midst of several rulemaking activities important to the future of advanced reactors. Chair Hanson's experience on the Commission will be invaluable as the NRC continues the development, review, and promulgation of new rules that will enable the more effective review and licensing of new nuclear technologies.

Nuclear energy can and should play a major role in ensuring we meet energy and climate goals, but success is predicated on the NRC's capability and capacity to effectively and efficiently review and license new nuclear reactors. The NRC plays a key role as an independent regulator. In particular, the deployment of advanced nuclear energy in the United States will require licensing processes that enable commercial deployment while maintaining public trust and social license for nuclear technology. The NRC Commission functions most effectively as a collegial body with a full slate of Commissioners providing input on NRC activities. If the Commission is reduced to only three Commissioners, it would reduce the predictability and timeliness of Commission decision-making on important regulatory issues.

We urge you to swiftly confirm Chair Hanson's nomination because he understands the importance of nuclear energy to meeting our climate and energy challenge, will prioritize the agency independence while promoting effective and efficient licensing reviews by the NRC staff, and will help maintain public confidence in the NRC as a trusted safety regulator. Chair Hanson's continued service and leadership at the NRC will provide a strong foundation for nuclear energy to play a major role in meeting our country's need for reliable, affordable, clean, and safe energy.

Sincerely yours,

Judi Greenwald

A handwritten signature in cursive script, reading "Judi M. Greenwald".

Executive Director, Nuclear Innovation Alliance



1901 Pennsylvania Ave NW
Suite 701
Washington, DC 20006

800-323-3044
askanything@ans.org
ans.org

April 15, 2024

The Honorable Chuck Schumer
Majority Leader, U.S. Senate
322 Hart Senate Office Building
Washington, DC 20510

The Honorable Tom Carper
Chairman
**U.S. Senate Environment & Public
Works Committee**
410 Dirksen Senate Office Building
Washington, DC 20510

The Honorable Mitch McConnell
Minority Leader, U.S. Senate
317 Russell Senate Office Building
Washington, DC 20510

The Honorable Shelley Moore Capito
Ranking Member
**U.S. Senate Environment & Public
Works Committee**
410 Dirksen Senate Office Building
Washington, DC 20510

Dear Majority Leader Schumer, Minority Leader McConnell, Chairman Carper, and Ranking Member Capito:

We write on behalf of the American Nuclear Society (ANS) to express our strong support for President Biden's nomination of U.S. Nuclear Regulatory Commission (NRC) Chair Christopher T. Hanson to another five-year term. ANS is the premiere scientific and professional organization for nuclear engineers and technologists. Our 10,000 members from the U.S. and around the world are committed to advancing nuclear science and technology for the benefit of humanity.

Christopher Hanson has served the NRC honorably over the past several years. With over two decades of government and private sector experience in nuclear technology and policy, Mr. Hanson is well positioned to tackle the many important challenges facing the NRC that are critical to the future of U.S. nuclear power generation, licensing, and oversight. Mr. Hanson is a well-respected member of the American nuclear community as well as a member in good standing of ANS. He is thoroughly qualified to continue his mission at the helm of the NRC.

If confirmed, we are confident that Mr. Hanson will continue to support efforts to improve the efficiency of the NRC's licensing and regulatory processes, strengthen the agency's workforce, and maintain open communication with internal and external stakeholders.

Consistent with ANS [Position Statement #77](#), it is ANS's position that the President and Congress should strive to keep the Commission at its full complement of five serving Commissioners, rather than allowing extended vacancies, particularly involving two or more open seats. Therefore, we urge the Committee to favorably report Mr. Hanson's nomination to the full Senate, and we encourage the U.S. Senate to move swiftly on his nomination before the current term's expiration in June 2024.

Sincerely,

Kenneth S. Petersen

President
American Nuclear Society

Craig H. Piercy

Executive Director / CEO
American Nuclear Society

Senator CARPER. Finally, Senators will be allowed to submit written question for the record through the close of business on Monday, April 22d. We will compile those questions and send them to our witnesses. We would ask that you reply by Monday, April 29th.

With that, I want to close with one last thought. The late Bob Graham, Senator Bob Graham, a U.S. Senator, Governor, and Senator Capito, you are the daughter of a Governor from West Virginia, but when I was a Governor running for the U.S. Senate, Senator Graham was telling me, he was nice enough to host a fundraiser for me. I remember talking with him when I was down there with him, and I said to him, you have been a Governor, you have been a Senator, which of the jobs do you most appreciate? As you might imagine, people love being Governor. Being a Senator is great, it is a great privilege to serve in the Senate, but people love being Governors of their States.

When I asked him which he preferred, he said, oh, I loved being Governor probably the most. He said, folks will tell you who serve in both the Senate and as Governors, they tell you that they prefer being in the Senate, he said, they will lie about other things, too.

[Laughter.]

Senator CARPER. Which I thought was just a great line. I have never forgotten it.

This has been a good hearing, an important hearing for all of us, for our Country, for our planet. Convey our thanks to your family very much for sharing you with us. Our thanks to the team that you lead, you and the commissioners lead at the NRC. We are grateful for all of your services.

With that, this hearing is adjourned.

[Whereupon, at 11:46 a.m., the hearing was adjourned.]

