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U.S. Senate Date: Wednesday, September 11, 2024

Committee on Environment
and Public Works

Washington, D.C.

HEARING ON THE NOMINATION OF MATTHEW JAMES MARZANO, OF ILLINOIS, TO BE A MEMBER OF THE NUCLEAR REGULATORY COMMISSION FOR THE TERM OF FIVE YEARS EXPIRING JUNE 30, 2028

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United States Senate

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The committee met, pursuant to notice, at 10:06 a.m. in room 406, Dirksen Senate Office Building, the Honorable Thomas R. Carper [chairman of the committee] presiding.

Present: Senators Carper, Capito, Markey, Kelly, Ricketts, Boozman, Sullivan.

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

Senator Carper. Good morning, everyone. I am pleased to call this hearing to order.

Before we begin, it is important that we recognize that today marks 23 years since the deadly 9/11 terror attacks on our Country. I will never forget that morning. I am sure those of you here in this room will not forget it either.

In the days, months and years following the horrific 9/11 attacks, we have mourned the loved ones that we lost. We have also become stronger as a Nation in our resolve to move forward and to rebuild in their memory.

Today we honor all those who died on that tragic morning and in its aftermath, as well as their families, the heroic first responders and recovery workers, and those who consoled the many families whose lives were forever changed. We will never forget them.

Today, on a happier note, we meet to consider Matthew James Marzano's nomination to serve a five-year term as a member of the Nuclear Regulatory Commission. Welcome. This hearing today comes at an exciting and critical moment for nuclear energy in the United States, thanks in no small part to this lady here on my right and the leadership she has provided.

Today, nuclear energy is one of our most powerful tools to

ensure the reliability of the electric grid and to reduce greenhouse gas emissions. Colleagues on this committee have heard me say this before, but it bears repeating: nuclear power is the largest source of clean power in the United States, providing almost 20 percent of America's total electricity and nearly half of our Nation's clean power.

The nuclear industry also creates economic opportunity and supports tens of thousands of good-paying jobs. In fact, according to the International Monetary Fund, nuclear power provides the highest-paid jobs within the clean energy sector.

And a new age of nuclear power is on the horizon with smaller, cheaper and safer nuclear technology. In order to support the cutting-edge nuclear technologies that will power us into the future, Congress passed, with the help of this committee, the ADVANCE Act, and President Biden signed it into law on July 9th. The bipartisan work by the members of this committee and our staffs was essential to making the bill a reality.

The ADVANCE Act, which was led by Ranking Member Senator Capito, empowers the Nuclear Regulatory Commission with the tools it needs to keep existing reactors safe and to review new nuclear technologies efficiently. This landmark law also directs the Nuclear Regulatory Commission to support 21st century applications of nuclear energy.

To ensure successful implementation of the ADVANCE Act and to secure our clean energy future, the Nuclear Regulatory Commission needs a full slate of commissioners. Thankfully, President Biden has nominated Matt Marzano to serve a five-year term on the commission and to fill this final vacancy.

Matt understands the Nuclear Regulatory Commission's mission and the importance of deploying more safe and clean nuclear power. He is deeply committed to maintaining the public's interest, trust and confidence in the Nuclear Regulatory Commission's work.

He has the technical expertise, gained over the course of a decade in the nuclear industry, to get the job done. As a Senior Reactor Operator, Matt led installation testing to improve plant performance and safety at Braidwood Nuclear Power Station in Illinois.

In South Carolina, Matt supported the enforcement of safety standards for some 3,000 personnel during the construction of a first-of-its-kind NRC-certified advanced nuclear reactor design. Matt also taught safety procedures and protocol to naval personnel as a civilian instructor for the Naval Nuclear Propulsion Program at the U.S. Department of Energy.

As Matt has performed his current role on the Environment and Public Works Committee, I have had the privilege to see first-hand how he applies his background as a nuclear engineer

to his work on energy policy. We have witnessed Matt's dedication to public service and his commitment to crafting and implementing lasting bipartisan solutions. In fact, Matt's expertise was essential to developing and ultimately moving the ADVANCE Act to the President's desk for his signature.

With a decade of experience in the nuclear industry, combined with his work for and with this committee, Matt will bring particularly valuable credentials to the commission if confirmed.

In closing, if Matt is confirmed, and I very much hope that he will be, the Nuclear Regulatory Commission will again have a full slate of commissioners to protect the safety of our current nuclear energy assets while facilitating the efficient deployment of 21st century nuclear technologies. We have an opportunity to meet this crucial moment for the future of nuclear energy, and I believe that Matt Marzano will help us seize the day.

With that, I am pleased to turn to our Ranking Member, Senator Capito, who is, again, the lead author of the ADVANCE Act, for her opening remarks. Senator Capito?

[The prepared statement of Senator Carper follows:]

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

Senator Capito. Thank you, Mr. Chairman, and I thank everybody for being here today on the solemn day of 9/11. I appreciate the Chairman's tribute, but also his final words that we will never forget how we felt, and how we feel about the events of 9/11. So, I want to thank the Chairman for reminding us of those sober days and dark days for our Nation and for so many families who still hurt every single day for the loss of their loved ones. Thank you for that, Mr. Chairman.

I want to thank Mr. Marzano for coming today. I met his dad and his wife, so thank you all for being here with him, and to present your policy views and answer some questions as the nominee for the NRC.

As Chairman Carper noted, you first joined the EPW Committee in 2022, following your selection as an American Nuclear Society Glenn Seaborg Congressional Science and Engineering Fellow. ANS has a long history of supporting congressional fellowships since 2000, and this committee has repeatedly benefitted from that expertise, and most recently with Mr. Marzano.

Your decision to then select the EPW committee for your fellowship was fortunate, as the committee was actively addressing important nuclear energy issues. Following the

conclusion of your fellowship, after six months working on energy policy for the Idaho National Laboratory, you rejoined Chairman Carper's staff last year as a lab detailee.

In EPW hearings during your time detailed in the Committee, we have discussed the need and importance of being able to build energy projects all across this Country. During those hearings you have likely heard me detail how I believe the Biden-Harris Administration's climate agenda, and particularly the so-called Inflation Reduction Act, is putting America on a path that is harming our American competitiveness and consumers.

We have continuously seen a regulatory strategy intended to suffocate our fossil-fuel energy, shut down our coal plants, and make it impossible to build new natural gas generation.

So, this regulatory assault on the power sector will result in major reliability challenges and increase imposed costs on American families and businesses. The negative effects on these energy prices, from restricting the supply of reliable energy, will be compounded by the growing demand that will result if the electrify everything proposals are put into place.

I think this is the wrong approach, and it is part of why we are here today. America desperately needs more reliable, affordable energy sources to power our manufacturing sector, to meet increased demand from data centers and AI and other things, and to keep the lights on for our constituents 24/7, 365 days a

year.

We should provide that power by preserving our existing conventional energy generation, and deploying new innovative technologies such as advanced nuclear reactors. Nuclear energy can and should continue to be a part of America's energy portfolio.

Global events in particular have drawn a sharp focus on the need for U.S. energy leadership. Russia is creating geostrategic dependencies through contracts between their state-backed nuclear enterprise and emerging economies, and China has announced plans to increase its nuclear power capacity by 118 gigawatts, a 204 percent increase relative to current levels. This planned increase would edge out the United States as the global leader in nuclear energy policy.

To meet these challenges, I led the bipartisan efforts the Chairman talked about, with Chairman Carper and Senator Whitehouse, to get the Accelerating Deployment of Versatile, Advanced Nuclear for Clean Energy Act, the ADVANCE Act, signed into law. We were both there for the signature.

The ADVANCE Act will help streamline the Nuclear Regulatory Commission's licensing process to be faster, cheaper, and more efficient. The law is intended, as you are well aware from your work during the bicameral discussions on its path to enactment, to ensure the NRC will enable the safe use of nuclear energy,

not be an obstacle.

Implemented properly, as Congress intended through the bipartisan negotiations, the ADVANCE Act will position the United States as the world leader in nuclear energy for decades to come, and that is absolutely essential. That is absolutely essential. This will require the Commission to make policy decisions, provide leadership to the agency's staff, resolve licensing issues, and to modernize the staff culture to reflect today's energy outlook.

To successfully implement the law, the Commission must also manage and allocate its resources, both money and personnel, to the highest priority licensing and oversight regulatory activities. Each Commissioner weighs in on the budget formulation process, so I would like to understand what actionable steps you would pursue, if confirmed, to ensure licensees and applicants are getting the maximum value for the fees paid to the NRC.

I am sure that you, Mr. Marzano, recognize the importance of that principle, having worked for a licensee that paid millions of dollars to the NRC every year. During your time working at a nuclear power plant as a licensed reactor operator, you gained important experience following the NRC's nuclear safety regulations. This is a different role than establishing those regulations.

So, I look forward to learning more about your experience and how you will evaluate and vote on critical policy matters if confirmed. And I thank you, Chairman Carper, for bringing this forward.

[The prepared statement of Senator Capito follows:]

Senator Carper. You bet. Thank you very much, Senator Capito.

Now I am going to take a minute or two to further introduce Matt Marzano. He is joined by his father and his wife. I am going to ask him in the course of his remarks that he introduce them and any other family members that might be present.

But let me just take a few minutes to talk about Matt Marzano. Matt currently serves, as we have heard, as an Idaho National Laboratory detailee to this committee's majority staff, where he advises our committee on policy matters relating to clean air, relating to energy, including nuclear energy.

Prior to this role, Matt was selected by the American Nuclear Society as a 2022 Glenn Seaborg Congressional Science and Engineering Fellow. He carried out his fellowship on the majority staff of this committee as facilitated by the American Association for the Advancement of Science.

Matt has a decade of experience in the nuclear industry, in both the defense and commercial sectors. He began his career as a civilian instructor for the Naval Nuclear Propulsion Program at the United States Department of Energy. In that capacity, he oversaw the training of U.S. Navy personnel preparing for assignments as nuclear plant operators on submarines and on aircraft carriers.

Following this role, Matt moved to the commercial nuclear

power industry at the V.C. Summer New Nuclear Construction Project in South Carolina, where he supported construction activities while pursuing a Senior Reactor Operator license. Matt later earned his Senior Reactor Operator license at Braidwood Nuclear Power Station in Illinois, where he led installation testing of a modernized control system to improve plant performance and to improve safety.

Matt holds bachelor's and master's degrees in nuclear engineering from the University of Florida. He lives in Washington, D.C., with his wife, Jennifer, and their one-year-old son, Silas, who couldn't join us today. He has other engagements. But give him our best.

[Laughter.]

Senator Carper. Matt is accompanied today by his wife and his father, Mark, and he is going to introduce them as well.

With that, we thank you for your service, and to Jenn, to Silas, to Mara and Mark, thank you for sharing Matt with us and with the American people.

With that, Matt, you have five minutes or so for your opening statement. You are recognized. Welcome. We are glad to see you.

STATEMENT OF MATTHEW J. MARZANO, NOMINEE TO THE U.S. REGULATORY COMMISSION

Mr. Marzano. Chairman Carper, Ranking Member Capito, members of the Environment and Public Works Committee, thank you for the opportunity to appear before you today. I am both honored and humbled to have been nominated by President Biden to serve as a member of the Nuclear Regulatory Commission.

I want to thank you, Chairman Carper, for your kind introduction. It has been the privilege of my lifetime to serve you and the members of this committee.

I also want to thank my mother Mara and my father Mark, who taught me the values that have guided me throughout my life. I also want to say how important my grandmother, Elaine Waxman, is to me. She taught me to aim higher and to not waste the gifts and privileges that life has bestowed on me.

Lastly, I want to recognize my son, who is not here, Silas, and my wife Jennifer. Jenn has inspired me with the strength of her convictions from the day I met her. Her unwavering support of me and our family are why I am able to sit before you today. Thank you, Jennifer.

My interest in the sciences began early in life. I recall long conversations about physics and the way the world works with my grandfather, Pops, an electrical engineer who could fix anything. Those talks were some of the fondest memories from my

childhood.

And they inspired me to pursue scientific study with passion and curiosity. It is because of his example and guidance that I pursued a degree in nuclear engineering to understand how to make practical use of the basic elements of the universe.

I learned then, as I believe now, that safely managed nuclear energy has an important role to play in the Nation's and the world's energy mix. Through my studies I became captivated by the unique applications of nuclear energy not just for carbon-free electricity generation but also its potential to decarbonize hard-to-abate sectors.

After completing my degree, I joined the Knolls Atomic Power Laboratory, one of the Nation's two facilities dedicated to the Navy's Nuclear Propulsion Program. There, I trained alongside the Navy's finest sailors to become a civilian instructor, engineer, and operator implementing the nuclear Navy's training mission.

Executing that mission required me to internalize and uphold the rigorous, safety-focused standards that define reactor operating excellence and instill this mindset in my students. I later found that the same safety principles underpinning the Navy's nuclear program carried over into the commercial nuclear industry.

As a Senior Reactor Operator candidate at the V.C. Summer nuclear project in South Carolina, I observed the complexities of managing first-of-a-kind nuclear projects and the importance of proactive engagement between the NRC and licensees. I witnessed how this engagement can drive timely resolution of regulatory issues that arise during the design and construction phase of new reactors.

I earned my Senior Reactor Operator license at the Braidwood Generating Station in Illinois. A Senior Reactor Operator license carries with it the responsibility to protect the public health and safety and the environment while navigating the intricate relationship between nuclear power operations and regulatory compliance. My understanding of this relationship provides me with a practical perspective to apply in regulatory decision-making and policy discussions.

That experience also gave me first-hand insight into the management of aging nuclear reactors and cemented for me the importance of a well-trained, well-resourced nuclear workforce to maintain the safety of our Nation’s nuclear facilities.

I joined the Environment and Public Works Committee in 2022 as an Congressional fellow from the American Association for the Advancement of Science, and I continued serving as a detailee from the Idaho National Laboratory after my fellowship.

During my time with the committee, I have learned from

experts in energy and climate policy while advancing the committee's priorities pertaining to nuclear safety matters and oversight of the NRC. This included advising the Chairman on the ADVANCE Act and working both across the aisle and with our House colleagues to reach agreement on differing views.

I benefitted from the bipartisan collaboration and learned much from the minority staff of this committee and our counterparts in the House. I thank them for their patience and hard work on this successful effort.

If confirmed, my approach as a commissioner would reflect the mandate imposed on all nuclear professionals across the Country: to prioritize public health and safety. This is because the benefits that nuclear energy can provide to society requires the public's trust and confidence in the NRC's decision-making.

I would seek to foster collaboration and collegiality among my fellow commissioners to produce durable policy that minimizes regulatory uncertainty and maximizes efficiency. I would also work to ensure that all stakeholders have the opportunity to bring their concerns before the agency and have a voice in NRC matters.

Thank you again, Mr. Chairman and members of the committee. I look forward to answering your questions.

[The prepared statement of Mr. Marzano follows:]

Senator Carper. Thanks very much, Matt, and a warm welcome to your wife and to your dad.

We are now ready to begin with some questions for our witness. Senator Capito and I have agreed to one round of five-minutes of questioning. To begin, this committee has three standing yes or no questions that we ask of all nominees who appear before our committee, as you know. So I want to ask you these three questions.

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

Mr. Marzano. I do.

Senator Carper. Second question: do you agree to ensure that testimony, briefings, documents, and electronic and other forms of communications of information are provided to this committee and our staffs and other appropriate committees in a timely manner?

Mr. Marzano. I do.

Senator Carper. And third, do you know of any matters which you may or may not have disclosed that may place you in a conflict of interest if you are confirmed?

Mr. Marzano. I do not.

Senator Carper. All right. So far, so good.

[Laughter.]

Senator Carper. With that, I am going to start with a couple of questions, then turn it over to Senator Capito.

I want to thank our colleague for joining us, thank you. This man has a perfect attendance record. I think he has a better attendance record maybe than I do, or maybe we are tied. Great to see you.

First question I have to ask deals with what might be your priorities as an NRC commissioner. If you are confirmed as a commissioner, implementing the critical mission of the NRC requires a detailed understanding of the needs and requirements of our nuclear fleet. It also requires a clear vision of the potential for nuclear power's contribution to our energy future.

Would you take a few minutes this morning to talk about what your top priorities would be if confirmed to serve as an NRC commissioner?

Mr. Marzano. Thank you for that question. Out of the many priorities that the NRC is facing, or that I would be supporting at the NRC, there are three that come to mind that have a direct tie to some of the work that we have done in the ADVANCE Act. First is the workforce. Also, cultivating a forward-looking approach at the agency. And then also looking at the way that the agency conducts its public engagement.

Each of these, as I have mentioned, supports both development of the workforce and the efficiency needed in order to meet the growing workload that the NRC may face in the future.

On the workforce, the workers at the NRC are the lifeblood of the agency. It is because of their expertise, their hard work and their commitment to the mission that the agency is effective, that makes the agency effective. Supporting not only the hiring authorities that have been granted through the ADVANCE Act, but also focusing on the retention of the workforce are going to be key priorities and key focus areas of mine there.

In terms of cultivating a more proactive approach, the NRC is facing a wave of new technologies. In order to meet this moment, they have to be ready for those technologies. So being more proactive, engaging in the efforts going on across the County and in the industry, the Department of Energy, to bring that technology to commercialization, it is going to be important for NRC to do the work up front in order to drive efficiency in its processes.

Lastly, on public engagement. With new nuclear comes new communities that are going to host nuclear facilities. That means there are a lot of folks out in the Country that don't have a good understanding of what the NRC's role is and what

those nuclear facilities may bring. So it is going to be important for the NRC to get out into the communities and inform the public of not only its role but what those facilities will bring to those communities.

Senator Carper. Let me follow that up with another question dealing with reducing climate emissions, something we talk about a lot in this room. As the United States and our global partners work to address climate change and reduce greenhouse gas emissions, nuclear technologies are poised to play an outsized role in our clean energy future.

At last year's United Nations Climate Conference, over 25 countries agreed to triple global nuclear energy capacity by 2050. Incredible. Global nuclear energy capacity by 2050, in order to meet our climate goals.

My question would be, what do you believe nuclear power can do and how can it play an increasing role in decreasing emissions? Specifically, how can the NRC contribute to a clean energy future?

Mr. Marzano. As I mentioned in my testimony, early on in my studies, the importance of nuclear power and the carbon-free energy that it brings was cemented in my mind. It has only become more clear as I have moved through my career that nuclear power has an extremely important role, not just for carbon-free electricity generation, but also reliable electricity

generation.

The NRC has a role to play in this. The benefits that nuclear power can bring and the public license that nuclear has currently can only be realized if it is operating safely. Because of that, the NRC has an important role to play in addressing climate change by licensing these technologies to come and then also ensuring their safety as they operate.

Senator Carper. All right, Senator Capito. Thank you.

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

You spent two years working with Chair Carper as a fellow and then a detailee at EPW. Based on this experience, could you point to two or three examples where you would have voted differently than how the majority of the commission voted?

Mr. Marzano. In terms of examples of how I voted differently, it is a little inappropriate for me to comment exactly without understanding some of the details on some of the votes that the commission has made. I think that the commission has done some great work up to this point in listening to this committee, especially responding to the new licensing framework that is being done for advanced reactors, the technology neutral risk-informed, performance-based Part 53 process. This committee did a lot of work to drive the NRC and the commission to address some of the concerns that industry had as well as

many others about making that rule work for all stakeholders.

So again, without kind of having more information on some of those votes, I would have to --

Senator Capito. Let me give you some examples. The commission reversed previously issued license renewals which created massive uncertainty for the licensees. Do you have an opinion on that?

Mr. Marzano. Again, without the further details on that issue, I think it would be --

Senator Capito. I am assuming you know the details of the issue.

Mr. Marzano. Yes, I do have some of those details. The reasoning behind that, from my perspective, from what I understood, the decision that was made was to address concerns about litigation and the environmental review process for these plants. So I think what the commission did in that case was appropriate to make those, to do the work to get that regulation out, to provide more certainty going into the future.

One of the things that I will note is those decisions were made far ahead of the license expiration dates for those plants. Getting that right means that moving forward, there will be more certainty as more plants enter into the subsequent license review process.

Senator Capito. Okay, so you agree with that decision.

What about the decision to help the NRC's staff proposal and to update, you sort of mentioned this in your response, the agency's environmental review requirements?

Mr. Marzano. Not too familiar, again, with some of the details. Are you talking in reference to the subsequent license review?

Senator Capito. Yes.

Mr. Marzano. I wouldn't have voted -- actually I can't say how I would have voted on that. There are a lot of things that I don't know about the information that the staff provides the commissioner. It would be inappropriate for me to comment.

Senator Capito. Okay. One of the things that really drives me crazy is the NRC comes in and wants more money all the time, yet they don't spend the money from the year before. So the commission oversees this. Do you agree with that strategy?

Mr. Marzano. I think that it is very important for the NRC to be more responsible stewards of its budget, and efficiency in that budget, as you mentioned, is very important. Some of the action that we took in the ADVANCE Act regarding the NRC's budget is aimed at driving that efficiency.

I think now, after the ADVANCE Act has been in place, I think it is incumbent on the agency to live up to those authorities, and as a commissioner, if confirmed, I would faithfully execute that provision and the rest of the ADVANCE

Act.

Senator Capito. Okay, good. I am glad you went to that. Because my staff has dutifully counted, and the words "efficient" and "efficiency" are used 24 times in the text of the ADVANCE Act. You probably well know that. You alluded to it there.

Given your work on this, will you provide a couple of examples of the specific activities where you think they could be more efficient as directed by the bill?

Mr. Marzano. Absolutely, Senator. I think driving efficiency in terms of processes, again, going back to being more forward-looking, I think in the areas of research, in the areas of engagement with the Department of Energy's efforts, going back to the memorandum of understanding that was put in place by the Nuclear Energy Innovation Capabilities Act, leveraging those partnerships, getting ahead of the technology, understanding where it is going, will create tremendous efficiencies to prepare for this technology.

Senator Capito. Do you agree with the opening part of my statement where I said that if we don't get this right, more efficiently and in a more timely manner, we are going to lose our global superiority in this area?

Mr. Marzano. I do agree.

Senator Capito. Thank you.

Senator Carper. Thank you.

I think Senator Markey is next. Let me just say thanks so much night for stopping by the reception. It was wonderful of you to do that. I know you had a lot on your schedule last night. Thank you very much.

Senator Capito. Did you invite me and Senator Ricketts to your reception?

Senator Carper. Yes, we did.

Senator Capito. We are feeling left out over here.

[Laughter.]

Senator Capito. Were you paying?

[Laughter.]

Senator Capito. He's speechless. I finally got one in.

[Laughter.]

Senator Carper. Senator Markey?

Senator Markey. Thank you. And it was a great and well-deserved tribute to you, Mr. Chairman. Historic service to our Nation. I think you could tell how many people just absolutely love you and respect the incredible work that you have done for our Country.

I learned a great deal from communities next to the decommissioning of the nuclear power station. Those people have fought for transparent, accountable, and community-led decision making when it comes to nuclear waste and safety. You saw this

passion and frustration first-hand at the EPW field hearing in 2022. Unfortunately, the degradation of trust between Pilgrim's communities and the NRC is just one example of the NRC's failure to meaningfully engage communities in its regulatory and policy making activities.

Mr. Marzano, do you agree that it is the NRC's duty to maintain strong public trust and confidence in its ability to responsibly regulate civilian nuclear activity, including through public hearings and transparent proceedings?

Mr. Marzano. Yes, Senator, I do. That public trust and confidence is key for the trust in the NRC's decision-making in the interest of those communities and the public.

Senator Markey. I was very disappointed that the draft final decommissioning rule did not include the requirement for NRC approval of post-shutdown decommissioning activity reports, which would allow for meaningful public input on decommissioning plants before the decommissioning process begins, rather than force communities into a contentious and drawn out process, as we have seen at the Pilgrim Nuclear Power Plant, with Holtec as well. We just need more engagement, more transparency.

Mr. Marzano, do you agree that preemptive public engagement, including on issues like decommissioning, can result in better outcomes for the public, for the NRC, and for licensees?

Mr. Marzano. Absolutely, Senator. That early public engagement helps to build that trust, helps to drive some of that community input, and helps to lead to better outcomes, not just for the licensee, but the community as well.

I think that early planning, again, especially for decommissioning, which is an incredibly complex process, incredibly disruptive to the community from both the loss of those jobs and the loss of the tax base and the revenue and the public services that that plant had provided to those communities, beginning that process early, from my observation in the industry, is the most important thing to driving better outcomes in the decommissioning process.

Senator Markey. And you can see there in Plymouth, Massachusetts, 1620, the Pilgrims arrived, we named the nuclear power plant the Pilgrim Nuclear Power Plant. But there have never been more people in that room, going back to 1620, than there were when the Nuclear Regulatory Commission came to testify. Because they wanted answers, and they felt they had not been getting answers. I think that was very clear.

The duty of the commission is to develop regulations governing nuclear reactor and material safety in a manner that protects public health and safety and the environment. That requires that its commissioners have a strong grasp of the civilian nuclear sector from both a technical and political

lens, something I appreciated discussing with you in our meeting in my office.

Mr. Marzano, has your experience as a reactor operator informed your understanding of safety and regulatory issues? Would you expect it to usefully inform your work, should you serve on the commission?

Mr. Marzano. Yes, Senator. I think my experience as a Senior Reactor Operator and the license that the NRC issued to me, the primary purpose and primary responsibility that I had was to protect the public health and safety. Also, as a Senior Reactor Operator, it was a responsibility to provide electricity generation benefits that are derived from that.

So what my Senior Reactor Operator experience brings to the commission in this sense is ensuring that robust safety standards are upheld but then also maximizing the generation of electricity. This is going to be extremely important as the NRC moves forward with the directives from this committee and Congress and the ADVANCE Act. I will carry that sense of judgment, on which I had to make many decisions on a daily basis, to the commission.

Senator Markey. Thank you. As you know, the job of the Nuclear Regulatory Commission is not to promote the industry, it is to regulate the industry for safety. That is why we created that agency in 1974. Do you agree that the commission's central

and statutory purpose is to provide reasonable assurance of adequate protection of the public health and safety, to promote the common defense and security, and to protect the environment?

Mr. Marzano. Yes, sir.

Senator Markey. I think that is very, very important. Because we knew there was a built-in conflict of interest at the Atomic Energy Agency, which is why we created the NRC. When you start to merge the two jobs, you could wind up with the promotion side of it blurring the safety side of it.

That is in fact what has held back the industry for the last 30 or 40 years. They just forgot that they had a principal responsibility of guaranteeing safety, which is why hundreds of people will show up in town hall to ask questions that they are not getting answers to, because of the promotion of the technology rather than the protection of the safety.

We thank you so much, Mr. Marzano. I am looking forward to working with you in the future. I thank you, Mr. Chairman.

Senator Carper. Thank you, Senator Markey.

Senator Ricketts, welcome.

Senator Ricketts. Thank you, Chairman Carper, and Ranking Member Capito, for holding this important hearing. The work of the Nuclear Regulatory Commission is critical to power generation in Nebraska. Our Cooper Nuclear Station, which is a 385 megawatt facility, can provide energy to 385,000 households

in Nebraska, even when it is a hot summer day.

In order to make sure that we have facilities like Cooper that can continue to get relicensed, we need to make sure that the NRC is predictable, reliable, and expedient in its license renewal process. That is really a critical thing for the State of Nebraska, as many States. So thank you, Mr. Marzano, for sitting down with me to discuss the future needs of the U.S. nuclear industry.

Last November, Senator Capito and I sent you a letter which requested the specific steps the NRC is taking to ensure the subsequent license renewal review and approval process is efficient, timely, predictable, and affordable. In March of this year, the NRC outlined a road map to restore the license renewal program to a path of timely and predictable reviews to achieve the goal of 18-month review, 18-month reviews.

Mr. Marzano, confirm, will you commit to the road map and to getting this rule process done in 18 months?

Mr. Marzano. Yes, Senator, I think it is extremely important to drive efficiency for subsequent license reviews. There is a lot of talk about the new technology and the new reactors that are coming and preparing for that. But the NRC also has a job to do in the existing fleet. It is about creating certainty and efficiency in the subsequent license review process.

If confirmed, I would certainly work with my commissioners to achieve those goals and look for even more metrics to measure performance in order to track and help drive efficiency. I think in some respects, getting at granularity in those processes can help tease out some of the areas where we can improve.

Senator Ricketts. Great. How long do you think it will take for the NRC to deliver an 18-month rule process? If you are confirmed, how long do you think it will take for the NRC to actually say, okay, we have a process down, it is only going to take 18 months?

Mr. Marzano. I think it's hard to say right now how long that would take. But one thing that, from my career, that I took away, the first time that I did ever did an evolution of a plan, something big, something that had a lot of consequence for the first time, I had to do a lot of work up front. But then after you do something and you build that proficiency, that is when you start to be able to pick up the pace and get better at doing it.

I think in some respects, subsequent license review processes are somewhat along the same lines. Going from 60 to 80 years brings in some different considerations. But because of how similar the technology is across the operating fleet, there are definitely opportunities to get more proficient.

Senator Ricketts. I know you don't have an exact time. But do you have a ballpark how long it would take? Do you think it is going to take a year process to get us to there, two years? Do you have kind of a ballpark idea of how long you think it will take it to get there?

Mr. Marzano. If confirmed, I would hope to join the commission to drive that immediately.

Senator Ricketts. Do you have any ideas, is this going to require additional cost to get to an 18-month time frame?

Mr. Marzano. It is hard for me to say without further details on how the agency is managing those resources. But my understanding is that as we get more proficient, that means we will be able to manage those resources more efficiently. If I am confirmed, it is certainly something I will look into.

Senator Ricketts. I will just sort of highlight some of the work I did as governor with our own department of environment and energy, where we reduced our air construction permits down from about 198 days to 65 days by leveraging lean six sigma. Again, it is a process where it doesn't really cost you extra to be able to leverage better process and better technology to be able to drive out the wasteful steps to get this done. So I would recommend that to you.

Also, are you familiar with the amendments Congress made to the Atomic Energy Act of 1957?

Mr. Marzano. Without a little bit more context, I am not familiar.

Senator Ricketts. Well, it is an important thing for you to know, that you should know. It is related to your position, and back then it kind of related to Senator Markey's point, the Atomic Energy Commission was a predecessor, obviously, of NRC.

Had a rule, essentially the amendment that it passed back then required the commission to hold a hearing for a new or actual license even if there are objections to the process. This rule was made when nuclear energy was in its infancy, and also at a time when the AEC had conflicting rules, as Senator Markey pointed out, in both regulating and promoting the use of nuclear energy.

Basically, at that time, it was about promoting nuclear energy and having a public basically process, hearing process, to promote it, frankly. And the previous commissions had requested that Congress get rid of the statutory requirement. Are you familiar with that?

Mr. Marzano. Yes, sir.

Senator Ricketts. Okay, great. So since previous commissions have requested Congress eliminate it altogether, if you are confirmed, will you commit to making sure that you continue to recommend it? That is part of your role at the NRC if you are confirmed, is to weigh in on policy. Certainly, the

commission has recently approved some simplified procedures for mandatory hearings.

The statutory requirement will still impose regulatory costs and will also delay the deployment of advanced nuclear reactors, crucial for States like Nebraska. Since you have to weigh in on this, will you, based on your experience, if confirmed, reaffirm the previous commission's recommendations to eliminate the statutory requirement?

Mr. Marzano. Senator, I think the commission has taken some actions recently to improve that process, especially in terms of the staff hours and the licensing hours that are going to be required from there. I think beyond additional authorities from Congress, one of the things I would look forward to is working with the commission to implement those changes that the commission can do now, and look for opportunities to improve that process going forward.

Senator Ricketts. Right. So my question is a yes or no question, though. So the previous commissions have said hey, so yes, they are doing the streamlining that you talked about, but they also made a recommendation to change the statutory requirement. And that is your job as a commissioner, to weigh in on policy.

So will you commit to the previous commission's recommendations to get rid of the statutory requirement that was

from this 1957 amendment?

Mr. Marzano. Yes, Senator --

Senator Ricketts. You can just stop there, yes, Senator.

[Laughter.]

Mr. Marzano. Make sure that any legislation that does come before, I think yes, it is important to revisit that process. I think it will help in terms of new reactor licensing and applications. But I am mindful that to be careful that other public engagement that is part of the licensing process is not diminished in that sense. But yes, I would certainly look into those legislative proposals and support them if I find that they achieve that goal.

Senator Ricketts. Okay, great. Thank you, Mr. Marzano. Thank you, Mr. Chairman, for being flexible on my time.

Senator Carper. You bet, Senator Ricketts. Always happy to have you with us for all of our business here.

Senator Boozman, good morning.

Senator Boozman. Thank you, Mr. Chairman, and Senator Capito, for having this important hearing. We appreciate your being here, Mr. Marzano.

In my home State, in Arkansas, we have a two-unit nuclear power plant in Russellville known as Arkansas Nuclear One. The current license expires in 2034, which is not too far away to begin to think about extending the license through the

subsequent license renewal process. Moving forward on that process will involve a tremendous amount of stakeholder engagement between our utility regulators, legislators, customers, and the local community.

One would think that this process would guarantee long-term certainty for commercial power reactors. However, a 2022 decision made to only allow environmental reviews for initial license renewals after a plant's first 40 years created uncertainty that the operators need to make long-term capital investments for their facilities. Thankfully, after hearing concerns from this committee, the commission quickly reversed course on that decision and has established a workable process to allow plants to run beyond 60 years.

Can you tell us your thoughts on this decision and how it would have impacted the operations and reactors like that in Arkansas as it considers subsequent license renewal? Does that make sense?

Mr. Marzano. Senator, yes, I think the process itself and that regulatory certainty that is required for licensees to make those kinds of decisions, for the communities to rely on those decisions, I think it is very important to get that right. My sense of what the commission did was to correct a longstanding issue to drive at certainty for that process moving forward. If confirmed, now that the commission has acted, that that process

has gone through, I see tremendous opportunity for subsequent license renewals and other license renewals to move apace with the industry.

Senator Boozman. Very good, thank you.

So, nuclear energy creates jobs, powers our homes, businesses, and is a key contributor to our national defense capabilities. Additionally, nuclear plays a key role to help produce low-cost, safe, reliable and carbon-free electric generation for Arkansas and the rest of the Country, especially when compared to the costs or efficiency of renewables.

While we must continue to accelerate innovation and encourage private sector investment in advanced nuclear technologies, we should not ignore the 94 nuclear reactors currently in operation.

Will you elaborate on the importance of continuing to support our existing fleet that generates roughly 20 percent of our Nation's electricity and over half of our carbon-free energy?

Mr. Marzano. The operating fleet is where I came from. It is currently supplying some of the power in this room. It is doing so with no carbon emissions, but it is also contributing to the reliability of the grid.

The importance of keeping the operating fleet going was one of the primary drivers of joining the committee and getting into

the policy work. The importance of them operating safely to the end of their lifetimes, to carry us into as more generation will inevitably have to come online, is extremely important to me. I just want to also say, the people who work in that industry, too, are my colleagues, professionals that I have learned a lot from. I am mindful of the work that they do every day.

Senator Boozman. You just mentioned the reliability of the grid. That is something I think we are all concerned about. We look at AI, we look at electric vehicles, the list goes on and on and on. Do you feel like we are coordinated enough regarding whatever entity you are a part of, and certainly nuclear is a big part of that, are we stovepiping? Are people talking enough about the reliability of the grid and how everything goes together?

If we do what we say we are going to do in the next 10 years, there is real concern that the infrastructure is just not there. That is not me talking, that is everybody that I talk to that is in the business actually in the field, like you used to be. Are we doing enough to ensure that the grid is going to be adequate to do what we ask it to do?

Along with that, I would throw in the other problem of cybersecurity protection that we are seeing, which is kind of overlooked right now.

Mr. Marzano. Thank you, Senator. You bring up a good

point. One of the challenges moving forward, especially artificial intelligence, is not just supplying the power for it, but then also how artificial intelligence will be used in the industry.

NRC is definitely going to have to prioritize working to understand that technology and some of the new potential threats that could come, especially in the cybersecurity world. That is something that we managed at the plant as well, we were responsibility for ensuring that cybersecurity defenses were implemented.

But in terms of reliability, yes, that is in the front of everybody's mind. If the NRC, and if confirmed, does its job, which I hope to contribute to, then we can meet that moment.

Senator Boozman. Very good, thank you.

Senator Carper. Thank you, Senator Boozman. Thanks very much.

I have a couple of questions, then I will yield after that to Senator Capito.

We have heard today about your experience as a Senior Reactor Operator. I want to make sure that all of us on the panel and our staffs have the opportunity to fully understand what the credential of Senior Reactor Operator really means. Specifically, I would like to hear more about the skills, I would like to hear more about the training that went into your

obtaining that license.

Would you take a moment to share with our committee how you obtained your Senior Reactor Operator license, and how this technical training has better prepared you to serve as a commissioner on the NRC?

Mr. Marzano. Thank you for that question, Senator.

To become a Senior Reactor Operator, to qualify for the job in the first place, you need to have reactor operating experience, first and foremost. Then a combination of that with technical education. In my case, the nuclear engineering degree did serve me.

But one of the things you are required to understand as a Senior Reactor Operator is not just the nuclear engineering part of it, but the mechanical engineering, the electrical engineering, the materials processes and programs to keep the plant functioning as well.

So in order to become a Senior Reactor Operator, to get that license, you go through an 18-month intensive training program. I did run through it once in South Carolina. Unfortunately, that didn't work out. I got a chance to do it again.

But after that 18 months, you are receiving basically every detail of that plant and understanding how that plant works, what the role of every component is and how that component

relates to safety, to defense in depth.

All of that is really to inform the operation of the plant, especially in the context of emergency planning, and operators' responsibilities in the event of an emergency. So we train extensively to be able to respond almost by second nature to an event that is happening in order to protect the health and safety of the public.

Then how these skills transfer over to the commission, really it is that technical understanding, it is that practical experience, understanding how NRC's regulations affect folks on the ground in the plants that doesn't currently exist on the commission. We talk a lot about the collegial nature of the NRC, and that requires a diversity and independence of views.

This practical experience that I have, knowing how these things work on the ground, knowing the issues that could arise, is something that I look forward to bringing to the commission.

Senator Carper. Okay. Thank you for that.

Let me just take us in a little bit different direction and ask if you would share with us, elaborate a bit on how you would approach decision-making as a commissioner, if you are confirmed. How would you approach that?

Mr. Marzano. Yes, sir. I go back to in essence what that license means. Decision-making in the role, again, requires that balance between maintaining safety of the plant while also

providing electricity and maximizing electricity generation. So on a daily basis, reactor operators, Senior Reactor Operators across the Country have to make those decisions.

That experience, having that ability to apply that judgment in situations often unplanned is an extremely important asset that I think I will bring to the commission.

Senator Carper. All right. We talked earlier about the fact that you and your wife, Jennifer, who has joined us today, have a son named Silas, who is about a year old. What thing about him and his colleagues across this Country that are just starting in life, what kind of stake do they have in all this? Why is this relevant in the lives of our children, and for Senator Capito and myself, in the lives of our grandchildren?

Mr. Marzano. Yes, sir. I think the Nuclear Regulatory Commission finds itself at an extremely important time in its history as we are trying to rapidly reduce carbon emissions across the globe and in the United States. Nuclear technology has the opportunity to provide tremendous benefits to addressing this issue.

One of my primary motivations for becoming a commissioner is to ensure that the decisions that we make today are ones that support a world for my son, for his generation and generations to come. So it is extremely motivating for me. I take to heart the NRC's role in this, and supporting the safe deployment of

nuclear energy.

Senator Carper. I am going to hesitate here just for a moment and let Senator Kelly settle in, and when he is ready to, go ahead and ask any questions he might have. Thanks for joining us today.

Senator Kelly. Thank you, Mr. Chairman. I do have a couple of questions. First of all, thank you, Mr. Marzano, for joining us today and congratulations on your nomination.

I want to start by asking a couple of questions on fusion energy. I understand that the NRC recently agreed to regulate fusion energy systems under the byproduct materials framework. This is an important step, because the framework allows for a technology-neutral regulatory approach that does not treat fusion and fission systems the same, obviously because they are not the same. This is going to help researchers working on fusion systems have certainty about the regulatory future that they face.

So do you agree with the approach that the commission has taken to date to provide a different regulatory pathway for fusion energy?

Mr. Marzano. Yes, Senator, that is why we worked very hard in the ADVANCE Act to make sure that that was clear to the commission, and why we have engaged in this committee with the commission on this particular issue. Going back to my early

experience, fusion was one of the reasons why I got into this. It turns out that I happen to be an atom splitter, not joining them together.

I strongly believe that the decisions that we made in this committee and that the commission has made were the right ones.

Senator Kelly. Do you think the commission has sufficient authority to develop long-term fusion regulations?

Mr. Marzano. Yes, sir.

Senator Kelly. All right. Another topic on advanced nuclear reactors, as you know, there is a lot of innovation happening in the space. But this innovation may pose challenges to the NRC's existing licensing processes. I understand that a particular challenge researchers may face when working on new advanced nuclear reactor designs is that they may not know exactly how to fill out a license application for the NRC, especially if their reactor design is new or if it is novel.

Mr. Marzano, how would you characterize the opportunities and challenges posed by new advanced nuclear reactor and small modular reactor designs?

Mr. Marzano. Thank you, Senator. Part of my education was understanding the economics of these new reactors and advanced reactors, and really what that economic model is based on. And how the industry gets to a cost-effective way to deploy these technologies is to get over those first-of-a-kind cost hurdles,

and getting to essentially the second, third, fourth design or version of that reactor, kind of built and taking learnings from that. A lot of this comes from being able to take a manufacturing model with some of these reactors and to rapidly produce them.

I feel strongly that that kind of model will work if the industry commits to that.

Senator Kelly. So, a manufacturing model in contrast to the model we use today?

Mr. Marzano. Yes, Senator. These new reactor designs are smaller, they are more scalable, they are more flexible. So they are going to fit different applications, especially again going back to electricity generation versus generating heat for industrial processes.

To me, it is very important to support that model moving forward.

Senator Kelly. What do you think we should do on the application issue? What should the NRC be doing to help folks, help researchers fill out these applications?

Mr. Marzano. I think one of the important things that the NRC does today and can leverage in the future is the preapplication process. That is why in the ADVANCE Act there is a provision to lower the costs for potential licensees to engage with the agency.

So I think that will help facilitate better interactions and better understanding between the NRC staff and those applicants, or potential applicants, on their specific technologies. But if I may, one more item that I have observed from a policy perspective is the importance of NRC's work on research itself and how it engages with the Department of Energy on that research.

There is a memorandum of understanding that came out of the Nuclear Energy Innovation Capabilities Act that has already delivered tremendous benefits to both the NRC and DOE. So research is also being informed by what NRC staff observed as being important to licensing moving forward. It will be fostering more of those types of interactions to help get over those issues early on.

Senator Kelly. Mr. Chairman, can I get another two minutes?

Senator Carper. You got it.

Senator Kelly. All right. One last topic here, you are probably aware that both Senator Lummis and I have been working for a few months here with the NRC on the remediation of abandoned uranium mines. There are thousands of these uranium mines across the western United States.

Actually more than 500 are on the Navajo Nation. We have been working for decades to clean up these abandoned mines.

They have horrible health effects on the Navajo people.

But there have been a number of challenges. One of these challenges has to do with how do we deploy new and promising technology. Recently the EPA and the Navajo Nation piloted a technology that could reduce the amount of hazardous waste at a site by as much as 85 percent.

But this technology hasn't been able to be used more widely because they are awaiting a licensing decision from the NRC. As I understand it, this is the first time that the NRC has considered licensing a technology primarily intended to remediate mine waste.

Senator Lummis and I met with the NRC chairman, Chairman Hanson, about this a couple of months ago. Our understanding is that the commission has provided a pathway to allow this technology to be licensed as a service as opposed to needing to go through a site-specific process. So it would be licensed essentially to clean up any mine, wherever the mine happened to be, instead of for the specific mine.

What role do you believe the NRC should play in helping to facilitate cleanups of legacy uranium contamination?

Mr. Marzano. Thank you for that question, Senator.

Many nuclear professionals, my colleagues and I, came from the industry understand and are aware of the legacy of nuclear power development in the early atomic age. Addressing this

legacy is extremely important, not just for the cleanup and the health of those communities but also to build more public trust in nuclear energy.

Technologies like the one you have mentioned are extremely important in helping that, and do show a lot of promise. Again, I take this issue to heart. We have worked in this committee to advance legislation to help address this issue. So it is very important to me as well.

In order to meet the scale of the problem, in order to improve the public health of the communities that are impacted by this issue, a regulatory process needs to support and match the scale and urgency of this problem.

Senator Kelly. And that would lead to licensing this as a service instead of a site-specific process, so it would be licensed, we would like to see this licensed for remediation writ large instead of specifically for each site.

Thank you for the extra time, Mr. Chairman.

Senator Carper. You are most welcome. Thanks so much for joining us. I know you have a lot on your plate today.

Senator Capito?

Senator Capito. Thank you.

Mr. Marzano, you worked in the nuclear industry for about six years at the V.C. Summer Nuclear Plant that was under construction in South Carolina, and then combined that with the

Braidwood Nuclear Power Plant in Illinois as a Senior Reactor Operator, that is correct. So you have first-hand knowledge, we have heard a lot about what you have said and really appreciate that.

Can you provide us a couple of specific examples of NRC regulations that should be updated to provide that more efficient regulatory? You talked about engagement, pre-engagement and things like that. But I am talking more specific types of examples.

Mr. Marzano. From my experience, the efforts underway at the NRC to drive risk insights across all the regulatory framework and responsibilities of the NRC has already paid some dividends. It would be leveraging those risk insights and continuing to operate as a risk informed regulator and looking for more opportunities there.

In the role, I saw specific changes that helped with my role as a Senior Reactor Operator to keep the plant up and running, related to essentially using risk information in real time to evaluate the status of the plant, especially in response to maintenance activities that were going on or components that fail. It is looking for more opportunities to drive those risk insights.

Senator Capito. Let me ask you to give me a concrete example of what a risk insight would be at a nuclear plant.

Mr. Marzano. There are these things called technical specifications for every plant. That is essentially the law of the plant. You have to meet those requirements. You have timing that is required to do certain actions.

And what these risk insights allow you to do is change those times. So you can extend them, it is called risk-informed completion time. And what that has done has taken direct results from a probabilistic risk assessment calculation, using that to assess the plant's risk based on its current status, and then able to give a little bit more operational flexibility based on that risk.

Senator Capito. So, prioritize the higher risk, obviously, would be the way that would go.

Mr. Marzano. Yes.

Senator Capito. So you are allowed to do that now. Were you allowed to do that when you were operating?

Mr. Marzano. That was being implemented as I was operating. It is certainly an operational flexibility that the industry has been working on for a long time and one that has driven higher capacity factors in meeting that reasonable assurance of safety.

Senator Capito. Okay. If you have been in meetings, and I am sure you have, when I have talked with Chairman Hanson, one of my bugaboos with the NRC is the telework policy. Now it is

two days a week, I think a day is six hours in the office. There was a push to change it to one day every two weeks, a day being four hours. And the commission came in and overturned what Chair Hanson had done.

What is your opinion on the telework policy and what changes would you make? We are looking at new technologies here, in my view, if you can't be in a room with people to innovate, I don't know how you are going to get this done.

Mr. Marzano. Certainly, Senator. I think interpersonal interaction is extremely important, especially for new people that are coming into the agency. There is going to be a lot of new hiring that has to happen. That mentorship is facilitated by being in-person, I do believe that.

It also is important for meeting those mission-critical activities. There are some instances where being in-person can drive better outcomes. I understand that. And some roles have to be on the job. I was in one. The pandemic happened right as I was kind of getting out on the shift. We didn't have a choice to telework.

So there are definitely critical mission activities that must be completed, and a telework policy must support that. But I do also recognize that workplace flexibility is also a component of any telework policy. When the agency is having to look at retain folks, one of the things I would understand and

look to kind of make a priority is finding that balance of getting the mission done with providing the flexibility to keep talent in the agency.

Senator Capito. Yes, I would like to see an overarching policy from the Administration that would actually incentivize people to go into work every day like most people do. But this Administration doesn't seem to want to do that.

Last question. There is a lot of excitement about small nuclear. In my State of West Virginia there is a specific provision in there that could be very helpful to us to develop placements of these small nuclear reactors on abandoned coal mine sites that already have the generation in place. It would be great for the economics of the region and also for the workforce.

So it is a win-win here. It would probably have environmental benefits as well.

So if I am sitting here in a community and I am talking to my folks in West Virginia about the promise of the ADVANCE Act, when would the soonest reactor actually go online in your opinion? Because when you pass these bills, people think it is going to be tomorrow. What would you say to that?

Mr. Marzano. Some of the plants that are out there right now are to get these things online in the next decade.

Senator Capito. Okay, so that is 10 years.

Mr. Marzano. Well, within the next decade.

Senator Capito. Well, but there are no provisions, the NRC doesn't have the licensing for these, so they can't move forward, right? I understand the one in Wyoming, they have a construction permit but they don't have a permit for the reactor. Is that correct?

Mr. Marzano. That kind of gets into the details of the Part 50 process. It is a two-step process. The construction permit carries that plant all the way to when it is ready to start loading fuel. There is a review that happens in order to certify that the plant is built as designed and is ready to receive the operating license. So once it does, it can load fuel.

Senator Capito. So are you telling me that TerraPower can go all the way to construction of the reactor right now? They are permitted to do that? That is not my understanding.

Mr. Marzano. I have to correct it a little bit. The construction permit is currently under review. So yes, right now the activities that they can do are --

Senator Capito. They are clearing the land and all that stuff now.

Mr. Marzano. Exactly. That activity is extremely important to getting into the construction of the nuclear aspects, or the safety aspects of those plants. So the timeline

for the Advanced Reactor Demonstration project reactors are to be built within this decade, before 2030. It is important that the NRC supports those timelines as well.

Senator Capito. Well, that is five years from now. That is licensing, construction, online. Do you think five years is a reasonable thing to tell people in Wyoming that is when they are going to be online? I personally don't. You can probably tell, the way I am asking the question.

Mr. Marzano. Again, first-of-a-kind hurdles. There are always things that can pop up. It is not necessarily related to the regulatory posture. There are things that happen in construction that require licensees to shift and adjust.

I was intimately familiar with this at the V.C. Summer project. You have a plan on how the construction process is going to come together, but then some novel issue that was unexpected comes up. It is about how those are managed and yes, five years is certainly an ambitious timeline.

But I think looking at the first-of-a-kind, you are going to see longer periods in order to get those line. The goal being to get to nth-of-a-kind. The process that is being used there is to demonstrate and then build on that progress.

Senator Capito. So I would say, as a commission nominee, I want this efficient, I want it timely, without sacrificing any safety or environmental aspects of it, of course, and not to

follow the history of the NRC which has been a lot of foot-dragging, a lot of redoing decisions that have already been made.

So I would implore you, if you go in this direction, that you heed those words. Thank you.

Senator Carper. I can't speak for everybody on the committee, but I suspect many of us share the consideration you just voiced.

One of the advantages of having a commission with a full complement of all five commissioners is there is a lot of work to be done. To the extent you have one or two people on the commission, it is going to take longer. To the extent that we have five excellent nominees and commission members who are able to contribute, we will get this done safer but also more promptly, I would hope.

We have been joined by our colleague from Alaska, Senator Sullivan. Welcome.

Senator Sullivan. Thank you, Mr. Chairman.

Mr. Marzano, congratulations to you and your family. I know you have family support there, which is great. These are always important hearings, and it is great you are being supported.

I want to follow on a couple of Senator Capito's questions. First, this telework issue. I certainly hope that when you, if

you are confirmed, that you just make a strong stance. This is ridiculous. I have Alaskans who fly 4,000 miles from Alaska to come and meet with FCC commissioners and so forth. And they can't do it, they can't go into the buildings. They meet them in Starbucks, because these guys aren't working.

It is remarkable to me that we have Federal workers, and there are tens of thousands, who still sit at home in their pajamas. They don't even do work in my view.

You mentioned it, but talk about this issue of mentorship. This could be an exciting time for small scale nuclear, as we are talking about. Yet young people, if they join the commission, they come in and they have no mentors, they think working in their pajamas is a benefit. It is not a benefit. You need mentors. You need smart people to help the next generation.

Can you maybe give a little stronger statement on this telework issue? In my view it is absurd. If most Americans knew that their Federal Government, 90 percent of them still sit at home, they don't come into work, it is ridiculous, what do you think? Be a little stronger on this.

Mr. Marzano. Yes, Senator. My experience in the workforce, especially the nuclear workforce, and before telework became more ubiquitous across the industry, the characteristic of the nuclear workforce today is that there is a large age gap,

there are a lot of folks there that are potentially retiring, and there are folks who are coming in. So what is required of me and many nuclear professionals across the Country of these jobs is to get up to speed quickly.

Senator Sullivan. Maybe that will resume when you are a 25-year-old engineer sitting at home in your little apartment?

Mr. Marzano. When you are operating a nuclear power plant and you are an engineer for a nuclear power plant, you have your hands on. So it is going to be important in those aspects. I think I have a bit of understanding and learning exactly how those interactions or which interactions at the NRC are kind of similar to that.

But those have to happen.

Senator Sullivan. Yes.

Mr. Marzano. And again, hiring --

Senator Sullivan. I have a couple more questions, but I really think you should commit to this committee that you are going to help do something about this. To Senator Capito's point, it is really absurd. It is. And it is harmful for the new employees, even though they think they are getting a great deal, oh, great, I can work at home, it is not good for them, either.

So let me get to your experience level. There has been some concern that this is a really important commission, there

is a lot of stuff happening, that your experience is not up to par for where commissioners are. As a matter of fact, the Breakthrough Institute, they stated that you may be the least experienced commissioner ever seated at the NRC if confirmed.

So what is your response to that? I know you were a contractor with the Naval Nuclear Propulsion program. But what is your response to being called the least commissioner ever in terms of experience?

Mr. Marzano. Yes, Senator. I would bring to the commission today experience as a Senior Reactor Operator, the first license holder to sit on the commission in nearly 20 years. I think it is extremely important to recognize what that means in terms of the technical expertise that I bring. But then also the direct experience with the impact of NRC's regulations and understanding how they are implemented on the ground.

My Navy experience, I was able to train sailors, some that were fresh out of high school, to operate engine rooms of nuclear powered submarines.

Senator Sullivan. Did you see the Breakthrough Institute's criticism of your nomination?

Mr. Marzano. I am aware of it, yes.

Senator Sullivan. What is your direct response to it?

Mr. Marzano. My direct response is that it is certainly

inaccurate. It don't think it fairly characterizes my experience, I don't think it fairly characterizes the work that I did for this committee and the Senate in getting the ADVANCE Act passed as well.

Again, that Senior Reactor Operator experience is an extremely important view to bring to the commission today. If I may, again, going back to my point about getting up to speed in this industry, the folks that are my generation that are mid-career right now had to learn a lot fast in order to take bigger and bigger roles in the industry today.

I think that perspective, and I think in terms of my career level, is something that is an asset that I would bring in understanding the modern issues that are facing the industry and both the staff at the NRC. I think those things are certainly of value to the commission.

Senator Sullivan. Mr. Chairman, I have a couple more questions, okay to hit on those?

Senator Carper. Go ahead.

Senator Sullivan. You mentioned your experience here, which I know was meaningful. I read your article, "Reflections on a Year in D.C." which was published by the American Nuclear Science Review. But you didn't list that in your requirement for the application before the committee as one of your written articles.

Why didn't you do that? You know you are supposed to list everything you wrote. You only wrote that a year ago. Seems pretty relevant. Was there something you were trying to hide from that?

Mr. Marzano. No, Senator. That was a simple oversight. My interpretation of that question was research papers, anything that I had published along those lines. If that was an oversight on my part, I take responsibility for that.

Senator Sullivan. Okay. Let me go to permitting reform. Now, no offense, I don't want to be too partisan here. But I have been working with Senator Capito and others for almost 10 years now, since I got to the Senate, on permitting reform, efficiently, timely, certain.

My State, the great State of Alaska, is ground zero for -- you can't permit anything. You want to build a sidewalk, you want to build a road, every radical lower 48 environmental group in the Country, want to get a delay, nav gas for your small airplanes, every lower 48 group comes and sues, stops, delays. It is crazy, and our laws allow it.

We have a gold mine called the Kensington Mine, southeast Alaska, employs about 400 people, $110,000 is the average wage. It took 20 years to permit that mine. Twenty years. Nobody thinks that is a good idea. And no offense, but my Democrat colleagues are the ones who block permitting reform. That is

just a fact.

So I work that as the Democrat nominee, a Democrat committee that is chaired three to two, that the opportunities for particularly this new generation of nuclear will be stymied and stalled because Democrats don't focus on permitting reform. They are fine with 20-year gold mine projects in Alaska. They kind of align themselves with some of these radical lower 48 groups.

So what is your view on permitting reform to take advantage of this? Do you think it should take 20 years to permit a gold mine or a nuclear facility or a small scale nuclear? It is a really important issue. And I know you have seen it; I know you have worked on it. You guys are going to be in charge. And if we go the old way, and it is the Democrat way, it is going to be a problem. What is your view on this?

Mr. Marzano. I certainly think that there is tremendous room for improvement in getting projects done fast. My role as a commissioner --

Senator Sullivan. To Senator Capito's point, nobody wants to abandon safety. That is not what we are. But you can do efficient, timely, certain. Because you know, when the private sector invests, and they are like, that is going to take 20 years, you run all the private capital away. That is why China is beating us on all this stuff, because they subsidize their

companies. We can't do that.

Sorry, I interrupted. What is your thought on this? It is a really important issue.

Mr. Marzano. Certainly, my role as a commissioner, if confirmed, is to be driving those efficiencies as Congress has directed in the ADVANCE Act.

Senator Sullivan. Yes, we did.

Mr. Marzano. I take that to heart, and I will faithfully execute. I think it is extremely important in order for nuclear power to be making a contribution to grid reliability. And yes, at reducing carbon emissions.

So it is in the interest to improve, and that is what the ADVANCE Act directs the NRC to do.

Senator Sullivan. Let me ask one final question. Have you ever been to Alaska?

Mr. Marzano. No, sir, I have not.

Senator Sullivan. Can I get your commitment if you get confirmed that you go up to Alaska, visit some other remote communities? I have over 230 communities in my State that are not connected by roads. We try to get them connected by roads. Like I said, every radical lower 48 environmental group in the Country stops.

You can't build a road in Alaska. You want to build a road in Delaware, somewhere else, sure, nobody cares. In Alaska, you

try to build a road, 20 environmental groups sue to stop. So I have communities, 230 communities that aren't connected by roads.

So everything costs more. Everything. Everything. Including power generation. Because almost everybody is on diesel. And you try to get off diesel, and these lower 48 groups will sue, stop us, no, you can't do that. You can do it in Delaware, you can do it anywhere else. Can't do it in Alaska, sorry. We have to keep you pristine. They have no idea what they are talking about. None of them from Alaska.

So there is excitement on these ideas of small scale nuclear that can maybe help some of these smaller communities, have a lot of poverty, super high energy rates. So can I get your commitment if confirmed to come up and just see what it is like to live in a super-remote community who, when you try to get things done, the lower 48 environmental groups stop everything? It would be helpful for you guys.

We don't have any nuclear power there now. We used to, by the way, on our military bases, a long time ago. There is some excitement along these lines. And as you probably know, Eielson Air Force Base was looking at a, or is still looking at a small modular program, would be the first one in the military, which I am sure the NRC is involved with. I know they are involved with it.

So can I get your commitment on that? And any thoughts on getting power generation to really remote parts of America, not just Alaska? West Virginia?

Mr. Marzano. Yes, Senator, I will certainly visit the State. There is extremely important nuclear work that is going on there. The same power systems that Eielson Air Force Base is considering also provide the opportunity to serve small communities as well.

Senator Sullivan. Yes.

Mr. Marzano. So it would be absolutely imperative for the commission to have an understanding of those applications as well.

Senator Sullivan. Great. Good. Thank you.

Thank you, Mr. Chairman, for letting me go over. Important questions.

Senator Carper. You bet. I would say on a personal note, as you may know, Senator Sullivan, Matt and his wife, Jennifer, who is here with us today, are the parents of a young son, Silas, who is about a year old. When our sons were a bit older than that, my wife and I had the opportunity to go to Alaska and to visit, among other places, Denali. We had just the most wonderful experience.

So Silas is a little bit young to conquer Denali, but you may want to keep that on your to-do list.

Senator Sullivan. Now, the one thing, I do ask a lot of people to come in Alaska, and a lot of them come in the summer. I was just out fishing a couple of days ago.

But it would be really good for you to go to Eielson in January or February where it is 40 below zero and dark. That just gives you another --

Senator Carper. We won't be doing any field hearings at that time of year.

[Laughter.]

Senator Carper. All right. I am going to ask unanimous consent to submit for the record letters of support for Matt's nomination, including letters from the American Nuclear Society, the Nuclear Innovation Alliance, Generation Atomic, and the Good Energy Collective, as well as the International Brotherhood of Electrical Workers. These organizations represent nuclear professionals, they represent technical experts, and they represent policy specialists.

I think I am going to forego any further questions at this time. Let me just ask Senator Capito, do you have any closing comments you would like to make?

Senator Capito. I am good. Thank you.

Senator Carper. In closing, I want to thank Matt for appearing before us today. The Nuclear Regulatory Commission will play a critical role, a critical role in helping us realize

our clean energy future and in reinforcing the reliability of the electric grid. But these efforts will take a terrific amount of work.

Matt is a committed public servant with the technical expertise needed to support that work. Matt's confirmation would bring the Nuclear Regulatory Commission to a full slate of commissioners, which is essential as we enter into a new era of advanced reactors. I firmly believe that he will be an excellent addition to the agency. I hope to work with our colleagues, Senator Capito, to advance his nomination in the coming weeks.

Before we adjourn, a little bit of housekeeping. First, I would like to ask unanimous consent to submit into the record a variety of materials related to today's hearing, including several letters in support of Matt's nomination.

Without objection, so ordered.

[The referenced information follows:]

Senator Carper. Finally, Senators will be allowed to submit written questions for the record through the close of business on Monday, September 16th. We will compile those questions and send them to our witness. We will ask for a reply by Monday, September 23rd.

Anything else, Senator Capito?

Senator Capito. No.

Senator Carper. All right. With that, this hearing is adjourned. Thanks so much.

[Whereupon, at 11:39 a.m., the hearing was adjourned.]