HEARING ON THE NOMINATION OF JEFFERY BARAN 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 FIRST SESSION MAY 10, 2023

Printed for the use of the Committee on Environment and Public Works

# CONTENTS

## MAY 10, 2023

### OPENING STATEMENTS

<table>
<thead>
<tr>
<th>Name</th>
<th>State/Position</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carper, Hon. Thomas R.</td>
<td>U.S. Senator from the State of Delaware</td>
<td>4</td>
</tr>
<tr>
<td>Capito, Hon. Shelley Moore</td>
<td>U.S. Senator from the State of West Virginia</td>
<td>5</td>
</tr>
</tbody>
</table>

### WITNESSES

<table>
<thead>
<tr>
<th>Name</th>
<th>State/Position</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beyer, Hon. Donald S., Jr.,</td>
<td>U.S. Representative from the State of Virginia</td>
<td>1</td>
</tr>
<tr>
<td>Baran, Hon. Jeffery Martin,</td>
<td>nominee to be a Member of the Nuclear Regulatory Commission</td>
<td>6</td>
</tr>
</tbody>
</table>

### ADDITIONAL MATERIAL

<table>
<thead>
<tr>
<th>Name</th>
<th>Date</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Letter to President Joseph R. Biden from the International Brotherhood of Electrical Workers, February 6, 2023</td>
<td>57</td>
<td></td>
</tr>
<tr>
<td>Letter to Senators Carper and Capito from the:</td>
<td></td>
<td>59</td>
</tr>
<tr>
<td>Fusion Industry Association, May 25, 2023</td>
<td></td>
<td>59</td>
</tr>
<tr>
<td>Breakthrough Institute et al., June 12, 2023</td>
<td></td>
<td>61</td>
</tr>
<tr>
<td>Good Energy Collective, May 23, 2023</td>
<td></td>
<td>66</td>
</tr>
<tr>
<td>Nuclear Innovation Alliance, May 22, 2023</td>
<td></td>
<td>68</td>
</tr>
</tbody>
</table>
HEARING ON THE NOMINATION OF JEFFERY BARAN TO BE A MEMBER OF THE NUCLEAR REGULATORY COMMISSION

WEDNESDAY, MAY 10, 2023

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

The Committee met, pursuant to notice, at 10:01 a.m. in room 406, Dirksen Senate Office Building, Hon. Thomas R. Carper (Chairman of the Committee) presiding.


Senator CARPER. Good morning, everyone. I am pleased to call this hearing to order, and doubly pleased because of the person who is sitting right here in front of us to introduce our witness, our nominee.

Maybe before I give my opening statement, I am going to yield to Don Beyer, a longtime friend. I grew up in Virginia and have admired his family from afar. I just wish I could buy a car from them; they are auto dealers, probably still do as far as I know. We have had the privilege of knowing Don and his wife for a number of years.

Why don’t we just turn it over to you for whatever comments you want to make, and then I will take it from there? Welcome.

STATEMENT OF HON. DONALD S. BEYER, JR.,
U.S. REPRESENTATIVE FROM THE STATE OF VIRGINIA

Representative BEYER. Senator, thank you very much. It is an incredible honor for a humble House member to come over and testify before a Senate panel.

My fearless leader, Senator Carper, who has taken me all over the world on some wonderful trips.

And Senator Cramer, so nice to see a House member do well and rise to this auspicious body. One day I am going to get to North Dakota.

Senator Capito, when I ran for Governor many years ago, 26 years ago, part of my promise was that if elected I would send in the National Guard and take back the rest of our State.

[Laughter.]

Representative BEYER. However, I lost.

But I love West Virginia. It is a wonderful, wonderful place.

I have the incredible honor of introducing Commissioner Jeff Baran to this esteemed Committee on the momentous occasion of
his fourth nomination for a fourth term to sit on the Nuclear Regulatory Commission. I am honored to be Commissioner Baran's Representative, and I am glad that he has been nominated to again represent all of our best interests in nuclear regulatory policy, as he has done since 2014.

Jeff got his start at Ohio University with a bachelor's and a master's degree in political science, and then earned a law degree at some little place in Boston called Harvard Law School. He then made a choice that all of us in the room resonate with, instead of going to the big New York law firm, he set his sights on Capitol Hill. He worked in the House of Representatives for over 11 years, first as counsel to the House Oversight and Government Reform Committee, and then in the House Energy and Commerce Committee for over 11 years.

In the Energy and Commerce Committee, he pulled together bills around energy efficiency, supporting renewable energy, bolstering the electric grid, and pipeline and nuclear safety, and really impactful projects like the cleanup of nuclear waste in and around the Navajo Nation. Additionally, during his time on the Committee, he oversaw many of the Nuclear Regulatory Commission's activities, preparing him directly for his current role as Commissioner.

He was then nominated to the NRC in 2014 by President Obama, and approved by the Senate. During his time at the Nuclear Regulatory Commission, Jeff and the other commissioners have served diligently, making strides in approving and regulating cutting edge technologies like small modular nuclear reactors.

And my personal favorite, just a few weeks ago, a landmark decision, setting a framework for how to regulate fusion energy once it moves into power plant readiness. And I hope you saw, there was an announcement already this morning that Microsoft has a deal with Helion to provide 15 megawatts of nuclear power in 2028, which is 17 years ahead of the ITER project. It is remarkable. But it is only possible because of what Commissioner Baran and his colleagues have done.

These areas have kept our nuclear power stores safe and operational, while continuing to promote innovation by giving engineers the freedom to find more efficient ways to create and store energy. Jeff's work has also made significant strides toward creating a cleaner and more reliable grid.

I look back with pride on Jeff's work as a Nuclear Regulatory Commissioner, and look forward to the ways in which he will continue to serve our country if you approve him again.

Thank you, and I yield back the balance of my time.

[The prepared statement of Representative Beyer follows:]
Remarks to Introduce Jeff Baran, Nominee to the Nuclear Regulatory Commission

Senate Committee on Environment and Public Works
May 10, 2023

Good morning.

Today, I have the honor of introducing Commissioner Jeff Baran to this esteemed Committee on the momentous occasion of his nomination for a fourth term as a Nuclear Regulatory Commissioner.

I am honored to be Commissioner Baran’s Representative and I am glad that he has been nominated to again represent all of our best interests in nuclear regulatory policy, as he has done since 2014.

Jeff got his start at Ohio University with a bachelor’s and master’s degree in political science, and then earned a law degree at Harvard Law School.

Jeff then made a choice that all of us in the room resonate with—he set his sights to Capitol Hill.

Jeff worked in the House of Representatives for over 11 years, first as counsel to the House Oversight and Government Reform Committee, then in the House Energy and Commerce Committee, where he worked for over 11 years.

In the Energy and Commerce Committee, he pulled together bills around energy efficiency, supporting renewable energy, bolstering the electric grid, and pipeline and nuclear safety, including really impactful projects like the cleanup of nuclear waste in and around the Navajo Nation.

Additionally, during his time on the Committee, he oversaw many of the Nuclear Regulatory Commission’s activities, preparing him directly for his current role as a Commissioner.

Jeff was then nominated to the NRC in 2014 by President Obama, and approved by this Committee.

During his time at the Nuclear Regulatory Commission, Jeff and the other Commissioners have served diligently, making strides in approving and regulating cutting edge technologies like small modular reactors, and my personal favorite, setting a framework for how to regulate fusion energy once it moves into power plant readiness.

These areas have kept our nuclear power stores safe and operational, while continuing to promote innovation by giving engineers the freedom to find more efficient ways to create and store energy.

Jeff’s work has also made significant strides toward creating a cleaner and more reliable grid.

I look back with pride on Jeff’s work as a Nuclear Regulatory Commissioner, and look forward to the ways in which he will continue to serve our country if he is approved again.

Thank you, and I yield back the balance of my time.
OPENING STATEMENT OF HON. THOMAS R. CARPER, U.S. SENATOR FROM THE STATE OF DELAWARE

Senator CARPER. We are delighted to see you here. I remember when they were just getting started, nobody had ever heard of them. Now they are like a big deal, it is something. You just never know. Fusion has been a long time coming, but I think it is here now. It is exciting for us.

Thanks, great to see you, Don. Our best to your family. Thank you for joining us.

Let me add a few words if I can, then turn it over to Senator Capito, to say a couple of words about Commissioner Baran.

It is my privilege to say a few words about our nominee and the important role that a well functioning NRC has in ensuring that we continue to safely and reliably power our Nation into the future. As we all know, nuclear power plays a critical role in our efforts to address the climate crisis and strengthen our Nation's energy security, while also creating economic opportunity.

Nuclear energy is currently the largest source of reliable, clean energy in our country; I will say that again. Nuclear energy is currently the largest source of reliable, clean energy in our country. I think 50 percent of the carbon free electricity being generated today comes from our nuclear plants. It provides a lot of energy for us, and it is clean.

Meeting our Nation's ambitious climate goals will most certainly involve nuclear power, including the development and deployment of new technologies, as we have just been talking about here with Don, and nuclear reactors.

As we discussed with the full Commission during last month's NRC budget hearing, we must ensure that the agency has the resources that it needs to effectively maintain not only the safety but the security of our Nation's nuclear facilities and materials. A well resourced and fully staffed NRC is essential to maintaining the safe operation of our Nation's current fleet of reactors while also preparing for the next generation of technologies.

In addition to sufficient funding, the NRC must have a complete leadership team in place. A vacancy on the Commission at this critical moment could delay important decisions and slow down the deployment of new nuclear reactors.

At the end of June, when Commissioner Baran's current term ends, one of the five seats on the Commission will become vacant. Fortunately, the President has nominated Commissioner Baran to serve another term on the NRC.

Jeff Baran is a dedicated public servant who has served as a Commissioner of the NRC since 2014. Throughout his time on the Commission, the NRC has maintained its status as the world's gold standard for nuclear regulatory agencies. This level of excellence is due in no small part to Commissioner Baran's leadership. We are grateful for that.

In his time on the NRC, Commissioner Baran has focused on the need to serve the public and provide opportunities for engagement and input from all stakeholders, especially those in disadvantaged and underserved communities. He has brought a welcome perspective to the NRC about its role in promoting environmental justice.
It is clear that Commissioner Baran also understands that the NRC’s work is critical in our fight against climate change. Commissioner Baran has demonstrated this commitment to addressing climate change through the Commission’s work to establish the right regulatory framework for the safe licensing and the operation of new technologies like the next generation of nuclear reactors and fusion energy systems.

Before beginning his service on the NRC, Jeff worked as a staff member, as we have heard, for the House Committee on Energy and Commerce. During that time, oversight of the NRC was one of his primary areas of responsibility. In addition, he has successfully worked to coordinate between relevant Federal agencies and two Native American tribes to clean up uranium contamination in and around the Navajo Nation.

As I mentioned, maintaining a full slate of commissioners will help the NRC continue to carry out its important responsibilities and do so effectively and efficiently. That is why I hope to work with all of our members of this Committee to expeditiously move Commissioner Baran through the confirmation process to ensure that this impending vacancy is filled.

With that, I am pleased to turn it over to Senator Capito.

Senator.

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

Senator CAPITO. Thank you, Mr. Chairman.

Thank you, Commissioner Baran, for being here with us today.

Nuclear power is necessary to meet our energy and national security priorities, provide for a reliable electric grid, and achieve our environmental goals.

Congress established our Nation’s policy on the peaceful use of nuclear technology in the Atomic Energy Act. That policy remains as important and relevant today as it was when it was enshrined into law generations ago. The Atomic Energy Act states that the use of nuclear energy shall be directed to make the maximum contribution to the common defense and security, improve the general welfare, and increase the standard of living.

To help achieve those goals, Congress provided the fundamental nuclear regulatory standard, called the reasonable assurance of adequate protection. This reasonable assurance standard guides how the Nuclear Regulatory Commission asserts its authority to regulate the civilian use of radioactive materials. It provides the guideposts by which the NRC meets the agency’s mission to improve the general welfare and protect public health and the environment.

This morning, we will examine how Commissioner Baran’s record aligns with those dual pillars, the Nation’s long established nuclear energy policy goals, and the regulatory standards under which those goals are met. This is Commissioner Baran’s third nomination hearing before this Committee to serve on the NRC.

As I have reviewed his record from his long tenure as a commissioner, I see a regulatory philosophy of an unjustifiably increasing regulatory burdens, and reducing regulatory predictability and add-
ing costs. This policy approach of stifling innovation and squeezing the industry is unacceptable at the best of times.

But it is especially unacceptable at a time of transition in the nuclear fleet, which we have talked a lot about in this Committee, increased demand for reliable and zero emission sources of baseload energy electric generation, and cutthroat international competition in the sector.

I am concerned that this cumulative record, Commissioner Baran’s votes, and the policies he has supported, may not align with what Congress expects, and the Nation needs and deserves, with respect to nuclear power. I look forward to hearing his responses to questions about past decisions.

Continuing down a path that would seem to follow from that past record will unnecessarily limit the deployment of safe nuclear energy and threaten America’s security and economic competitiveness. Congress has consistently provided significant support with strong bipartisan majorities to keep operating our nuclear power plants online while developing and deploying modern, advanced nuclear technologies.

New policies recently approved by Congress are in place to incentivize today’s nuclear power plants to increase power output and pursue license extensions. Policies are also set to facilitate the major private capital investments necessary to license, construct, and operate our new reactors. The success of these policies will depend on how they are implemented in the next 5 years, the same timeframe as the term for which Commissioner Baran is nominated.

I am concerned his past record shows that when multiple regulatory options exist, Commissioner Baran has consistently supported the more burdensome pathway and deviated from the reasonable assurance standard. He has voted to overturn previous Commission decisions with no new information to justify such a relook. In vote after vote, Commissioner Baran took positions that support the ratcheting up of regulations, and by extension compliance costs, to no useful end.

This record, if continued, will severely curtail the outlook for nuclear energy in our future, cede international markets to Russia and China, and limit the Commission’s ability to deliver upon the vision set out by Congress at the dawn of the nuclear age. I will have some questions for the Commissioner on how he plans to correct course on these matters to reestablish America’s leadership in nuclear energy.

I yield back.

Senator CARPER. Thanks, Senator Capito.

Commissioner Baran, we are delighted to see you again. Thank you for your service; thank you for your willingness to serve further.

You are recognized for your opening statement.

STATEMENT OF HON. JEFFERY MARTIN BARAN, NOMINEE TO BE A MEMBER OF THE NUCLEAR REGULATORY COMMISSION

Mr. Baran. Chairman Carper, Ranking Member Capito, and members of the Committee, thank you for the opportunity to appear before you today.
I am honored to have been nominated to continue my service on the Nuclear Regulatory Commission for another term.

Thank you, Congressman Beyer, for taking the time to introduce me. I appreciate it.

I have been reflecting on the changes in the nuclear energy landscape since I joined the Commission in 2014. A lot has changed. We have seen major shifts in NRC’s workload, budget, staff size, hiring, and overall outlook for the future.

When I arrived on the Commission, these factors were all on a downward slope. Our workload was shrinking. Our staff and budget were shrinking. We had the Project AIM effort to reduce costs, narrowly avoided layoffs, and essentially had a hiring freeze. Nuclear power plants were shutting down.

Back then, there was little talk of new construction beyond Vogtle. There was some interest in small modular reactors, but almost no real discussion of advanced, non-light water reactors.

Today, we are in a very different situation. Policymakers and the public are increasingly focused on climate change and energy security. The urgency and scale of the climate challenge have led to a growing consensus that meeting ambitious climate goals will involve nuclear power, including new reactors.

The Bipartisan Infrastructure legislation and the Inflation Reduction Act make large investments to drive this expansion, including through the Clean Electricity Production Tax Credit and funding for a domestic high assay low enriched uranium supply chain. Few, if any, nuclear power plants are expected to close anytime soon.

With more potential applications for advanced reactors, small modular reactors, subsequent license renewal, new fuel designs, power uprates, and risk informed programs expected, NRC’s overall workload is increasing. We are hiring again, and our budget requests are stabilizing, or even growing a bit, to allow us to do this new work. The outlook for nuclear has markedly changed, and it is an exciting time to be doing our important work.

NRC has a key role to play in addressing climate change and energy security. It is our job to ensure the safety and security of nuclear power in the U.S. energy mix. And that means we need to be ready. When utilities and vendors tell us that we should expect numerous new designs and reactor applications, we need to be ready with sufficient resources and the right expertise to review them, and an efficient and effective licensing process that can handle every application that comes our way. That is an important NRC responsibility. In this period of change, NRC also needs to be open to, and ready for, new technologies that could improve safety.

When I arrived at NRC, I committed to bring an open minded and collegial approach to the issues that come before the Commission. And I believe I have met that commitment. My focus has been on crafting thoughtful, balanced, and timely votes after hearing from a broad range of stakeholders.

I value the relationships I have formed with my Commission colleagues, the NRC staff, licensees, unions, States, Tribes, and public interest organizations, and have benefited greatly from their ideas and input. My frequent visits to nuclear power plants and other NRC regulated facilities not only give me an opportunity to view
equipment and technologies first hand; they also give me the chance to hear directly from NRC’s resident inspectors, as well as the workers and managers at the sites, about their priorities and concerns. If confirmed, I look forward to maintaining my open door approach.

Several key initiatives are underway at NRC, and I am eager to see them through to their conclusion. If I am confirmed for another term, I will continue to focus on these efforts, including establishing the framework for advanced reactors and small modular reactors, standing up the framework for fusion, and finalizing the decommissioning rulemaking and source security rulemaking.

I also want to see the agency make real progress on our environmental justice efforts. Ensuring that the agency has the talented and engaged workforce to succeed is another top priority for me. I am happy to discuss these or any other issues of interest to members of the Committee in greater detail today or in the future.

Prior to my service on the Commission, I had the privilege of working for Congress for more than a decade. I have a deep respect for the importance and value of congressional oversight. If confirmed, I will continue to do everything I can to ensure that the Committee has the information it needs to meet its oversight responsibilities.

Thank you, and I look forward to your questions.

[The prepared statement of Mr. Baran follows:]
Statement of Jeff Baran  
Committee on Environment and Public Works  
May 10, 2023

Chairman Carper, Ranking Member Capito, and members of the Committee, thank you for the opportunity to appear before you today. I am honored to have been nominated to continue my service on the Nuclear Regulatory Commission for another term. Thank you, Congressman Beyer, for taking the time to introduce me. I appreciate it.

I have been reflecting on the changes in the nuclear energy landscape since I joined the Commission in 2014. A lot has changed. We have seen major shifts in NRC’s workload, budget, staff size, hiring, and overall outlook for the future. When I arrived on the Commission, these factors were all on a downward slope. Our workload was shrinking. Our staff and budget were shrinking. We had the Project AIM effort to reduce costs, narrowly avoided layoffs, and essentially had a hiring freeze. Nuclear power plants were shutting down. Back then, there was little talk of new construction beyond Vogtle. There was some interest in small modular reactors, but almost no real discussion of advanced, non-light-water reactors.

Today, we are in a very different situation. Policymakers and the public are increasingly focused on climate change and on energy security. The urgency and scale of the climate challenge have led to a growing consensus that meeting ambitious climate goals will involve nuclear power, including new reactors. The bipartisan infrastructure legislation and the Inflation Reduction Act make large investments to drive this expansion, including through the Clean Electricity Production Tax Credit and funding for a domestic high-assay low enriched uranium supply chain. Few, if any, nuclear power plants are expected to close anytime soon. With more potential applications for advanced reactors, small modular reactors, subsequent license renewal, new fuel designs, power uprates, and risk-informed programs expected, NRC’s overall workload is increasing. We are hiring again, and our budget requests are stabilizing, or even growing a bit, to allow us to do this new work. The outlook for nuclear has markedly changed, and it is an exciting time to be doing our important work.

NRC has a key role to play in addressing climate change and energy security. It’s our job to ensure the safety and security of nuclear power in the U.S. energy mix. And that means we need to be ready. When utilities and vendors tell us that we should expect numerous new designs and reactor applications, we need to be ready with sufficient resources and the right expertise to review them, and an efficient and effective licensing process that can handle every application that comes our way. That’s an important NRC
responsibility. In this period of change, NRC also needs to be open to—and ready for—new technologies that could improve safety.

When I arrived at NRC, I committed to bring an open-minded and collegial approach to the issues that come before the Commission. And I believe I have met that commitment. My focus has been on crafting thoughtful, balanced, and timely votes after hearing from a broad range of stakeholders. I value the relationships I have formed with my Commission colleagues, the NRC staff, licensees, unions, states, tribes, and public interest organizations, and have benefitted greatly from their ideas and input. My frequent visits to nuclear power plants and other NRC-regulated facilities not only give me an opportunity to view equipment and technologies firsthand; they also give me the chance to hear directly from NRC’s resident inspectors, as well as the workers and managers at the sites, about their priorities and concerns. If confirmed, I look forward to maintaining my open-door approach.

Several key initiatives are underway at NRC, and I am eager to see them through to their conclusion. If I am confirmed for another term, I will continue to focus on these efforts, including establishing the framework for advanced reactors and small modular reactors, standing up the framework for fusion, and finalizing the decommissioning rulemaking and source security rulemaking. I also want to see the agency make real progress on our environmental justice efforts. Ensuring that the agency has the talented and engaged workforce to succeed is another top priority for me. I am happy to discuss these or any other issues of interest to members of the Committee in greater detail today or in the future.

Prior to my service on the Commission, I had the privilege of working for Congress for more than a decade. I have a deep respect for the importance and value of Congressional oversight. If confirmed, I will continue to do everything I can to ensure that the Committee has the information it needs to meet its oversight responsibilities.

Thank you, and I look forward to your questions.
Senate Committee on Environment and Public Works
Hearing Entitled, “Hearing on the Nomination of Jeffery Baran to be a Member of the Nuclear Regulatory Commission”
May 10, 2023
Questions for the Record for Jeffery Baran

Ranking Member Capito:


   a. Were you aware of the report’s findings with respect to the likelihood of a zirconium fire in a spent fuel pool when you voted on:


      ii. SECY-14-0144, “Request by Southern California Edison for Exemptions from Certain Emergency Planning Requirements,” on February 10, 2015;

      iii. SECY-14-0125, “Request by Entergy Nuclear Operations, Inc., for Exemptions from Certain Emergency Planning Requirements,” on February 10, 2015;

      iv. SECY-17-0080, “Request by the Omaha Public Power District for Exemptions from Certain Emergency Planning Requirements for the Fort Calhoun Station, Unit 1,” on September 8, 2017;

      v. SECY-18-0062, “Request by the Exelon Generation Company, LLC for Exemptions from Certain Emergency Planning Requirements for the Oyster Creek Nuclear Generating Station,” on July 11, 2018;

      vi. SECY-19-0078, “Request by the Entergy Nuclear Operations, Inc. for Exemptions from Certain Emergency Planning Requirements for the Pilgrim Nuclear Power Station,” on October 23, 2019;


      viii. SECY-21-0006, “Request by Nextera Energy Duane Arnold, LLC for Exemptions from Certain Emergency Planning Requirements for the Duane Arnold Energy Center,” on February 9, 2021; and

      ix. SECY-18-0055, “Proposed Rule: Regulatory Improvements for Production and Utilization Facilities Transitioning to Decommissioning,”
Response:

Yes, I was aware of the findings of NUREG-2161 when I voted on these matters.

b. Did you agree or disagree with the NRC Staff’s conclusion that “the [NUREG-2161] study’s analyses shows that a release from a spent fuel pool accident after the severe earthquake at the reference plant could occur about one time in 10 million years or lower,” (NUREG-2161, p. xxvii) and how did you factor in that conclusion before casting your votes listed above?

Response:

I accept the staff’s technical conclusions in NUREG-2161. I considered those conclusions while taking a risk-informed, rather than risk-based, approach to the issue.

Although the events that could trigger a zirconium fire in a spent fuel pool of a shutdown reactor are fewer and less likely to occur than accident scenarios involving an operating nuclear power plant, radiological emergency planning has never been exclusively based on the likelihood of an accident occurring. State emergency response officials and the Federal Emergency Management Administration (FEMA) have raised concerns about a risk-based approach to emergency planning for decommissioning reactors. For example, the Committee on Emergency Response Planning of the Conference of Radiation Control Program Directors (CRCPD) believes that probabilistic risk assessment and “new risk studies should not be the sole basis for emergency planning policy with respect to spent fuel accidents.” Similarly, the State of Ohio focuses on the importance of being prepared for low-probability, high-consequence events, stating: “How can you not have an offsite emergency response plan? Until you can say there is no evacuation potential, then the offsite response capability is still needed.” Massachusetts, Vermont, Connecticut, and New York agree that “even if NRC Staff is correct that the probability of such an incident is ‘low,’ the consequences are so significant that the NRC cannot permit licensees to eliminate these straightforward but important emergency preparedness activities.”

FEMA and the states also dispute the NRC staff’s premise that all-hazards planning would be adequate in responding to a spent fuel pool accident. According to FEMA, “Radiological [emergency planning] is not sufficiently addressed within the All Hazards framework – radiological [emergency planning] is unique.” FEMA explains that “[a]dvanced planning – such as provided by an EPZ – reduces the complexity of the decision-making process during an incident.” And FEMA “stress[es] that the proven best way to ensure offsite readiness is to develop, exercise, and assess [offsite response organization] radiological capabilities, as is now done throughout the offsite EPZ.” While a radiological emergency plan could be “scaled up” to address a more severe accident than what was planned for, FEMA notes that it is “unrealistic” to scale up “non-existent plans” and that the resulting “lack of necessary equipment, and shortage of trained emergency personnel could have unfortunate consequences.” Similarly, Massachusetts, Vermont, Connecticut, and New York contend that “[b]ecause EPZs are what
ensure that prompt and effective actions occur, the elimination of EPZs removes that assurance.” And CRCPO notes that “[t]here is no supporting evidence that an all-hazards plan would have the same effect” of reducing the risk of early fatalities as a dedicated radiological emergency plan would.

In my view, there is broad agreement that all-hazards planning would not be as effective as dedicated radiological emergency planning in an actual radiological emergency. As FEMA explains:

The belief expressed by the NRC staff that State and local governments surrounding a decommissioning plant which are not involved in formal radiological emergency planning would nonetheless respond expeditiously and with optimum effectiveness to an actual radiological emergency in a coordinated fashion using its [all-hazards plan] is open to question. FEMA has no data that would indicate what State and local government reactions might be in such circumstances.

An emergency response to a spent fuel pool accident based on an all-hazards plan would be even more challenging within the 10-hour timeframe assumed by the NRC staff. According to FEMA, “NRC is believing that the ‘muscle memory’ of formal [radiological emergency planning] knowledge and skill will carry the day,” but “[e]mergency preparedness should not be based on the efficacy of residual knowledge.” Several states share this concern. For instance, the California Energy Commission argues that the “overly optimistic 10-hour timeline ignores the full impact of a disaster event. An event that triggers a nuclear incident has a high probability of introducing significant barriers to transportation and communication.”

Based on these concerns, FEMA and many states recommend that NRC require dedicated radiological emergency planning, including a 10-mile EPZ, until all spent nuclear fuel at a site is removed from the spent fuel pool and placed in passive, dry cask storage. I support this approach, which would provide defense-in-depth to protect the public, while ensuring that FEMA will continue to play its vital role in assessing the adequacy of offsite emergency response plans at decommissioning nuclear power plants.

2. Your vote on SECY-18-0062, “Request by the Exelon Generation Company, LLC for Exemptions from Certain Emergency Planning Requirements for the Oyster Creek Nuclear Generating Station, said “after five years of spent fuel decay in the pool, a zirconium fire should no longer be reasonably conceivable.” Please articulate the difference in relative risk between the NRC Staff’s analysis in NUREG-2161 and the “no longer be reasonably conceivable” standard you cite.

Response:

In crafting that portion of my vote, I considered the NRC staff’s analysis in SECY-00-0145, “Integrated Rulemaking Plan for Nuclear Power Plant Decommissioning,” which was issued in June 2000. In my vote, I did not specifically reference NUREG-2161 or compare the staff’s analysis in SECY-00-0145 to that in NUREG-2161. However, I viewed the state of a zirconium fire being no longer reasonably conceivable as equivalent to a conservative
adiabatic analysis that the decay heat level of the spent fuel is so low that the fuel is no longer susceptible to a zirconium fire.

3. At your hearing, you stated, “My thought was the time to move to the elimination of emergency planning zones and all emergency planning is really when it is in dry cask storage.” What is your basis to determine that the risk is sufficiently low, or outright eliminated, when spent fuel is fully in dry cask storage compared to the NRC Staff’s analysis in NUREG-2161?

Response:

As I explained in my response to question 1 b., I considered the staff’s technical conclusions in NUREG-2161 while taking a risk-informed, rather than risk-based, approach to the issue. Based on the comments of FEMA and multiple state emergency response organizations, I did not believe that all-hazards planning would provide the same level of protection of public health and safety as offsite dedicated radiological emergency planning. I also concluded that an emergency response to a spent fuel pool accident based on an all-hazards plan would be challenging within the 10-hour timeframe assumed by the NRC staff. As discussed above, FEMA and many states recommend that NRC require dedicated radiological emergency planning, including a 10-mile EPZ, until all spent nuclear fuel at a site is removed from the spent fuel pool and placed in passive, dry cask storage. I support this approach, which would provide defense-in-depth to protect the public, while ensuring that FEMA will continue to play its vital role in assessing the adequacy of offsite emergency response plans at decommissioning nuclear power plants.

4. With respect to your view on SECY-22-9001, “Final Rule: Emergency Preparedness for Small Modular Reactors and Other New Technologies (RIN 3150-AJ68, NRC-2015-0225),” you stated that “there be a sign-off, if you are going all the way down to site boundary, to make sure [the Federal Emergency Management Agency] (FEMA) is comfortable with it, and the local emergency planners and response organizations are comfortable that that is going to work for a particular site” and “that is what my vote on that rulemaking says.”

   a. Does FEMA have any regulatory authority regarding the NRC’s determination to set emergency planning zone requirements for NRC licensees?

Response:

FEMA has a key role in determining whether the emergency planning for a nuclear power plant site is adequate. Under NRC’s regulations, a nuclear power plant license cannot be issued unless NRC makes a finding that the major features of the emergency plan meet the regulatory requirements. And NRC is to base its finding on FEMA’s determinations as to whether the offsite emergency plans are adequate and whether there is reasonable assurance that they can be implemented. In fact, under NRC’s regulations in 10 CFR 50.47, “in any NRC licensing proceeding, a FEMA finding will constitute a rebuttable presumption on questions of adequacy and implementation capability.”

Page 4 of 23
b. Do local emergency planners and response organizations have any regulatory authority regarding the NRC’s determination to set emergency planning zone requirements for NRC licensees?

Response:

No, local emergency planners and response organizations do not have such regulatory authority. However, I value and consider their views about the adequacy of emergency response requirements and implementation capability. State and local government officials are responsible for deciding on and implementing appropriate public protective actions during a nuclear power plant radiological emergency.

c. Are FEMA’s emergency preparedness programs conditioned to the NRC’s established regulations, or does the NRC set its regulations based on FEMA’s authority?

Response:

As detailed above, under NRC’s regulations, a nuclear power plant license cannot be issued unless NRC makes a finding that the major features of the emergency plan meet the regulatory requirements. And NRC is to base its finding on FEMA’s determinations as to whether the offsite emergency plans are adequate and whether there is reasonable assurance that they can be implemented.

d. Which of the NRC’s regulatory authorities should be conditioned on sign-off from other Federal agencies?

Response:

Because small modular reactors and non-light-water reactors have the potential to be safer than traditional, large light-water reactors, there is broad agreement that a graded approach to emergency preparedness makes sense. Almost all stakeholders agree that this final rule should recognize the potential safety benefits of lower radionuclide inventories and the smaller and slower release of fission products in accident scenarios. In their comments on the proposed rule, NRC’s emergency preparedness partners at FEMA and state response agencies expressed comfort with a SMR emergency planning zone smaller than 10 miles that would be scalable based on the design characteristics of a particular SMR.

However, site boundary EPZs raise a unique set of concerns. Although NRC has previously licensed research and test reactors with site boundary EPZs and a few small reactors with a 5-mile EPZ, it has never licensed a commercial nuclear power plant with an EPZ that ended at the site boundary. Unlike a 5-mile or even 2-mile EPZ, a site boundary EPZ would not require dedicated offsite radiological emergency planning, and FEMA would have no role in evaluating the adequacy of a site’s emergency plans. With a site boundary EPZ, emergency responders would be left with all-hazards planning. While the NRC staff believes that all-
hazards planning would be sufficient, FEMA and state emergency response agencies are not convinced.

In its comment on the proposed rule, FEMA states that it does not believe that all-hazards planning would be adequate in the event of an actual nuclear power plant accident. According to FEMA, the “ad hoc” approach of responding to an emergency without the radiological emergency pre-planning offered by an off-site EPZ “does not assure that the full range of necessary actions will be taken, and it makes it much more likely that any response will be uncoordinated.” FEMA explains that “the belief expressed by the NRC that state and local governments surrounding a site boundary EPZ at an SMR, which have not previously been involved in radiological emergency planning, would nonetheless respond effectively to an actual emergency in a coordinated fashion using its [all hazards plan] is open to serious question.” Because “a site boundary EPZ effectively eliminates the need for full participation exercises to test and validate state and local governments capacity,” “the preparedness of the state and local governments is not demonstrated in any meaningful sense.”

Similarly, New Jersey emphasizes the importance of “a defense-in-depth approach for low probability, high consequence events” and contends that an “all hazards framework for emergency planning and response does not adequately address the unique nature of a radiological incident.” New Jersey argues that “[i]t is not prudent to assume that the all hazards framework could be scaled up to address a radiological incident effectively and efficiently to ensure adequate protection of public health and safety.” The Conference of Radiation Control Program Directors agrees that, without the pre-planning that goes along with an EPZ, “state and local jurisdictions may not have the expertise necessary to adequately respond to a radiological emergency under their all-hazards plan.”

In its letter report on the draft final rule, the Advisory Committee on Reactor Safeguards (ACRS) raises essentially the same concerns. Noting “the reduced operating experience with new nuclear technologies and differences in operating practices of commercial facilities versus” research and test reactors, ACRS recommends revising the rule “to not exclude [FEMA] from being involved in reviewing emergency plans under the rule regardless of the boundaries of the [EPZ] to ensure applicable offsite agencies are capable to coordinate with onsite nuclear emergency organizations.” ACRS advises that, “[e]mergency preparedness being the last line of defense for the health and safety of the public, precaution in the case of unforeseen events is prudent.”

In my view, we should take these concerns seriously. We should balance a graded approach to emergency planning with the need to ensure adequate emergency preparedness for a SMR or an advanced reactor with a site-boundary EPZ. To achieve this, I believe the NRC staff should update the draft final rule to provide that a site boundary EPZ for a commercial SMR or advanced reactor requires a written finding from NRC, FEMA, and the host state that offsite response organizations and offsite emergency planning at a particular site would provide for an effective and adequate response in the event of a severe radiological emergency.

e. Which of the NRC’s regulatory authorities should be conditioned on sign-off from localities or related local organizations?
Response:

As detailed above, I believe the NRC staff should update the draft final rule to provide that a site boundary EPZ for a commercial SMR or advanced reactor requires a written finding from NRC, FEMA, and the host state that offsite response organizations and offsite emergency planning at a particular site would provide for an effective and adequate response in the event of a severe radiological emergency.

5. The Governors from New Mexico and Texas are on record, including with the Commission, in opposition to the licensing of a consolidated interim storage facility in their respective states.

a. How would you consider the opposition of a state government into your decision to approve or disapprove an NRC license?

Response:

The NRC staff, rather than the Commission, makes the decision to approve or disapprove licenses for consolidated interim storage facilities. That is generally true for most decisions to issue an NRC license. To the extent the Commission is involved in a licensing decision, I certainly value and consider the views of states.

b. Does your view on the position of a state government in the approval or disapproval of an NRC license also apply to the position of a state government in NRC’s regulatory actions imposed on an existing NRC licensee?

Response:

It is not unusual for states to express their views on potential NRC regulatory actions. I value and consider those views in all matters that come to the Commission for a vote. For materials issues, our Agreement State partners play a significant role in inspection, licensing, and rulemaking.

6. With respect to your view on SECY-20-0020, “Results of Exploratory Process for Developing a Generic Environmental Impact Statement for the Construction and Operation of Advanced Nuclear Reactors,” you stated you support finalizing the staff’s proposal because it will “narrow the issues that need to be resolved for each individual reactor application that comes in.” You also stated, “Now that we have a draft in front of us, I think that is a good draft, I think we should go forward with that, and I think we will get some real benefit there.” To realize the benefit of the staff’s proposal, the GEIS must be codified so issues that are considered addressed in the GEIS are fully resolved. Do you support codifying the advanced reactor GEIS so it can be fully utilized by future advanced reactor applicants?

Response:
I disagree that it is necessary to codify the GEIS and do not support codifying the GEIS through rulemaking. In my view, the benefits of a GEIS can be realized without taking that step. Advanced reactor applicants could reference the GEIS in their applications, and NRC could use the GEIS framework to address particular resource areas in its National Environmental Policy Act (NEPA) reviews. Applicants will be able to focus their environmental reports on project-specific, site-specific issues. Without being codified in a regulation, the GEIS will still provide regulatory predictability for potential applicants and vendors. And the GEIS can increase consistency across advanced reactor environmental reviews.

There are significant disadvantages of codifying the results of the advanced reactor GEIS. Incorporating the GEIS into a regulation will rigidly lock in those entry criteria and findings. With so many first-of-a-kind advanced reactor technologies being considered, locking environmental findings into regulation will reduce flexibility. If one or more of the performance-based assumptions end up needing to be refined or adjusted, it will require an additional notice-and-comment rulemaking to make any necessary changes. Moreover, codifying the GEIS through rulemaking will be more time-consuming and resource intensive than simply taking comments on the draft GEIS, addressing those comments, and completing the GEIS. The GEIS can be finalized and available for use more quickly without a rulemaking. And the agency resources that would have been expended on a rulemaking could be put to better use further developing the advanced reactor safety framework and reviewing specific applications.

There is ample precedent for issuing a GEIS without codifying it through rulemaking. In fact, that is typically how NRC has approached GEISs. The NRC staff has prepared seven GEISs over the years. Just two were codified in regulation: the reactor license renewal GEIS and the continued storage GEIS. The other five GEISs were not codified in regulation, including the in situ uranium recovery GEIS, the decommissioning GEIS, the license termination GEIS, the GEIS on handling and storage of spent fuel, and the GEIS on using recycled plutonium in mixed oxide fuel. There are two additional EISs that are functionally similar to GEISs and supported rulemaking efforts: the EIS supporting the issuance of the Part 61 low-level waste regulation and the EIS on the transportation of radioactive material. Neither of those EISs were codified in regulation. Although not codified, applicants and the NRC staff can—and do—rely on the analysis and findings of these GEISs and EISs in NEPA environmental review documents prepared for individual licensing actions. They will be able to do so with the advanced reactor GEIS, as well.

7. What is your view on the NRC’s “Agency Rules of Practice and Procedure” under 10 CFR Part 2?

Response:

I do not think the Part 2 adjudicatory process is optimized with respect to complexity and accessibility. When Harvard Law School’s Negotiation & Mediation Clinical Program examined NRC’s adjudicatory procedures and interviewed a broad range of stakeholders, the team found that “[s]tateholders of all stripes were unified in their criticism of the length, cost, and complexity of the contested hearing process.” Their report noted stakeholder views that NRC’s
“procedural rules can be difficult to parse for even experienced lawyers, let alone for newcomers or unrepresented parties.” The report found that the early filing of contentions “consumes valuable staff time to evaluate and respond to petitions and multiple amended petitions.” It is also not beneficial to applicants. According to the Harvard team, “[i]ndustry groups argue that drawn-out litigation could have a severe adverse impact on many of the developers of advanced reactors – newcomers to the field of nuclear power who typically lack the capital resources of the major utility companies.” In my view, there is a strong argument that over-litigation due to the filing of contentions at the application stage, the draft SER and EIS stage, and the final SER and EIS stage harms all parties.

a. Do you support the NRC revisiting the existing thresholds by which members of the public are granted the right to intervene in the NRC’s licensing process?

Response:

No, I do not support revisiting the contention admissibility standards or standing requirements.

b. If so, what specific issues would you direct the staff to analyze for potential revision?

Response:

Not applicable.

8. At your hearing, you were asked if you believe the Atomic Energy Act requires any regulatory safety threshold beyond “reasonable assurance of adequate protection.” You replied you “haven’t studied that precise legal question.”

a. Does the Atomic Energy Act require a regulatory safety threshold more stringent than reasonable assurance of adequate protection for licenses granted under section 103?

Response:

No, health and safety standards that go beyond reasonable assurance of adequate protection are not required by the Atomic Energy Act. However, they are permitted under the Act. Moreover, cost-justified substantial safety enhancements are specifically provided for in NRC’s backfit regulations.

b. Do you support the Commission’s existing policy regarding what constitutes reasonable assurance of adequate protection?

Response:
To my knowledge, the Commission has never had a generally applicable policy on what constitutes reasonable assurance of adequate protection. Instead, the Commission makes those regulatory decisions on a case-by-case basis with the benefit of precedent. I support that approach.

9. Are cost-justified, substantial safety increases required by the Atomic Energy Act?

**Response:**

No.

a. If not, do you then agree that such decisions are left to the Commission’s discretion, unlike regulations necessary to meet the Atomic Energy Act’s “reasonable assurance of adequate protection” requirement?

**Response:**

The Commission considers potential cost-justified substantial safety enhancements in the context of the backfit regulations.

10. Do you agree that the NRC’s regulatory programs are based on the fundamental principle that the safety of commercial nuclear power reactor operation is the primary responsibility of NRC licensees, and not the NRC?

**Response:**

Yes.

a. If not, please explain your position.

**Response:**

Not applicable.

b. If so, please provide votes you have taken that reflect this principle.

**Response:**

When voting on a matter, I am always cognizant of the role of nuclear power reactor licensees to operate their facilities safely and the role of NRC to provide robust, independent oversight. I believe all of my votes related to commercial nuclear power reactors reflect this understanding.

11. “Defense-in-depth” is an important piece of the NRC’s regulatory regime. As with other regulatory requirements, there must be a consideration at which point defense-in-depth requirements are determined to be sufficient. In discussing the potential regulatory
requirements on advanced reactors, you stated in your vote on SECY-20-0045, "Population-Related Siting Considerations for Advanced Reactors," that "multiple independent layers of protection against potential radiological exposure are necessary because we do not have perfect knowledge of new reactor technologies and their unique accident scenarios."

a. What does "perfect knowledge" mean to you in this context?

Response:

When I referred to not having perfect knowledge, I was making the point that defense-in-depth exists in large part to address uncertainty. This concept is central to the Commission-approved Licensing Modernization Project methodology. Where a probabilistic risk assessment lacks data from reactor operating experience (as it will for many of the new designs that have not previously been built), uncertainties about licensing basis events and the effectiveness and reliability of the reactors' structures, systems, and components will be greater, and the proposed methodology would require additional defense-in-depth measures to address those uncertainties.

b. What are the limits of NRC's regulatory requirements in applying the defense-in-depth principle in the absence of "perfect knowledge?"

Response:

As discussed above, the degree of defense-in-depth required will depend on the degree of uncertainty associated with a specific reactor design.

12. The Atomic Energy Act requires the NRC to make its regulatory decisions on a "reasonable assurance of adequate protection" threshold. In SRM-SECY-14-0088, "Proposed Options to Address Lessons-Learned Review of the U.S. Nuclear Regulatory Commission’s Force-on-Force Inspection Program in Response to Staff Requirements Memorandum – COMGEA/COMWCO-14-0001," the NRC staff’s recommendations included an alternative standard of "high assurance" for certain security program requirements. In SRM-SECY-0073, "Options and Recommendations for the Force-on-Force Inspection Program in Response to SRM-14-0088" the Commission stated:

"In implementing the NRC's regulatory program, either in developing new regulations, inspecting licensee compliance with regulations, or executing the FOF program, the staff should be mindful that the concept of 'high assurance' of adequate protection found in our security regulations is equivalent to 'reasonable assurance' when it comes to determining what level of regulation is appropriate. The NRC should not be applying a 'zero-risk' mentality to security any more than we should be doing so with respect to safety. The staff should operate under this paradigm and eliminate ambiguity on this point in its guidance documents or other internal directives, instructions, or training materials, to the extent such ambiguity exists."
a. Your vote on SECY-16-0073 was silent on the question of the use of “high assurance.” Do you agree with the established Commission policy that the standards for security and reactor safety are the same “reasonable assurance of adequate protection” threshold?

Response:

Yes.

b. Do you consider this a settled policy matter, and will you commit to adhere to that position in the future?

Response:

I am mindful of the benefits of regulatory stability and not aware of any current discussions about revisiting the Commission’s direction. However, as a general matter, I would not want to prejudge any future NRC staff recommendation, stakeholder request, or proposal of a Commissioner.

13 In the Commission’s approval of the draft final rule in SECY-16-0142, “Mitigation of Beyond-Design-Basis Events,” the Commission majority did not agree that the staff had made a sufficient argument that some of the recommended requirements resulted in a cost-justified substantial increase in safety. But you characterized this decision as “nonsensical.”

a. Please explain specifically how plant safety would have been substantially increased and been cost-justified if the rule had been issued as proposed by the NRC staff?

Response:

I agreed with the NRC staff that the requirements of the draft final rule prepared by the staff were necessary for reasonable assurance of adequate protection of public health and safety. Therefore, in our votes, Commissioner Burns and I did not analyze those requirements through the lens of cost-justified substantial safety enhancements.

b. Even though you disagreed with the majority’s decision, do you consider the policy matter now settled – consistent with the Reliability Principle of NRC’s Principles of Good Regulation?

Response:

I am mindful of the benefits of regulatory stability and not aware of any current discussions about revisiting the Commission’s decision. However, as a general matter, I would not want to prejudge any future NRC staff recommendation, stakeholder request, or proposal of a Commissioner.
14. At a December 9, 2021 Commission meeting titled “Briefing on 10 CFR Part 53 Licensing and Regulations of Advanced Nuclear Reactors,” Dr. Edwin Lyman from the Union of Concerned Scientists said “Now, I’ve often argued that the NRC is missing the opportunity to promote innovation and improve safety by requiring greater levels in the operating fleet, but the Commission policy is not adjusting to that.” Do you agree with the position that the NRC should be requiring greater levels of safety in the operating fleet?

Response:

In the context of the discussion on Part 53 and advanced reactors and his presentation at that meeting, I understood Dr. Lyman’s point to be that the Part 53 should require advanced reactors to achieve a higher level of safety than the existing fleet. That approach would not be consistent with the Commission’s Advanced Reactor Policy Statement, which contemplates requiring an equivalent level of safety for new reactors. I do not support establishing standards requiring an overall higher level of safety in Part 53 than those in Part 50 or Part 52.

15. Do you support the current prohibition on using government funding to assist the public with the costs associated with NRC litigation?

Response:

I have not formed an opinion on this issue. Ultimately, this is a Congressional decision, and I would, of course, comply with the law.

a. Do you support a separate NRC staff assessment with an analysis of whether the Commission should consider requesting potential legislative changes to the current prohibition on intervenor funding?

Response:

As part of its environmental justice review, the NRC staff recommends an evaluation of whether the Commission should request legislative changes to the current statutory prohibition on intervenor funding. Through its stakeholder outreach efforts, the staff heard from commenters that NRC should “provide resources for legal and technical assistance to support participation, similar to those provided by other State and Federal organizations.” Given the high level of stakeholder interest in this topic, I agree with the staff that it makes sense to explore the pros and cons of different approaches to making NRC’s adjudicatory proceedings more accessible to environmental justice communities and Tribal nations. I would not want to prejudge any recommendations made by the NRC staff in a future paper.

16. Overall performance of our nation’s nuclear power plants has steadily improved over the last two decades. The Institute of Nuclear Power Operations (INPO) testified before the Environment and Public Works Committee in November 2019 that there is a correlation
between a nuclear power plant’s performance and safety. Do you agree with INPO’s assessment?

Response:

Yes, I agree that a high level of performance is generally an indicator of a high level of safety.

17. In a letter to Congress on March 19, 2018, the Commission stated the NRC does not have authority to issue a license to any entity other than the Department of Energy for a facility to permanently dispose of spent nuclear fuel and high-level radioactive waste. Do you agree with the Commission’s position?

Response:

Yes, I agree with that reading of the Nuclear Waste Policy Act.

18. The Commission’s long-established “backfit protection” policy prohibits the NRC from imposing new requirements on a licensee unless those requirements are cost-justified and substantial safety improvements or are necessary to meet the agency’s “reasonable assurance of adequate protection” regulatory standard. This policy is important for NRC licensees to have certainty that the regulatory requirements in place will not change. I understand the NRC Staff, at the direction of the Commission, updated a document that guides how this policy is analyzed in the agency’s regulatory programs. Do you support this clarification to ensure that NRC staff has a common understanding for how this critical tool is managed?

Response:

A proposed revision of the NUREG-1409 Backfit Guidelines is currently pending before the Commission. Although I have not yet voted on this matter, I agree that an update to the guidelines would be worthwhile.

19. At your hearing you stated that the NRC “does not have the latitude to consider environmental injustice as a licensing factor” and “I don’t think anyone is contemplating that. That wouldn’t work under our statutory authority.”

   a. In 1997, the NRC’s Atomic Safety and Licensing Board (ASLB) rejected a license for a proposed enrichment facility to be constructed in northern Louisiana on environmental justice grounds.

   i. Do you agree with the ASLB’s 1997 decision?

Response:
The ASLB decision was not the final agency decision in that case. In the 1998 *Louisiana Energy Services* case, the Commission affirmed the Board’s ruling in part and reversed it in part. I found the Commission’s approach to be reasonable.

ii. Will you please clarify your comments on the NRC’s environmental justice authority as it relates to the 1997 decision?

**Response:**

My comments are consistent with the Commission’s 1998 decision in *Louisiana Energy Services*.

b. Would you agree that the NRC currently considers impacts to all affected communities as part of its National Environmental Policy Act review?

**Response:**

The NRC staff strives to do so in its environmental impact statements. However, environmental assessments normally do not include an environmental justice analysis.

20. The NRC Staff’s memorandum SECY-22-0025, “Systemic Review of How Agency Programs, Policies, and Activities Address Environmental Justice,” states, “[t]he staff found the consideration of EJ in agency programs, policies, and activities is consistent with applicable law.” Do you agree with the staff’s finding?

**Response:**

In that paragraph, the staff also states that it “identified areas where the consideration of EJ could be updated, enhanced, or modernized.” The paper then offers six constructive and well-supported recommendations for strengthening NRC’s focus on environmental justice. Overall, I support the staff’s findings and recommendations.

21. In your March 2023 address at the NRC’s Regulatory Information Conference, you stated that the Commission should consider creating a position to “facilitate NRC’s participation” in the White House Environmental Justice Advisory Committee (WHEJAC). At that same event one year earlier, you suggested that NRC establish its own advisory committee in the style of the WHEJAC. This White House-supported group has advised officials that any support for critical projects like carbon capture, utilization, and storage, highway expansion – and notably, nuclear power – will not benefit “disadvantaged communities.”

a. Do you agree with the WHEJAC’s characterization of nuclear energy as a type of project that will never benefit a community?

**Response:**

1 https://www.epa.gov/sites/default/files/2021-05/documents/vhiteh3.pdf
No, I do not share that view.

b. How would you address the WHEJAC’s anti-nuclear power recommendation if the Commission were to more closely engage with the advisory council?

Response:

I do not envision the NRC staff having the role of providing responses to WHEJAC’s recommendations. Rather, I envision NRC’s attendance at White House Environmental Justice Advisory Committee meetings to be for the purpose of observation, which is often NRC’s role as an independent agency at interagency discussions. This would allow the Environmental Justice Coordinator to gather information and hear a range of perspectives on various environmental justice issues.

c. Will you commit to license nuclear facilities that meet the NRC’s requirements – even if you are pressured by external groups like the WHEJAC to disapprove of those licenses?

Response:

The NRC staff, rather than the Commission, makes most decisions to issue an NRC license. To the extent the Commission is involved in a licensing decision, I would consider the views of a broad range of stakeholders, the staff, and my colleagues, and make a decision consistent with the law and NRC regulations.

22. At your hearing you stated “I think there is a widespread understanding that we are not going to achieve our climate or energy security goals without the existing fleet.” Your record consistently demonstrates your support to apply additional regulatory costs and requirements as part of your philosophy to “enhance” safety. Those positions go beyond the Atomic Energy Act’s “reasonable assurance of adequate protection” requirement. How does your long record of supporting optional additional requirements that impose more costs on the existing fleet, stressing the economic outlook for those reactors, help us achieve our climate or energy security goals?

Response:

In my view, the safety and security of the operating nuclear power plant fleet is essential to achieve our climate and energy security goals. I respectfully disagree with the question’s characterization of my voting record. I have voted to strengthen requirements for operating reactors on a handful of occasions since I joined the Commission in October 2014.

For instance, I supported issuing the draft final Mitigation of Beyond Design Basis Events rule prepared by the NRC staff. Licensees and the NRC staff spent years using the latest science to determine the present-day flooding and earthquake hazards for nuclear power plants. I agreed with the staff that the rule should require FLEX equipment to be reasonably protected
from the up-to-date flooding and earthquake hazards. As I noted earlier, Commissioner Burns and I concurred with the NRC staff that this commonsense post-Fukushima requirement was necessary for reasonable assurance of adequate protection of public health and safety.

Similarly, I joined the NRC staff and a majority of the Commission in supporting the establishment of mandatory cyber security event notification requirements for nuclear power plants. As the staff pointed out, voluntary reporting is not enforceable or subject to any timeliness requirements. Yet prompt and complete reporting is vital to NRC’s ability to respond quickly to actual or imminent cyber-attacks, notify other NRC licensees and government agencies when necessary, evaluate suspicious cyber activities for threat implications, and accomplish the agency’s strategic communications mission.

23. At your hearing, with respect to your vote on SECY-20-0045, “Population Related Siting Considerations for Advanced Reactors,” you stated “the question is just do we need to update the guidance...I didn’t think we needed to do it.”

   a. Do you agree that regulatory guidance documents are a key part of how NRC applicants and licensees demonstrate compliance with the NRC’s regulatory standards?

Response:

   Yes.

   b. Do you agree that regulatory guidance documents can create an efficiency in meeting the NRC’s regulatory standards that is beneficial for both the applicant and the NRC staff?

Response:

   Yes.

24. In your vote on SECY-20-0045, you stated, “we should not reduce siting protections for advanced reactor technologies at this time. Instead, the NRC should initially retain the existing siting guidance. Based on six decades of experience, this longstanding approach will provide the necessary defense-in-depth for new technologies while they gain operating experience.”

   a. Please describe how your view of applying the existing siting guidance for large, light-water reactors to advanced non-light-water reactors aligns with the risk-informed regulatory approach for advanced reactors directed by Congress in the Nuclear Energy Innovation and Modernization Act.

Response:

   The current guidance reflects a risk-informed approach. It also provides a reasonable
amount of flexibility to consider the circumstances of a specific site or project. In fact, the population density limitations suggested by the current guidance should allow for many of the sites being contemplated by advanced reactor developers, including villages, military bases, and former fossil generation sites. Moreover, because the regulatory guidance is non-binding, applicants could propose alternative siting criteria to meet the requirements of the regulation. As I noted in my vote, NRC can revisit the siting guidance as advanced reactors are deployed and operating experience is gained with these designs.

b. Would applying the existing siting guidance to advanced reactors limit the potential deployment of those smaller reactors at legacy conventional energy production sites?

Response:

Applying any siting guidance to new reactors would necessarily create some limitations on siting. However, the existing guidance would allow for many legacy conventional energy production sites to be used for advanced reactors.

c. If so, how does that align with your view that the NRC should be mindful of nuclear energy’s role in achieving environmental goals?

Response:

In my view, ensuring the safety and security of the operating nuclear power plant fleet and of new reactors is essential to achieve our climate and energy security goals. Prudent defense-in-depth standards have been a bedrock of nuclear safety and continue to play an important role.

d. If not, what is your approach in assessing which of NRC’s policies should be considered in the context of nuclear energy’s role in achieving environmental goals?

Response:

Not applicable.

25. Do you believe that the NRC should look holistically at the impacts of your regulatory requirements, including impacts on public health and the environment if a facility is NOT licensed?

Response:

Yes. The NRC staff does this now in its environmental impact statements, when it examines the “no action” alternative and considers the impacts of not constructing or operating the proposed facility.
26. In your March 2019 speech to the NRC’s Regulatory Information Conference, you said that the NRC’s engineering inspection program has resulted in more than 2,000 findings since the year 2000 and that these findings have “helped identify defective components before they failed.” Please provide the source of this number, including the severity of the findings (for example, green, white, yellow, or red).

Response:

The source of the number is NRC’s Replacement Reactor Program System, a database used by the staff to track inspection findings and related information. At the time of my 2019 RIC speech, there had been 2,030 findings from engineering inspection since 2000. Of those, 2,017 were Green, 11 were White, and 2 were Yellow.

a. Please provide examples where a component would have failed if not for the issuance of one of these findings.

Response:

The following are a few examples of where NRC engineering team inspections identified that a structure, system, or component would have failed during a postulated event or accident scenario if left unaddressed:

In a 2010 Triennial Fire Protection inspection, NRC inspectors identified multiple examples where plant staff did not ensure that one of the redundant trains of safe shutdown equipment and cables located in the same fire area would remain free of fire damage during a postulated fire because that equipment had not been appropriately protected using spatial separation, passive barriers, and a fire detection and suppression system. In addition, the inspectors found that licensee staff did not ensure that one train of cables and equipment necessary to achieve and maintain hot shutdown conditions would remain free of fire damage during a postulated fire in 20 fire areas because cables were not properly protected. (See Adams Accession No. ML100201056 and ML101090503)

In a 2010 Component Design Bases Inspection, NRC inspectors found that licensee staff did not identify and correct a significant condition adverse to quality affecting the component cooling water (CCW) system. In October 2008, air intrusion from the containment instrument air system into the CCW system occurred, which affected both redundant trains of the CCW system. The NRC inspectors identified that the troubleshooting and subsequent corrective actions that were implemented by plant staff did not identify the source of the air in-leakage and ensure the CCW system remained capable of delivering adequate cooling to essential equipment used to mitigate events and design bases accidents. In addition, inspectors found that the corrective actions did not preclude a similar air intrusion event into the CCW system in November 2009, again leaving the system vulnerable to failure. (Adams Accession No. ML100210081 and ML101090509)
In a 2019 Design Basis Assurance Team inspection, NRC inspectors identified extensive degradation of the coating used to protect the torus metal surface, which is part of the reactor containment, from corrosion. The NRC inspectors identified that this coating could dislodge during an event and plug strainers that provide water to multiple safety-related pumps that would cool the reactor in the event of an accident. The NRC inspectors’ findings resulted in a Confirmatory Action Letter and the licensee replacing all the torus coatings during the following refueling outage. (Adams Accession No. ML19211B289 and ML20031D253)

In a 2022 In-Service Inspection, NRC inspectors observed heavily corroded parts in containment (“leak-chases”). NRC inspectors determined plant staff mistakenly concluded their containment design did not include this feature. As a result, plant staff had not examined these components periodically to ensure the enclosed containment liner plate welds were not corroded. (Adams Accession No. ML22041A419)

In a 2022 Power Operated Valve Team Inspection, NRC inspectors identified that plant staff did not have preventive maintenance activities established to ensure electrical solenoids used to operate safety-related valves were replaced prior to exceeding the manufacturer’s specified lifetime. This could have directly resulted in valves failing to operate when called upon during an event or accident. (Adams Accession No. ML23017A084)

In a 2023 Component Design Basis Assurance Inspection, NRC inspectors identified that plant staff recently modified the plant to remove an automatic trip of the circulating water pumps on indications of flooding in the room. Plant staff did not verify as part of the modification that doors to the adjacent emergency diesel generator and battery rooms, which power safe shutdown equipment, could withstand the additional four feet of water and associated in leakage to protect the equipment from failure due to flooding. (Adams Accession No. ML23012A127)

27. In Commission orders CLI-22-02 and CLI-22-04, you supported reversing CLI-20-3 and a portion of CLI-20-11. CLI-22-02 and CLI-22-04 ordered the NRC Staff to fundamentally walk back a previously issued 20-year license extension for the Peach Bottom Atomic Power Station and Turkey Point Nuclear Generating Units.

a. How does your decision to fundamentally alter a license issued by the Commission – absent new information or new circumstances – align with the NRC’s Reliability Principle of Good Regulation?

Response:

We did not take the step of re-visiting the prior Commission decision lightly, but it was necessary to follow the law. To comply with the National Environmental Policy Act and ensure that subsequent license renewal decisions rest on a firm legal foundation, it is essential that NRC update the Generic Environmental Impact Statement to examine the 60–80-year subsequent license renewal period. And to comply with the Administrative Procedure Act, the license renewal regulation must also be revised so that the GEIS findings can then apply to subsequent license renewal applications. If we did not take these steps, renewed licenses were going to be
challenged in federal court, and I do not think the renewed licenses would have survived those challenges. Such an outcome would not have provided regulatory reliability.

b. Advanced nuclear reactor innovators are making multi-billion-dollar investment decisions to develop and deploy new nuclear technologies. Do you agree that a lack of certainty and confidence in reliable NRC regulations, due to the Commission’s decisions on CLI-22-02 and CLI-04, harms license applicants’ ability to pursue a license and secure financing to meet both energy security and environmental goals?

Response:

The purpose of these decisions was to comply with federal law. Placing subsequent license renewal decisions on firm legal footing is necessary to provide regulatory certainty and confidence. The Commission adopted an aggressive schedule to get this work done. And excellent progress is being made. The Commission recently approved publication of a proposed rule and accompanying draft Generic Environmental Impact Statement, which take the necessary steps so that NRC will be able to move forward expeditiously with subsequent license renewal reviews.

c. How does your vote on CLI-22-02 and CLI-22-04 align with your previous position that the “Commission and each Commissioner, has a responsibility that the NRC maintains an appropriate degree of regulatory reliability and stability”?

Response:

As discussed above, ensuring that subsequent license renewal decisions rest on a firm legal foundation is necessary to provide regulatory reliability and stability. The likely alternative to this course of action would be vacatur of the licensing decisions by federal courts.

28. The NRC staff has often proposed recommendations in line with minimizing the use of resources for alternative options that they deem effective. For example, SECY-18-0055, “Proposed Rule: Regulatory Improvements for Production and Utilization Facilities Transitioning to Decommissioning” included a number of staff recommendations to improve the decommissioning requirements to be carried out in a more effective manner. Your vote on the proposed rule stated, “In the staff’s regulatory analysis, licensee cost savings and reducing the regulatory ‘burden’ on licensees are a key basis for most of the rule’s provisions, including those related to emergency preparedness, insurance, and spent fuel management planning.” In your evaluation of the staff’s proposals, did you take into consideration the NRC’s efficiency principle’s guidance that “where several effective alternatives are available, the options which minimizes the use of resources should be adopted?”

Response:

Yes, I did. I think it is also important to consider the views and interests of a broad range of stakeholders, including other federal agencies, states, local governments, and workers.

29. In a 2019 press interview, as part of a discussion about the NRC’s inspection requirements, you stated “performance declines with less oversight.” Please share the NRC source or analysis supporting this statement.

Response:

Although I am not sure which interview the question references, I believe the quote reflects my view that oversight positively impacts performance. Improvements in plant or fleet performance do not occur in a vacuum. NRC standards and inspections have contributed significantly to those improvements over the years. At that time, one change being considered was for NRC to conduct fewer baseline inspections for plants that were performing well. Since the beginning of the Reactor Oversight Process, the basic premise of baseline inspections has been that these are the minimum inspections that should be performed for every plant in the country, regardless of performance. I was concerned that, reduced inspections for plants performing well would result in more cyclical, up and down performance from plants.

30. At your hearing, you discussed the impact of the NRC’s telework policy on the Agency’s workforce and work. I believe it is appropriate for the Commission as a whole to weigh in on a fundamental shift in how and where the NRC staff works. I understand that Commissioners may request that certain staff information papers or matters be voted upon by the entire Commission.

   b. Do you believe the Commission should vote on major modifications to the Agency’s telework policy, such as the NRC’s Telework Policy and Implementation Group recommendations or related changes in response to the recent Office of Management and Budget guidance?

Response:

I am undecided on the question of whether the Commission should vote on the agency’s telework plans. On one hand, it is clear that the telework plan is a significant operational issue that we need to get right. We need to maintain our productivity and our organizational health, as well as meaningful engagements with applicants, licensees, and stakeholders. That means having good metrics, tracking results, and making sure we are maximizing the value of the time in the office. On the other hand, the agency’s approach to telework is the kind of administrative issue that has traditionally been left to the Executive Director for Operations. Before deciding whether this should be a Commission voting matter, I would like to see the staff provide an information paper to the Commission discussing (1) the staff’s proposed decision, (2) anticipated guidance for implementing Presence with Purpose norms and behaviors, (3) key performance indicators for monitoring accomplishment of our mission, organizational health, and public confidence; (4) expected changes to policies, management directives, the collective bargaining agreement, and other governing documents; (5) data relied upon to reach its proposed decision; (6) how NRC’s plan for the work environment compares to other agencies of similar size and
function; and (7) an internal strategic communication plan. I would like the information paper to include a summary of all formal and informal feedback received from OMB and discuss how the staff responded to feedback. Whether we vote on it or not, my colleagues and I will definitely be keeping a close watch on the development and implementation of the agency’s telework plans.

c. If so, will you commit to either propose yourself or support other Commissioner’s proposals to make such issues a voting matter?

Response:

Before deciding whether this should be a Commission voting matter, I would like to review the information paper described above. I fully support any of my Commission colleagues proposing as a voting matter any issue that is important to him or her.

31. What potential environmental impacts associated with the decommissioning of a nuclear power plants would exceed or go beyond the bounds considered as part of a facility’s original environmental impact statement?

Response:

This is a site-specific question that would be addressed in a licensee’s Post-Shutdown Decommissioning Activities Report. The Decommissioning GEIS discusses certain issues that require or may require a site-specific analysis, such as threatened and endangered species, land use involving offsite areas to support decommissioning activities, aquatic ecology for activities beyond the operational area, terrestrial ecology for activities beyond the operational area, and cultural and historic resources.

32. In your view, what is the most likely impact on the length of time to complete the decommissioning process if the NRC were to require an NRC licensee to conduct a full environmental impact statement under the National Environmental Policy Act?

Response:

NRC regulations already require a NEPA environmental review to be prepared for a decommissioning nuclear power plant. Under the existing regulations and the Power Reactor Decommissioning proposed rule, the environmental review is prepared at the end of the decommissioning process, when the Licensing Termination Plan is submitted. This is typically an Environmental Assessment, which takes 12-18 months to complete. In my view, a NEPA review at an earlier stage of the decommissioning process makes more sense than at the time of license termination, when the major decisions would already have been made and nearly all the impacts of decommissioning would have occurred. An Environmental Impact Statement would likely take two years to complete. A licensee could avoid any delay in the commencement of decommissioning by submitting the PSDAR or decommissioning plan for NRC review sufficiently in advance of the commencement date.
Senator CARPER. Thank you. And thank you again for joining us today.

Senator Capito and I have agreed to one round of 5 minute questions, with additional rounds at the discretion of yours truly.

To begin, this Committee has three standing yes or no questions that we ask of all nominees, as you may recall. Let me just ask, if I may, the first question is, do you agree to appear before this Committee or designated members of this Committee and other appropriate Members of the Congress and provide information subject to appropriate and necessary security protections with respect to your responsibilities? Do you?

Mr. BARAN. Yes.

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

Mr. BARAN. Yes.

Senator CARPER. And my third question is, 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. BARAN. No.

Senator CARPER. All right.

I have some prepared questions I was going to ask, but I think I will instead, we heard some concerns raised by our Ranking Member that I take seriously. She is a great partner on this Committee, and I am privileged to serve with her and the other members.

She has raised some concerns, and if I were in your shoes, I would want to respond to them. And why don't you do that at this time.

Mr. BARAN. Sure. I take our NRC safety and security mission very seriously, but I also take our licensing mission very seriously. It is an important responsibility for NRC to have an efficient and effective process.

When I think about the next 5 years, I agree with what Senator Capito said, it is going to be a critical time in the energy sector, and I think in particular for the nuclear sector. We are going to see an increasing number of applications come in for new designs, for new reactors, for additional investments at the reactors we have, for extended licensing terms for the existing fleet.

I think all that is critical. I agree with the comments that both you and Senator Capito made about how critical the existing fleet and future reactors are going to be to achieving our climate goals and our energy security goals. And I want to make sure NRC is doing its part in all of that. That means maintaining strong standards and rigorous oversight. I think everyone wants that. But also to make sure we have a process that is going to be able to review effectively and efficiently a large number of applications that we are expecting.

When we look at the applicants or the pre-applicants, potential applicants already in discussions with NRC, we are talking about 20 applications in the next few years. That is a lot more than we have seen in recent times. And readiness, building our readiness
for that, and it has multiple elements, but building our readiness for that I think is really going to be a key issue, a key challenge for the agency.

Senator CARPER. All right, thank you.

The NRC is considered, as I have already mentioned, to be the world’s gold standard for nuclear regulatory agencies. I am proud of that; I think every member of this Committee is proud of that, and I am sure the Commissioners are as well. A strong leadership is especially important at the NRC, and we need individuals to serve there who are dedicated to the critical, independent role that the agency plays in ensuring that our Nation’s nuclear power facilities continue to be not just among the safest in the world, but the safest in the world.

My question is, if we ultimately confirm you for another term, how do you plan to build on your experience on the Commission to continue to serve NRC and our country with respect to this mission?

Mr. BARAN. Well, after being on the Commission for several years, I think I have a good sense of what the agency does well, and where we need to improve. The staff has incredible technical expertise, is very good at conducting thorough licensing reviews and providing that rigorous independent oversight that we need.

As an agency, I think we are getting better at being open to new technologies and new approaches. I think that is a work in progress. And it is critical. We need to get there and continue the progress.

As I mentioned, the biggest challenge we face is readiness to review a large volume of expected applications. If I am confirmed for another term, building that readiness would really be a priority for me. There are multiple elements that we can talk about there in terms of having the framework in place, the regulatory framework in place, having the personnel in place, having an efficient process in place. All those are key aspects of that.

Senator CARPER. As the United States and other countries around the world work to combat climate change and reduce greenhouse gas emissions, interest is growing in maintaining operating reactors and deploying new nuclear reactors that can help us meet our clean energy goals. Technology developers are designing new reactors and fuels that are safer, more efficient, and less expensive to build. These new designs must ultimately be reviewed and approved by the NRC before deployment.

Would you please take a moment to share your thoughts on the ADVANCE Act with us, important legislation led by Senator Capito and myself and Senator Boozman? Are there provisions in the bill that you think are particularly helpful in the NRC’s work?

Mr. BARAN. Yes. I think it is a very good bill with a number of valuable provisions. Easing the corporate support constraints would help the agency a lot, particularly with IT and physical space renovations, which save money down the road. The additional hiring flexibility would help us tackle our tough hiring challenge, so that we have the right expertise in place to review the new applications we are getting.

Modernizing the foreign ownership control and domination restrictions are an important step, too. Those are back from the origi-
nal Atomic Energy Act in the 1950s, and the new provision I think is valuable because it recognizes that there is now a global nuclear market that wasn’t in existence 60, 70 years ago.

The provision on siting new facilities at brownfields sites I think is very good. The fusion provision I think is very helpful, too. I could go on. I think it is a very good bill.

Senator CARPER. If you had to think, and I will ask you to respond to this for the record, all of us on this Committee have had the opportunity to offer legislation, important pieces of legislation. I have never written a perfect bill. I would like for you to, in a question for the record, respond to a couple of ways that you think we can actually improve on the work that Senator Capito, her staff, and Senator Boozman and my staff have done. So if you could do that for the record, I would be grateful.

Senator Capito.

Senator CAPITO. Thank you, Mr. Chairman.

Commissioner Baran, Congress passed the NEIMA, Nuclear Energy Innovation and Modernization Act, to help facilitate deployment of advanced nuclear. The bill directed the Commission to develop a risk informed regulatory framework for advanced nuclear, new nuclear technologies. It is a very simple concept. The level of NRC’s nuclear safety requirements should correspond to the associated risk of the facility. You already mentioned safety and security is top of the list.

This concept is not just applicable to advanced reactors, but it is also incorporated through NRC’s existing requirements. In 2021, the Commission approved the staff’s proposal to establish requirements for nuclear power plants that are going through the decommissioning process. In that time, you were the sole vote in opposition to the staff proposal.

One element the staff proposed, and the rest of the Commissioners supported, is limiting a shut down reactor’s emergency planning requirements after enough time has elapsed for the spent nuclear fuel to sufficiently cool down. This very straightforward application of the NRC’s risk informed regulatory process and the Commission repeatedly voted on a case by case basis to do so. The staff proposal formalized that established Commission precedent.

In your opposition, you supported the theory that a spent fuel pool could immediately empty as a result of a severe accident with no subsequent mitigation actions, and that the remaining spent fuel would catch fire and result in a release that impacts public health.

In 2014, the NRC spent 11,530 hours and $3 million evaluating the likelihood of this scenario. It concluded that it did not warrant additional regulatory requirements. That analysis was included in the staff’s regulatory justification to the rule that you opposed.

So, Commissioner Baran, do you know what the staff’s extensive technical analysis found to be the odds of such an accident occurring at a shut down nuclear plant?

Mr. BARAN. I don’t know off hand.

Senator CAPITO. The odds were 1 in 10 million.

So I could get hit by a meteor, that is probably the same odds.

So in your view, does a risk lower than 1 in 10 million meet NRC’s statutory regulatory standard of reasonable assurance of
adequate protection, or what is your standard, if 1 in 10 million is too much?

Mr. BARAN. I think in terms of thinking about the probability there, I certainly didn’t have the view that a spent fuel pool could empty immediately. All the analysis would show that in those kinds of postulated accidents, you are talking about several hours.

I think the question was, I agreed with the scaled approach, and when you take those steps to scale back particular requirements. My view was, as long as the staff as part of their analysis, including for the decommissioning rulemaking, talk about that there are risks, there are lower risks, but risks associated with spent fuel pools.

My thought was the time to move to the elimination of emergency planning zones and all emergency planning is really when it is in dry cask storage. That was a view, I took seriously the concern to FEMA and State regulators and State emergency responders. We heard a lot of concerns from FEMA and State emergency responders about the timing for when you make that move, and from communities.

So from my point of view, my goal is to have a balanced decommissioning rule. We are still in the process on that, we have the proposed rule, and the staff is now working on a draft final rule. I want to see what the comments are on that.

But we had a lot of public comments, including a lot of concerns from States, localities, and FEMA about the timing there, and the view that—we are not regulating to zero risk, obviously. But we want to make sure we have adequate protection until dry cask storage.

Senator CAPITO. So the point here I am trying to make is, we are moving forward toward this new licensing. If the standard of risk that is unacceptable to you has to be less than 1 in 10 million, and you also in your statement, or actually your reaction to the Chairman’s question, extolling the expertise and technical suggestions that terrific staff does and has made over the years, this was something that they felt they had thoroughly researched.

Will you use that same standard as you are starting to look at what we know is going to be a very busy and hopefully very productive 5 years of moving forward?

Mr. BARAN. Yes, when I think about small modular reactors, advanced reactors, I don’t think anyone is talking about a kind of 1 in 10 million standard for risk.

Senator CAPITO. So you would use a different standard?

Mr. BARAN. Right. We have a rulemaking right now that is focused on emergency planning for small modular reactors. We are now at a draft final rule stage before the Commission.

My view is we need a graded approach. As you have new technologies that are safer, you are not going to have a 10 mile EPZ in everything we do now. It is going to be scalable, based on the risks associated with the reactor and the safety features of the reactor. So you may have some with 5 miles, you may have some with 2 miles.

The hardest issue is when you are talking about basically no dedicated offsite radiological emergency planning, effectively no EPZ site boundary. There may be a number of reactors. They may
be able to make a safety case for that. I think that is reasonable. When I look at all the comments we got, and the draft proposed rule, I am comfortable going there.

But I think it is important that there be a sign off, if you are going all the way down to site boundary, to make sure that FEMA is comfortable with it, and the local emergency planners and response organizations are comfortable that that is going to work for that particular site.

I agree with you. We need a graded approach. Although the votes are not out yet on that, that is what my vote on that rulemaking says.

Senator Capito. Thank you.

Senator Carper. Thanks, Senator Capito.

Senator Cramer, you are welcome to proceed.

Senator Cramer. Thank you, Mr. Chairman and Senator Capito, for having this important hearing on this important nomination.

I am going to build off a little bit of what Senator Capito was asking you about. I am still not really sure what your standard is. When she quoted the 1974 Atomic Energy Act. She has quoted the reasonable assurance of adequate protection. And I am not really sure where you are in that. You are ready for a new rulemaking, and yet there is a law, things are getting safer, not less.

So I want to go back to your voting record. I sort of take from your opening statement the fact that things are moving better than they have been since you have been on the Commission, all of that. I don't want to oversimplify your words.

But your voting record, you have been the sole dissenter, not just in the one that Shelley was talking about, but a number of times, including against the development of more generic EIS that could help speed up some of this. Not even so much about speeding it up, streamlining, keeping it safe, but streamlining, recognizing that in the smaller reactors, they can have a little more generic process.

She brought up the emergency planning requirements. You also voted against updating the NRC's guidance to provide increasing flexibility. Flexibility, again, back to the local communities and other things, flexibility is really, really important.

I am just concerned that you are the one impediment on the NRC, not the one that is truly an advocate for advancing safely, advancing this important technology, to meet the climate and energy security goals that you spoke about in your opening statement. Could you respond a little bit to that? Is that a justified concern by me?

Mr. Baran. I appreciate your concern. I have been on the Commission a while now, and I have a lot of issues in the minority and a lot of issues in the majority. I prefer it when my view prevails. But that is life on the Commission. Sometimes you are on the dissenting side, and sometimes not.

Let me just take one of those, because I think it is really an important issue, which is a generic environmental impact statement for advanced reactors. I think that is an important one.

I was skeptical of that, when that proposal was made. I really doubted that that was going to be useful. It was going to take a lot of work, and I wasn't sure it was going to be that helpful. Because my conception of what it was going to be is how much envi-
environmental analysis can you really do without knowing the site, without knowing the design, without knowing the size, any of the safety features.

What the staff did, though, I think they did a really good job on it, and we have this before us now. I voted on this; it is not out yet because there are still votes pending.

But they did a good job. What they did instead of trying to do a full kind of environmental analysis like you would imagine it, very specific to anything, they came up with, for each of the resource areas, they came up with basically entry criteria. If you have a site that would do this, we could make these findings. If you have a reactor that meets this, we can make this finding on noise, or this finding on land effects, or aquatic.

So I support finalizing that. I think it is a good product. I was really pleasantly surprised at what the staff came up with. I do think it will be useful, because it is going to narrow, if used well, and hopefully it will work, narrow the issues that need to be resolved for each individual reactor application that comes in.

I think that is heading in the right direction. Maybe I was overly skeptical about that to begin with, because I think it is a good product the staff has put together.

Senator Cramer. It sounds like a good process, and good direction. Because we need to do things quicker. We really need to have that type of security that you talked about, and to meet the climate goals that several of you share.

I may have to wait for another round to get to everything I want to talk about, but you have been such a strong advocate for environmental justice, to the point of advocating for maybe having an advisory committee right in the NRC on the topic. You have commented a couple of times, matter of fact, I have the transcripts of your last two speeches before the regulatory conference where you lauded the White House's Office of Environmental Justice.

I just worry that as a regulator, having been one for 10 years, an elected one albeit, but in an all of the above energy State like North Dakota, doing resource planning that included nuclear for Minnesota as well as clean coal for North Dakota and natural gas, wind, solar, you name it, we did it all, that when the regulatory agency gets involved in sort of more the political policy side of things, you become more of an impediment to the advancement of this technology than you do an advocate for it. We shouldn't be advocates either, obviously, as regulators.

But again, is my concern justified, given your record, both in voting and the public comments you have made relating to environmental justice?

Mr. Baran. I definitely don't see pursuing environmental justice as an impediment to the existing fleet or to new reactors. I really see it as something that is going to benefit all stakeholders.

So the staff, just briefly, I will give you maybe 10 seconds of the process the staff followed, over several months they did a kind of big review of NRC's policies and procedures and activities. They talked to a ton of stakeholders. They got public comments. They did written comments. They did public meetings and all kinds of outreach. They got a lot of feedback.
And they used all that to come up with several very good recommendations. One of them is for an advisory committee. We have a couple of advisory committees at NRC that I think are very useful. I think this one could be as well.

But I don’t think, kind of going back to the Atomic Energy Act, we don’t have, under the Atomic Energy Act, the latitude to consider environmental justice as a licensing factor. I don’t think anyone is contemplating that. That wouldn’t work under our statutory authority.

What we are focused on are the processes we have, the ways we interact with the public. NRC is a complicated agency with really complicated processes. I think a lot of stakeholders, EJ communities, but everyone struggles sometimes to navigate all that.

The main thrust, I think, of our environmental justice approach, is to make the agency more accessible to everyone, not just one set of groups, but everyone, so that people can navigate all that, and figure out, if they have a concern, how do they pursue it, or if they want to make a comment, how do they do that, and understand what we are doing. It is complicated stuff, and our processes haven’t made that easy over the years.

Senator CRAMER. Process matters, for sure.

Mr. Chairman, thank you. He actually answered the question I would have asked if you had given me another minute. Thank you.

Senator CARPER. You get extra points for that.

All right, we have been joined by Senator Sullivan.

Colonel, welcome.

Senator SULLIVAN. Thank you, Mr. Chairman.

Mr. Baran, thanks for your service. Let me just begin with a couple of basic questions. Do you support nuclear energy in the U.S.?

Mr. BARAN. Yes.

Senator SULLIVAN. Why do you think certain environmental groups don’t? There is obviously zero emissions. And I have never understood that. If you need all of the above energy and one very strong power generation source for America, it is nuclear, and we are quite good at it, we have the whole nuclear Navy enterprise, Mr. Chairman, that is really remarkable.

Why do you think certain groups oppose it? And I know you are not speaking for them. I have always just really been curious. I really don’t understand it.

Mr. BARAN. I definitely don’t want to speak for anybody else. There have been focused concerns over the years that people have expressed, whether they are concerned about radiological risk, whether they are concerned about waste.

But it seems like the conversation has really changed in recent years. As the focus on climate change and NRC’s energy security has ramped up, there is just a much more widespread consensus of the importance of nuclear than there has been.

Senator SULLIVAN. I thought it was kind of going in the opposite direction, but maybe I am wrong in that.

Mr. BARAN. That is not my perception. I think there is a widespread understanding that we are not going to achieve our climate or energy security goals without the existing fleet. When I talk to utilities, as the conversation has changed about, well, a few years back, it was how do you get 20 or 30 or 40 percent of your elec-
tricity carbon free. Now it is you need 80 or 90, or 100 percent. They can’t figure out how to do that if you don’t have the nuclear part of it.

I hear that over and over. And I think to the extent that we have shared goals on climate and energy security, that just points to not just maintaining the role of nuclear, but almost certainly, expanding.

Senator SULLIVAN. Let me ask you, you were talking about environmental justice, do you have a tight definition of what that means, thrown out a lot, but rarely defined?

Mr. BARAN. That is part of what we are going to determine, what is our definition in this process. For me, when I think about it, it is about equal treatment, it is about equal access to decisionmaking and decisionmakers. It is about having a fair process that includes everyone.

To me, that is not something that benefits any one group or any one stakeholder. If it is done right, it is benefiting everyone.

Senator SULLIVAN. In terms of your record, you were the sole vote against updating the NRC’s guidance for siting smaller and safe advanced nuclear reactor technologies, you were the sole vote against NRC’s development of a generic EIS for nuclear reactor technologies, you were the sole vote against the NRC staff proposal to scale emergency planning requirements for smaller, safer, advanced nuclear reactor technologies.

We are looking at small scale microreactors in Alaska. But your record seems to be the one outlier on this important technology. Is that a misstatement? I am just giving you a chance to defend your record.

Mr. BARAN. Sure. I am proud of my record. I think I cast good votes over the years.

But just to take a couple of those examples, the generic environmental impact statement, that was really at the conceptual stage. Now that we have a draft in front of us, I think that is a good draft, I think we should go forward with that, and I think we will get some real benefit there.

Senator SULLIVAN. So you would change your vote, you think, on that, then?

Mr. BARAN. I think we are in a different space in the process. As I look at what the staff did, I think it is going to be useful. So I will support it. When we were talking about the emergency planning, that was at the proposed rule stage. We are now moving on to the final rule stage. I am going to support that rule. I think we do need graded emergency plans.

I would like to see a few changes in it. But I think conceptually it is the right way to go, and I think that is going to be an important piece of the puzzle for the regulatory framework that we have in place.

Senator SULLIVAN. Hit the siting one, then I have one more question for you.

Mr. BARAN. I was going to briefly say, on siting, no one has been, at least in any of the decisions to date, contemplating changing the regulatory requirement. The question is just do we need to update the guidance. There is a lot of flexibility in the guidance as is to
do a lot of the projects, like the ones you are talking about, at military bases and villages, former fossil generation sites.

I didn’t think we needed to do it. I do think we have to be thoughtful. It is going to depend in part on the safety, obviously, of a particular design. But siting and emergency planning, they have traditionally been really key concepts for defense in depth. You try to have some distance from population centers, and you want to have adequate emergency planning.

It is a tough balance to strike on that.

Senator SULLIVAN. Well, let me ask my final question, which kind of relates to that. So we have had this nuclear regulatory framework for decades, that the Commission has implemented. It was built upon large scale nuclear power plants and large scale nuclear power generation.

You have an entirely new approach with these microreactors, which pose much less safety risks. Don’t you think then that the regulatory permitting regime should reflect that and not be essentially using what we have been using the last 40 years for a very different approach that might need a different regulatory approach as well?

Mr. BARAN. I agree with that. There are a lot of initiatives underway to get at that. The biggest is probably what we call Part 53, the new framework. We are all working through that, because we just got the draft proposed rule with the Commission. But yes, I agree with you.

Senator SULLIVAN. OK, thank you.

Thank you, Mr. Chairman.

Senator CARPER. Thank you, Senator Sullivan.

We have been joined by Senator Cardin.

Ben, welcome, please proceed.

Senator CARDIN. Thank you, Mr. Chairman.

Mr. Baran, welcome, and thank you for your commitment to public service. We appreciate it.

The NRC is pretty special to those of us in Maryland, since you are headquartered in our State. We are very proud of the work force and the mission that you carry out.

However, there have been some really disturbing trends that I want to talk about in regard to the work force. The attrition rate is well above the average for Federal agencies, 9.6 percent. One-third of your work force is eligible for retirement, which is an older work force. The expertise is absolutely essential for you to be able to carry out your mission, and experience is very important.

Perhaps the most disturbing fact is that on the OPM’s rating on best places to work, NRC has dropped to 21st out of 27th. That is not good. If you use the rating system in 2010, it was 81.8; it has dropped to 66.3.

So tell me how you plan to, first, do you acknowledge this is a serious issue? And how do you plan to address the morale issue, as well as having a competent work force in order to meet the challenges that you have heard us, in an evolving area where expertise is going to be critically important to our future?

Mr. BARAN. I absolutely agree, we have to focus on the morale of NRC’s terrific work force.
My sense is that a significant cause of that decline in job satisfaction had to do with our re-entry from maximum telework in November 2021. We ended up being one of the first agencies to go back to the office. And there were a lot of concerns among our employees about doing that.

They ended up heading into the office long before their colleagues at other agencies, and there was no real compelling explanation for why they were there, and folks at other Federal agencies weren’t. I think it eroded some of the staff’s trust in senior leaders.

And the desire of many NRC employees to have significant telework flexibility is a major issue today, and I think continues to be a source of friction within the agency. From a how do we fix this point of view, I think striking the right balance on telework flexibilities is going to be crucial. I think it is maybe by far and away in my mind the biggest issue for the staff right now on morale issues.

Senator CARDIN. How do you strike that right balance? We all agree that the synergy of having staff working together is critically important for the development of staff and for the mission. And we do recognize that as a result of COVID and people doing telework, they found it much more convenient, and in many cases much more efficient in regard to their individual responsibilities. And of course, it allowed them to be able to not have to deal with the morning commutes and afternoon commutes.

So how do you find that right balance?

Mr. BARAN. It isn’t easy. The agency is spending a lot of time on that right now. One the one hand, as you have pointed out, we have a major hiring and staffing challenge. To the extent that we have a lot of employees currently, or potential applicants who are interested in a lot of telework, we want to be able to retain those folks, we want to be able to compete for those new employees. So we are going to need to have significant telework flexibilities. Without that, I think our staffing numbers fall, our attrition grows, we have a hard time hiring the couple of hundred people a year we need to hire, just to break even with that attrition.

On the other hand, we have got to do it the right way, because we need to maintain our productivity and our organizational health. I think that is really the hard piece. With so many new employees coming to the agency, we need to acclimate them, there is mentoring, it is harder to do that from afar. We want to make sure meetings with applicants, with stakeholders, those are in person days.

So the senior managers and staff are really focused on how do we make sure that the time employees are in the office is valuable in office time, they are doing things they couldn’t do easily from home.

We have some additional OMB guidance the staff is working through. We have to come up with what are the metrics, how do we make this work, what are the approaches we have to make sure that we strike a good balance in terms of the number of days people are at work versus home, but when they are in their office. We don’t want them to sit in their cubicle all day on a TEAMS meeting like they would be at home, because then they are going to be frustrated and feel like, why am I here. We want them to have the
kind of collaborative experiences that are going to make that worthwhile.

Senator Cardin. My advice to you is, make sure it is in collaboration with the workers and their representatives. Their input becomes critically important, so they are part of the team in making that decision.

I have one last question dealing with direct hire authority, as to how critically important that is for you to retain or get the top expert staff. I know there is some legislation here that expands that authority. But how critical is direct hire authority when you are carrying out your mission?

Mr. Baran. When I talk to our chief human capital officer, it is definitely one of the tools. I think we are leaning ever more heavily on interns and co-ops, getting people while they are still in school to intern or co-op, and then you can do direct hires right out of that. That is great not only because it speeds up the hiring process, but you have folks you already know and who already know the agency, and you have a high degree of confidence you are bringing someone in who is going to be very good and a good fit.

So an ever larger number of the folks we have hired each year are coming from internships and co-ops and programs of that kind.

Senator Cardin. Thank you.

Senator Carper. I have served here with Ben for, gosh, about 20 years or so. What we have done is we use the intern program. It is almost like in baseball, like the farm system, single A, double A, triple A, and then finally, the major leagues. This is the majors. They are part of our farm system. We rarely make a mistake when we use that system. Thank you.

OK, we have been joined by Senator Ricketts.

Welcome, good to see you.

Senator Ricketts. Thank you, Chairman Carper.

Mr. Baran, thank you very much for joining us. The Nuclear Regulatory Commission is important to Nebraska, and our Cooper Nuclear Station, which is an 835 megawatt facility, generates enough power for 385,000 homes. So it is a very important part of the overall energy mix for our State.

Then of course, you are overseeing the decommissioning of the Fort Calhoun Station that was closed down a while ago.

I think you said yourself that one of your main targets during your time on the Commission has been a strong focus on environmental justice. Do you agree that nuclear energy is the most reliable clean energy source we can produce with the current technology that is capable of providing that consistent baseload?

Mr. Baran. Yes, I think that is right. Maybe hydro as well, but yes.

Senator Ricketts. Very good. Do you agree that nuclear energy is critical to ensuring that we have that reliability in our country, for the grid?

Mr. Baran. That is what I hear from grid operators and utilities, yes.

Senator Ricketts. Do you agree that a diverse grid mix allows for more consistent and affordable energy prices?

Mr. Baran. I am not really knowledgeable about that piece. We don’t do the economic regulation part. But I think that is true, yes.
Senator RICKETTS. So would you say that just in general, that a diverse power source or a diverse grid mix is an important part of an overall energy strategy? Is that fair?

Mr. BARAN. Yes, that is what I hear from utilities.

Senator RICKETTS. OK, great.

And do you agree that a great way to support our underserved, especially in rural communities, is allowing affordable and reliable energy? Anybody who is low income, reliable energy is a good thing?

Mr. BARAN. Right.

Senator RICKETTS. So, talk to me about the permitting process. My understanding is that the permitting process has taken longer, that the permitting for renewables is actually taking longer than the initials.

Can you talk to me about how you think the permitting process and what we can do to be able to improve that? Because nuclear I think is going to be an important part of our energy mix going forward, especially if we are going to be reducing a lot of carbon we are putting into the environment, an important part.

Talk to me about how you feel about permitting.

Mr. BARAN. I completely agree that NRC needs to have an efficient and effective licensing process that can handle all the applications that come our way. It may be a significant number in the next few years.

Right now, the staff and the agency are taking a number of steps to improve the efficiency of the process. One is, we have moved to core teams. In the past, we would have staff turnover on the team reviewing an application. Now we have moved to a core team model, where you keep the same staff on, you are not constantly re-educating folks on the application and the status. That has been an effective tool. The staff is going to continue to use that.

One of the things that often slowed things down in the past were formal requests for information, written questions that would go to the applicant. And it would often take weeks, months, to get responses back. There might be more questions, and it could get extended.

So the staff, I think there is always going to be a role for some written requests for information, but they are focused much more now on in person checks, going out and visiting the applicant, show me your probabilistic risk assessment or show me the issues that they want to focus on. I think that is going to add some efficiencies to the process.

Pre-application engagement, we are seeing it becoming more and more substantive, resolving, even before the application comes in, getting alignment on some key technical issues. That is very valuable. We saw some of the applicants do that, and it shrinks the amount of time pretty appreciatively that the staff then thinks the review will take when the application does come in.

One of the issues I think we have had over the years is the hard issues don’t get resolved right away. Sometimes they sit there. There is an increased focus among managers and supervisors to make sure we are elevating or resolving those issues.

We don’t want to let something linger. Spot the issues earlier, figure out what are going to be the hardest aspects of an applica-
tion, figure that out early, focus on it, elevate those, resolve them so they don't become something that lingers later on.

We talked about earlier, having a generic environmental impact statement for advanced reactors will speed up the environmental side of it.

There is more, there is an increasing focus on risk in the agency. The staff is now using probabilistic risk assessments from an applicant to target the most safety significant aspects of an application to focus more of their attention there. That is a new development I think we will see more of. Even using data analytics to pinpoint the kind of biggest schedule vulnerabilities.

So there is a lot going on, a lot of these things are going to advance further. But I agree with you, there is more work to do, and we need to have an efficient process.

Senator RICKETTS. So the last thing you said about data analytics, what is the average time it takes right now to be able to get through the process?

Mr. BARAN. I don't know that there is an average time, because we have different times associated with different types of applications. We also don't have too many that have come through with all this new stuff.

I can give you a concrete example of one of our recent applications. We have a new advanced reactor design from Kairos, first of a kind for the agency. They had a great pre-application period, resolved a lot of issues. Kairos did a great job; the staff did a great job.

The staff thought it would be a 22 month safety review. They are about 4 months ahead of that now, so I think it will end up being about a year and a half for the safety review.

Senator RICKETTS. So you do measure how long it takes to go through the process?

Mr. BARAN. Oh, yes.

Senator RICKETTS. Great. And I know I am running over my time, Chairman, but one of the things that, as the Chairman has heard me here, it is not going to be about ethanol, just so you know, it is going to be about Lean Six Sigma. One of the things that we did at the State of Nebraska when I was Governor is we focused on Lean Six Sigma. Are you familiar with Lean Six Sigma?

Mr. BARAN. I am.

Senator RICKETTS. OK, great. So that was a great way for us to map out our processes, reduce the overlaps, and cut the number of steps and thereby cut the amount of time it took us to issue permits in a variety of different areas.

So I would encourage you to encourage the Commission to look at how you can implement something like a Lean Six Sigma process for improvement methodology to the process as well. I think you will find that is another way to be able to shrink the time to be able to get things done.

Thanks, Mr. Chairman.

Senator CARPER. We have 14 former Governors now who serve in the U.S. Senate. It is a growing cabal of recovering Governors. Last night the National Governors Association hosted an event on Capitol Hill. I had a chance to go by and commiserate with the
newbies. It was a joy. It is a joy having you on this Committee. Don't change.

Senator Sullivan raised the question, it was a good question, about what we mean by environmental justice. I am going to give you another chance to elaborate on that a little bit, if you would like.

When I think of environmental justice, I think about the words that show up in like every religion on the planet, Golden Rule, treat other people the way we wanted to be treated. I don't care if you are Mormon, I don't care if you are Jewish, I don't care if you are Muslim, I don't care if you are Hindu, Buddhist, Catholic, Protestant, every one of them has a Golden Rule.

When I think about environmental justice, I think, how would I want to be treated if I were in the shoes of folks who might be in a Tribe in Alaska or a Tribe in Arizona or an area in my State or some other State. For me, that is really how would you want to be treated if you were in the shoes of these folks.

The other thing that came to mind in terms of environmental justice was a quote, and I asked myself, who actually said these words? The quote is, people don’t care how much you know until they know how much you care. I was thinking it was maybe Maya Angelou or someone like that.

It wasn't, it was Teddy Roosevelt. Teddy Roosevelt, of all people. I think those words, especially coming from an environmentalist like him, a guy who was a rough rider, I would say those are pretty powerful words, and good ones for us to keep in mind.

We are going to be joined by a couple of other colleagues here in a little bit. Maybe within seconds.

[Laughter.] Senator CARPER. As soon as you walked in the room, my staff handed me this note, and it has one word on it: “Lummis.”

[Laughter.] Senator CARPER. We are going to let you take your seat and get settled in. We are always happy when you can join us. You are recognized for your questions and comments.

Senator LUMMIS. Thank you, Mr. Chairman. Thank you. I appreciate your wonderful attitude as Chairman of this Committee. You are a quality Chairman.

Senator CARPER. The lady is recognized for as much time as she would consume.

[Laughter.] Senator LUMMIS. Good morning, Mr. Baran. Happy to see you again.

As Russia’s invasion of Ukraine clearly laid bare, energy security is tied to national security. America currently imports about 20 percent of our nuclear fuel from Russia, and produces just a fraction of the uranium necessary to fuel our nuclear power plants.

The Atomic Energy Act established our Nation’s nuclear energy policy as one that should provide for the common defense and security of our country. That should directly apply to uranium production.

Commissioner Baran, your record appears to contradict that policy. For example, you support imposing costly and unjustified new requirements on uranium in situ recovery facilities, the primary
manner in which uranium is currently safely produced in my home State of Wyoming.

Do you agree that NRC’s mission and its activities should be executed in a way that provides for our common defense and security?

Mr. Baran. Yes.

Senator Lummis. Do you believe that increasing America’s uranium production will support our energy security?

Mr. Baran. Yes, I think with Russia’s invasion of Ukraine, there is obviously a lot of interest in finding alternatives to Russian uranium.

Senator Lummis. Thank you.

You have supported previous EPA efforts to impose additional groundwater monitoring requirements on ISR facilities. The NRC raised substantive and jurisdictional concerns with EPA’s proposals. The previous Administration’s EPA withdrew the rule and signed a memorandum of understanding with NRC in 2020, to clarify jurisdictional interests between the two agencies on their respective roles and responsibilities.

Do you consider NRC’s position as agreed to in its MOU with EPA a settled issue, and one that you will stand by going forward?

Mr. Baran. I don’t see the MOU going anywhere with EPA. Obviously, EPA would have a say in that as well.

I guess my approach, I don’t think the Commission has ever taken a position on the former EPA rule. I don’t recall ever doing that. But in my mind, NRC does not have specific standards right now for in situ uranium recovery. We are doing it now via basically license conditions. It is working, it provides some predictability.

But when I talk to applicants and licensees, they want to see greater predictability and they want to see a rulemaking that addresses all that. I think we have to get there.

The key consideration, or a key consideration I have in mind, there is I would like to see us work together with EPA on that. Because we each have a regulatory role. If we were to go forward with a rule and then EPA were to come out with something that is inconsistent, we are going to have to redo our rule, which I think would be really silly.

In my ideal world, there would be a joint NRC-EPA process. We wouldn’t be at odds with each other, we would be working under the MOU, and we would be hearing the stakeholder views on what should a rule look like, and make sure we have all the—they have been controversial issues—make sure we have the producers, we have the States, the Tribes, the environmental organizations, hear from everyone, but work together so that we are actually in the end providing some predictability, rather than some sense of, well, this agency thinks this, what does the other agency think.

I think that was one of the pitfalls from when this was done several years back, or attempted to be done several years back.

Senator Lummis. Yes. And we do hear, in our States, concerns by business about future predictability, just knowing what is going to be the rule, so people can be prepared to follow it.

Commissioner Baran, I am extremely excited about the TerraPower reactor being built in my home State. And it is about to submit its license application to the NRC.
However, my understanding is that both the NRC and the Department of Energy have to perform separate environmental reviews related to this project because it is being done through the Advanced Reactor Demonstration Program. On its face this seems duplicative and a waste of both private and public funding.

Is there any benefit to having two environmental reviews at both of these government agencies?

Mr. BARAN. I haven't focused on that issue, but it doesn't sound like it makes a lot of sense to me. I would like to see better coordination than that. I don't know why we would do two EISs for the same project.

Senator LUMMIS. We might reach out to you and have a discussion about that later. Obviously, we don't want this thing to drag on until after we are all deceased. It really would be nice to have that TerraPower reactor up and running.

One more question, Mr. Chairman.

If reconfirmed, would you ensure the NRC and DOE work well together to minimize duplicative reviews?

Mr. BARAN. Absolutely.

Senator LUMMIS. Thank you.

Thank you for your kind indulgence, Mr. Chairman. I yield back.

Senator CARPER. Thanks so much for joining us today, and for your questions and participation.

I had the privilege of spending a few minutes with Commissioner Baran earlier this week. When we spoke, you may recall talking with me about there being a ground shift in interest in nuclear power from the industry. And I think you mentioned that it was thanks at least in part to the passage of the Inflation Reduction Act, some of the provisions, the clean energy provisions, that Senator Cardin and I led on. If you would just comment on that for the record, please.

Mr. BARAN. Yes. I think the price signals that the legislation sent had pretty much an immediate impact. When I would meet with utilities, it really changed the way they were thinking about investments.

So there was a certain amount of interest in subsequent licensing in the rule going from 60 to 80 years operation. That really ramped up. Now, almost every plant is contemplating it.

We haven't seen a lot of power uprates, in other words, modifications to the plants to get more power out of the existing plants. Now we have a whole slew of potential power uprates that are expected in the next several years, in addition just to more new reactor applications. So it had a significant and from my vantage point, almost an instantaneous effect on how the industry was thinking about long term investments.

Senator CARPER. I had a meeting with some of our colleagues, a bipartisan meeting in one of the rooms off the Senate floor, we were voting on something, it was about a year ago. We were invited to stop by one of the meeting rooms on the second floor, off the floor of the Senate. We had maybe 10, 12 Ambassadors from European countries who were there. I don't know what brought them to Capitol Hill, but they were there. We had the opportunity to chat with them.
I remember asking at the time if the German ambassador, I said, we have I think it is close to 100 nuclear power plants in this country, and some of them getting pretty old. We have a decision to make to try to extend their lives or go ahead and shut them down. And this was right after it became clear that the Germans having walked away from nuclear energy were now fully dependent on the Russians for natural gas.

I said to the Ambassador from Germany, do you have any advice for us? He said, don't shut them down. Don't shut them down.

Another question, if I could. Would you take a minute or two and describe for us how to work to maintain or increase public confidence and transparency in the NRC's decisionmaking and regulatory process?

Mr. Baran. Yes. I really try to take an open door approach to the work I do, and meet with a wide variety of stakeholders before making decisions, and meet with NRC staffers if they have different views or concerns. I want to make sure I am hearing kind of all of the different viewpoints before a decision is made.

I want to see the agency communicate in ways everyone can understand. Some of these issues are complex, some of them are technical, a lot of them are. I am always working to see the agency communicate in ways, not just in the Federal Register or for a public meeting, formal public meeting, but in ways with language that everyone can understand.

I think there is, it comes up in the context of environmental justice, but it isn't really solely an environmental justice issue, I think there is real value in standing up an office that is focused on public engagement and that can help stakeholders navigate some of the more complex processes we have and get the information they need.

Senator Carper. Thank you.

I am going to yield to my two colleagues if they would like to ask another question or two.

I am happy to recognize you if you wish. I understand Senator Mullin may be trying to join us, so we will give him a few more minutes.

Senator Ricketts. Yes, if I could, I want to follow up on the comments you made about the uprating of your facilities. What steps do you see the Commission taking to be able to help facilitate facilities and plants that are looking to do the uprating? How long will that take?

Mr. Baran. There have been a lot of power uprates over the years, so it is nothing new for the Commission. The applicant would seek a license amendment, and depending on how significant the modification would be, it could be really straightforward or a little more complex.

But we are already trying to get a good sense from applicants, when are they going to come in, make sure we are budgeted, and have the folks ready to review those. When I think about readiness for all these applications we are talking about, new reactors, extended terms, power uprates, I want to make sure we can handle the full volume. It is going to be a larger volume than we are used to seeing in recent years and decades. And I don't want to see us in a situation where people are queueing up, where we are
triaging. I want to make sure we are able, we have the capacity, both the framework, the regulatory framework, the personnel, and the efficient processes to do them all as they come in.

We need to meet that demand, from my point of view. I think that is an important responsibility that we have.

Senator RICKETTS. Great.

I am a cosponsor of the ADVANCE Act, which members of the Committee have worked very hard to draft. One of the provisions included would reduce regulatory costs for the licensing of advanced nuclear reactor technologies. States like Nebraska conduct initial reviews regarding what advanced nuclear technology looks like. We actually in my State have passed some bills to encourage that investment in our State.

What are specific actions you would be willing to commit to working with this body and our States to ensure the expeditious implementation of these provisions?

Mr. BARAN. Obviously, anything the Congress passed we would implement. We treat NEIMA and the other legislation that has been passed in recent years very seriously. So whatever is coming through the process, we will plan for and will make it happen. We are going to implement it.

Senator RICKETTS. Are you familiar with the ADVANCE Act and what the goal is there?

Mr. BARAN. Yes. I have looked at it. I haven’t memorized all the provisions, but I have taken a good look at it. I think there are a lot of very good provisions in there.

Senator RICKETTS. So you will commit to working with Congress to be able to push forward these advanced nuclear technologies?

Mr. BARAN. Yes.

Senator RICKETTS. OK, great.

Thank you, Mr. Chairman.

Senator CARPER. Senator Lummis.

Senator LUMMIS. Thank you, Mr. Chairman.

TerraPower requires high assay, low enriched uranium, I call it HALEU, to operate, and has already announced a delay on their start date due to a lack of fuel availability. While much of this delay is due to the DOE not yet moving forward on its HALEU program, the NRC has the important role of actually licensing the commercial HALEU facility.

Commissioner Baran, if reconfirmed, will you prioritize licensing HALEU enrichment facilities, and how will you ensure the NRC and DOE work together, again, to minimize duplicative actions?

Mr. BARAN. The short answer is yes. Actually, the NRC staff is already very focused on it. The Commission was just briefed a few weeks back on all the various applications that have been submitted, the ones that have been approved, the ones that are being reviewed, the ones that are coming. The staff is very focused on that and views it as a high priority. There is already a lot of interaction going on with DOE about that.

So we are on it.

Senator LUMMIS. Thank you.

And if Mr. Markey is prepared, I will yield to him, but I also have another question, if he would like a minute.

Senator MARKEY. Go ahead.
Senator Lummis. Thank you.

Commissioner Baran, with overwhelming bipartisan support, Congress directed the NRC to establish a regulatory framework to license advanced nuclear reactors. The NRC staff has been actively working on this rulemaking, known as Part 53. And it is critical to get this rule right to facilitate the deployment of new carbon free nuclear power plants.

As you discussed in your vision for this Part 53 framework, you said adequate protection is the minimum NRC is charged with doing under the Atomic Energy Act, not the maximum. Adequate protection isn't the ceiling, it is the floor. The agency has required many important safety measures over the years that went beyond adequate protection.

Do you believe the Atomic Energy Act requires any regulatory safety threshold beyond reasonable assurance of adequate protection?

Mr. Baran. I haven’t studied that precise legal question. I can say that court opinions over the years and our backfit rule really contemplate two types of requirements. There are adequate protection requirements, which is the floor. We can’t do less than that, and we can’t consider costs of that. That we have got to do, we have to adequately protect the public.

Under our backfit rule we also have what are called cost justified substantial safety enhancements. These are, if you could get a lot of improved safety off something, and it passes cost benefit, that is also something the NRC has required over the years.

The point I was making there, and I don’t think it is really a controversial point, some of our most important rules have been the latter kind of rule. Not everything we have done has been necessary for adequate protection.

I will give you one quick example, which is the maintenance rule. You talk to anyone, in industry, in the agency, the maintenance rule is one of the most significant things the agency ever did. It was not an adequate protection rulemaking, it was a cost justified substantial safety enhancement.

So I am not envisioning that Part 53 requires more than we have in the existing regulations. But you are going to require the same level of safety. To require the same level of safety, you will have things like the maintenance rule that are beyond adequate protection.

Senator Lummis. Can you describe some of those issues that are part of the Part 53 proposal that go beyond adequate protection?

Mr. Baran. I think anything that tried to track the existing regulation in terms of the level of safety, where the requirement was not an adequate protection requirement would be carried over in Part 53. For example, they do have provisions on maintenance.

So we are all digging into this now. The Commission has had it for a few weeks now, we are all digesting it, going through it. There are several issues that are coming up that we are hearing from a lot of stakeholders. One is, it is a performance based rule. So what is the performance standard? There is a lot of disagreement about that. Should you use the quantitative health objectives that were from the 1980s as the performance standard?
There is a question of how should we treat what is called ALARA, as low as reasonably achievable, doses. That has traditionally been policy and has some elements in rule. But should that be a design principle or an operating principle? It is a key issue.

There is a new concept that the staff came up with that included facility safety programs. There has been a lot of concern about that, and staff thinks it is a good idea. We want to look at that, does that make sense.

Some of these might be in that kind of margin you are talking about, is this really adequate protection, does it go beyond adequate protection, does it go beyond what we have as the existing kind of level of safety. We are going to be looking at all those issues, taking a hard look at them.

Senator LUMMIS. How do you evaluate whether something is cost justified?

Mr. BARAN. That is a regulatory analysis, a cost-benefit analysis, that is going to be as quantitative as it can be. But often we will look at qualitative factors as well, if you can't quantify something.

Senator LUMMIS. Thank you, Commissioner Baran.

And thank you, Mr. Chairman.

Senator CARPER. You bet. Thank you so much for being here and for your questions.

Senator Markey.

Senator MARKEY. Thank you, Mr. Chairman. I appreciate it.

Senator CARPER. We have something, Commissioner, once a year we have a spouse's dinner, those of us who have spouses are invited to bring them to Washington if they don't live here. We have dinner together. People around the country think we are always fighting with one another and we never have a good word to say about folks on the other side of the aisle.

I wish they could have seen it last night. I sat at the same table with Democrats and Republicans alike. It was just a real source of joy.

Our President has a lot of sayings, I have heard most of them. One of them is, all politics is personal, all diplomacy is personal. I was reminded of that last night.

Senator Markey.

Senator MARKEY. And it was a great night, a really great night. Commissioner Baran, since 2014, you have been a strong addition to the Nuclear Regulatory Commission. And I have always appreciated your and your staff's willingness to speak to me about questions and concerns I have had about the Nuclear Regulatory Commission proceedings, particularly those surrounding the decommissioning rule, the reactor oversight process, and the operations of the Pilgrim and Seabrook Nuclear Power Plants. Your breadth of knowledge on the issues you work on and your passion for supporting NRC, resident inspectors, and plant workers are truly admirable.

As the longest serving commissioner currently on the Nuclear Regulatory Commission, you have significant institutional knowledge and a strong understanding of the inner workings of the Commission. You have worked on a wide variety of issues, including recent rulemakings regarding advanced nuclear reactors, fusion, and decommissioning.
Can you just give us a brief understanding of how you evaluate these novel regulatory proposals that are now under consideration?

Mr. Baran. I try, as I do for all decisions or voting matters, try to have an open minded, collaborative approach. I want to hear from the NRC staff and a wide range of stakeholders before I form an opinion.

I also want to hear what my colleagues think about it. There are five of us, and everyone brings their own views and perspectives. But in the end, my goal is to have a balanced, thoughtful approach to the tough issues.

Senator Markey. Thank you.

During your time as a commissioner, you have also experienced what it is like to serve on both a full Commission and one with vacancies on it. If your nomination is not confirmed before your term expires at the end of the next month, the Commission would again have a vacancy and would not be operating at full capacity.

Can you share your perspective on the importance of having a full commission?

Mr. Baran. Sure. I have been on the Commission when we had three commissioners, four commissioners, five commissioners. A couple of times almost two, which is really to be avoided.

Based on my experience, I would say a full Commission, five is ideal. There is a reason why Congress set five, and it is because you have a good number of people with different perspectives and views and you hash things out. It is a good process and a good way to make decisions.

When I think about this particular time, it is really an important time for the nuclear sector and for the agency. These next few years, we need an active NRC that is going to do a lot of things and make a lot of decisions. We need the advanced reactor framework in place, the small modular reactor framework, the fusion framework, decommissioning. There is so much that needs to be done that a complete Commission will really help make that happen.

Senator Markey. I agree with you 100 percent.

Throughout your time on the Nuclear Regulatory Commission, I have expressed my concerns about the issue of alkali silica reaction at the Seabrook Nuclear Power Plant. Seabrook is the first plant in the Nation known to suffer from alkali silica reaction, which is a process that leads to cracking and degradation of concrete over time.

In one example, severe cracks were found in Seabrook’s reactor cavity pit by employees as early as 2012, but they weren’t identified as a product of alkali silica reaction until a Nuclear Regulatory Commission inspector properly diagnosed it in 2021.

More than a year and a half later, the NRC inspectors found that Seabrook’s owner, Next Era, had failed to take the steps required by the Commission to ensure that proper alkali silica reaction protocols were being followed.

Will you continue to work with me to ensure that Next Era is properly managing alkali silica reaction at Seabrook?

Mr. Baran. Yes, of course.

Senator Markey. I think that is just so important. It is like human beings, we have invented little pills we can take for our
cholesterol, make sure our arteries are clear. Most of us try to take those little pills, kind of a big difference from a preceding generation.

Well, the same thing happens to older nuclear power plants, they start to have these changes that occur, and this is one that has been identified but hasn’t been properly dealt with.

So we just need to make sure that if we want to continue to have these plants get older and older and older, that we also build in the safeguards. So taking your Lipitor each day is kind of the equivalent for what we are asking for in terms of Next Era installing to protect against the alkali silica undermining the concrete at a nuclear power plant.

In your testimony you mentioned your frequent visits to nuclear power plants and other NRC facilities. What has your experience taught you when you visit these plants?

Mr. Baran. I have been to probably about 40 operating nuclear power plants, including Seabrook, during my time on the Commission. I get a lot out of those visits. Obviously, you get to see the equipment and the technology first hand. And that is valuable.

But I think really the more important thing is the opportunity to talk to the people. I get to talk with our resident inspectors, I get to talk with the licensee managers and workers there, operators. I get to talk to the local union. And I get to hear about their priorities, their concerns. There is nothing like talking to people face to face to get a sense of how things are going at a plant.

Senator Markey. Thank you, Mr. Chairman, very much.

Senator Carper. Senator Markey, thanks so much for joining us.

I want to just ask if there might be a question you haven’t been asked that you wish you had been, and you would like to answer it anyway. What have you not been asked that you would like to answer?

Mr. Baran. When you asked Christine Svinicki this question a few years back, she had also been a long serving commissioner, and then Chairman. She took the opportunity to talk about why she was interested in another term.

I am really excited about these next 5 years. They are just going to be a critical 5 years for the energy sector, for the nuclear sector, for our focus on energy security and climate.

I want to be a part of that. I want to see and participate and contribute on the advanced reactor framework and small modular reactors and fusion. There was a big announcement today on fusion, the first power purchase agreement for the late 2020s on fusion. Amazing.

And so there are a lot of exciting things happening. I want to be around for that. I want to make progress on environmental justice and complete some of these important rulemakings that we have going. Some of them take longer than they really should, and I am looking forward to seeing them through to the end.

So my colleague, David Wright, recently has been talking about this and how important this period of time is. He has said there is just nowhere he would rather be right now than at NRC on the Commission. And I feel the same way. I am excited to work with my four colleagues to meet the moment.

Senator Carper. Good.
When we had the full Commission here before us a couple of weeks ago, ironically, I go home most nights to Delaware, and I drive to the train station, jump on a train. I was listening to music in my car. Sometimes the news, but oftentimes music.

That morning I was driving to the train station, I heard Carly Simon sing “Coming Around Again.” I thought that could almost be the theme song here for the nuclear industry.

I don’t know that Albert Einstein was a big Carly Simon fan, but I do know that he used to say a lot, in adversity lies opportunity. God knows we face plenty of adversity on so many fronts, but we have way too much carbon in the air, and it is getting worse. We have the opportunity to turn that around.

We have spent fuel, and it is piled up in a lot of places around the country. The idea of somehow actually being able to use that spent fuel to derive more energy out of it to meet our energy needs is something that is exciting.

I have been waiting forever for fusion. I am glad I lived long enough to see the day come when it is going to be real, and it is going to help us meet our energy needs here and around the world.

I want to thank you again for appearing before us today.

Before we adjourn, some housekeeping. I would like to ask unanimous consent to submit into the record a variety of materials relating to today’s hearing, including a letter of support from the International Brotherhood of Electrical Workers, also known as the IBEW.

[The referenced information follows:]
February 6, 2023

VIA EMAIL:

President Joseph R. Biden
The White House
1600 Pennsylvania Ave NW
Washington, D.C. 20500

Re: Nuclear Regulatory Commission Reappointment of Jeff Baran

Dear President Biden:

On behalf of the 775,000 active and retired members of the International Brotherhood of Electrical Workers (IBEW), I write to request that you appoint Nuclear Regulatory Commission (NRC) member Jeff Baran to another five-year term. His current seat on the NRC expires on June 30, 2023. Commissioner Baran’s personal contribution to the work of this critical agency should continue unabated due to the challenges and opportunities facing the nuclear industry at this moment.

Issues of worker and plant safety are critical to IBEW members working in operations, construction of new facilities and periodic maintenance of existing reactors. Several matters before the NRC warrant Commissioner Baran’s continued service on its governing board. These include next-generation nuclear technology, licensing renewal for nuclear reactors and a focus on the human side of this highly regulated industry that is necessary to meet the carbon reduction goals your administration is pursuing with the urgency the climate challenge demands.

A full panel of commissioners is essential for the NRC to address regulatory matters while performing its duty to protect the public. Nuclear generation is the country’s single largest source of emissions-free energy. While nuclear power represents 20 percent of the country’s electric generation, it accounts for about half of all emission-free energy produced in the United States. The recent policy focus on nuclear power, however, cannot overcome the years of indifference toward developing nuclear technologies of the future. In short, the United States has much ground to recover.
Thanks to the support of recently enacted legislation, several advanced nuclear demonstration projects are moving forward. The NRC is playing an important role in the domestic development of the supply chain to fuel this burgeoning technology. In addition, the NRC is overseeing the decommissioning of some legacy nuclear plants while relicensing others.

Through his dedicated service and leadership, Commissioner Baran has demonstrated the right kind of approach to resolving the complex technical and legal issues affecting the safe operation of the nation’s nuclear energy industry.

Commissioner Baran’s voice championing the rank-and-file employees inside nuclear facilities is noticeably singular. Indeed, meetings prioritized at every plant he visits include non-management workers like IBEW members. While they often herald the work of the operating companies, these workers present an essential side of the labor-management structure that might otherwise go unnoticed. This perspective should be considered crucial to the federal agency regulating the nuclear fleet.

With nearly two full terms of experience on the NRC, Jeff Baran represents a strong, seasoned voice on the Commission in an industry that employs over 14,000 IBEW members with good paying union jobs and contributes to the country’s low emission goals while facilitating the reliability and resiliency of the grid. For all of these reasons, I respectfully request that you appoint him to serve another five-year term on the Nuclear Regulatory Commission.

Sincerely yours,

Kenneth W. Cooper
International President

KWC:kas
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 month capped off more than two years of engagement and analysis for how best to regulate and license commercial fusion facilities. FIA would like to commend the Commission’s staff and the Commissioners themselves on their openness and engagement with FIA and other fusion stakeholders during these meetings. Throughout this process, the NRC built a better understanding of the technical issues and hazards presented by fusion, and FIA appreciates the willingness of staff to engage with FIA 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. Chairman Hanson and Commissioners Baran, Caputo, Crowell and Wright were accessible, open-minded, and thoughtful in their approach to regulating and licensing this new industry.

The FIA strives to be a non-partisan, policy-oriented association. For that reason, we were pleased that the vote was bipartisan and that both Commissioners Caputo and Baran gave a strong endorsement of the byproduct approach before the final vote was announced.

The FIA notes that the President has nominated Commissioner Baran for another five-year term. Commissioner Baran was a constructive voice in the NRC’s deliberations on how to regulate commercial fusion under Part 30. In casting his vote, Baran noted that “...the NRC staff, Agreement States, international counterpart regulators, and many other stakeholders believe that near-term fusion energy systems are more appropriately regulated under the Part 30 byproduct material framework rather than the Part 50 utilization facility framework used for fission reactors. I agree.”

Commissioner Baran’s thoughtful approach to regulating commercial fusion provides 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 third term to 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
Dear Chairman Carper and Ranking Member Capito,

As Congress considers a forthcoming vacancy at the U.S. Nuclear Regulatory Commission (NRC), we urge Congress to carefully consider the qualifications and record of any nominee.

We oppose confirming Commissioner Jeff Baran to another five-year term. Commissioner Baran’s term ends on June 30, 2023. Commissioner Baran’s voting record shows a strong preference for overly burdensome regulations that hinder the deployment of new nuclear energy, and harm the environment in the process.

Nuclear energy has tremendous bipartisan support — specifically new advanced reactor technologies that are rapidly approaching demonstration and deployment. Congress has provided billions of dollars in funding to preserve and expand nuclear energy, and the Biden-Harris administration has identified advanced nuclear as an essential component of its ambitious climate strategy. These next five years will be crucial to the successful rapid deployment of nuclear energy.

The purpose of the NRC is to license and regulate the use of radioactive material in the United States to provide reasonable assurance of adequate protection of public health and the environment. Over the long course of his tenure at the Commission, Commissioner Baran’s record demonstrates that he interprets that mission as justifying an excessive degree of precaution and duplicative processes that delay or discourage the construction and operation of nuclear plants, without offering a significant benefit to public safety. Recently, he has expressed strong support for modernization, but his well-established voting record contradicts those words and shows a clear resistance to risk-informed regulation. For specific examples, see the attached fact sheet.

The NRC has been implementing a strategy for modernization since 2016 — entirely during Baran’s tenure. Commissioner Baran is often the sole dissenting vote on risk-informed policies to enable the safe use of advanced nuclear technologies. On multiple occasions, Commissioner

Sen. Tom Carper, Chairman
Committee on Environment and Public Works
United States Senate
513 Hart Senate Office Building
Washington, DC 20510

Sen. Shelley Moore Capito, Ranking Member
Committee on Environment and Public Works
United States Senate
172 Russell Senate Office Building
Washington, DC 20510
Baran not only opposes common sense staff recommendations to establish efficient and effective regulatory policies, he has supported reversing previous staff and Commission decisions or adding new costly requirements that would do nothing to improve nuclear safety.

Commissioner Baran has served for nearly 9 years. It is not common for someone to serve for a third term as a Commissioner. Only two of the 33 past Commissioners have served longer than 10 years. If re-appointed for another 5-year term, he could become the longest-serving Commissioner in the history of the NRC. Such a long tenure should be reserved for an exemplary Commissioner, who is driving and preparing the NRC for the future.

The status quo is not acceptable, and the NRC needs to be led by Commissioners who acknowledge the evolution of nuclear energy technologies and, in turn, the importance of modernizing the NRC to provide an informed, thorough, and timely review of regulatory matters to maximize the general welfare of the public. Continued service of Commissioners who inhibit modernization should be a thing of the past.

We disagree with calls to rush through the confirmation process to avoid a vacancy at the Commission. The primary objective should be to nominate the best candidate for the position.

In light of the increasing threat of public health impacts, energy security, and climate change, regulatory practices that unnecessarily deter carbon-free energy can no longer be considered harmless. Going forward, NRC Commissioners must fully internalize the irrefutable fact that unwarranted delays to nuclear deployment pose risks to the public and the environment they are sworn to protect. Rather than confirm Commissioner Baran, we strongly support considering an alternative candidate with the necessary vision, qualities, and character to lead the NRC into the future and address the imminent challenges faced by our country and the world.

Thank you.
63

Commissioner Baran Voting Record Fact Sheet

Commissioner Baran has proven on multiple occasions that he prioritizes the unnecessary overregulation of nuclear energy above the protection of the environment. This fact sheet contains several examples of his voting record that show Commissioner Baran being the sole vote against reasonable steps to improve the efficiency of the NRC’s regulations, hindering the deployment of new nuclear, which is necessary for combating climate change.

(1) **Commissioner Baran was the sole vote against** updating NRC’s guidance for siting smaller and safer advanced nuclear reactors that would allow advanced reactors to more easily replace shut-down fossil-fuel power plants.

Transitioning old coal-fired power plants to cleaner nuclear power plants is an essential step for environmental justice because it provides a healthy pathway to stability for a community that is dependent upon a power plant, while decarbonizing US energy use. Current NRC regulations were developed with large light water reactors in mind, and may be a barrier to replacing fossil-fueled plants that existed closer to people, regardless of the safety risks (or lack thereof) of operating a specific type of reactor in more densely populated areas.

(2) **Commissioner Baran was the sole vote against** an NRC staff proposal to align emergency preparedness requirements with the reduced risk associated with advanced reactors.

Imposing the same emergency planning requirements on smaller, safer reactors as what is applicable to today’s large reactors is not technically justified and would impose extra costs on new reactors. The Advisory Committee on Reactor Safeguards (ACRS) found* that there are "no technical obstacles at this time to the rulemaking and recommend that it move forward.”

---

1 NRC ADAMS Accession Number: ML22194A890
2 NRC ADAMS Accession Number: ML22194A869
3 NRC ADAMS Accession Number: ML19351C728
4 NRC ADAMS Accession Number: ML182918248
(3) Commissioner Baran was the sole vote against developing a commonsense environmental review document for advanced reactors.

The NRC staff proposed, and the Commission approved, the development of a Generic Environmental Impact Statement (GEIS) for advanced reactors to provide for a faster and more efficient environmental review process by taking into account the reduced environmental impacts (such as reduced water use or modular construction techniques) associated with new reactor technologies compared to today’s large, light-water reactor technologies.

(4) Commissioner Baran opposed streamlining environmental regulations

Commissioner Baran seems to believe that any effort to streamline environmental reviews would be problematic. He wrote:

*I do not support guidance changes aimed at reducing the length and detail of National Environmental Policy Act environmental reviews. The agency has often struggled with including sufficient detail in these important reviews. Efforts to “streamline” environmental impact statements would be counterproductive and could have significant adverse unintended consequences.*

(5) Commissioner Baran supported planning for extremely unlikely hypothetical accidents.

The NRC staff found in NUREG-2161 that a release from a spent fuel pool accident after a severe earthquake at a reference plant could occur about one time in 10 million years or lower. While Commissioner Baran accepts those findings, he nevertheless comes to the conclusion that such events should be taken into account during radiological emergency planning.

---

3 NRC ADAMS Accession Number: ML20365A151
4 NRC ADAMS Accession Number: ML20252A162
5 NRC ADAMS Accession Number: ML19283C650
6 Questions for the Record for Jeffery Baran, Senate Committee on Environment and Public Works Hearing Entitled: “Hearing on the Nomination of Jeffery Baran to be a Member of the Nuclear Regulatory Commission” May 10, 2023
7 Questions for the Record for Jeffery Baran, Senate Committee on Environment and Public Works Hearing Entitled: “Hearing on the Nomination of Jeffery Baran to be a Member of the Nuclear Regulatory Commission” May 10, 2023, at p. 2
(6) Commissioner Baran supported\(^{11}\) basing\(^{12}\) the new 10 CFR Part 53 on the current 10 CFR Parts 50 and 52, even though the new framework was supposed to be innovative.

The Nuclear Energy Innovation and Modernization Act (NEIMA) directed the NRC to develop a new technology-inclusive regulatory framework for advanced reactors. The current nuclear reactor regulations were developed with one type of technology in mind: large light-water reactors. As such, a departure from the status quo was required to meet the mandate in NEIMA; however, Commissioner Baran approved a rulemaking plan that would base the new regulatory framework on the existing frameworks and guidance.

(7) Commissioner Baran supported unnecessarily increasing regulations on the current fleet of reactors

One of Commissioner Baran’s repeatedly stated concerns is that new, advanced reactor designs do not have any operating experience, yet even with the legacy fleet of reactors with decades of experience, he votes for increasing regulatory burden and oversight. For example, he voted to increase inspection frequency on the currently operating fleet.\(^{12}\)

\(^{10}\) NRC ADAMS Accession Number: ML2202A4322

\(^{11}\) NRC ADAMS Accession Number: ML19340A056

\(^{12}\) NRC ADAMS Accession Number: ML20254A149
May 23, 2023

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

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

Subject: Good Energy Collective Supports Jeffery Baran’s Confirmation to the U.S. Nuclear Regulatory Commission

Dear Senator Carper and Senator Capito:

Good Energy Collective would like to express its support for Jeffery Baran's confirmation to the U.S. Nuclear Regulatory Commission for another term.

Commissioner Baran understands that expanding nuclear energy is necessary to address climate change and is ready to work with his colleagues on the Commission to ensure the effective and efficient licensing of new reactor applications. He made these positions clear during this Committee’s May 10 hearing on his nomination.

We appreciate that Commissioner Baran recognizes real leadership means respecting and listening to experts and the full breadth of impacted stakeholders in making decisions that may affect public health and the environment. He is receptive to the expert opinion of his staff. In response to a question on his evaluation technique for new regulatory proposals during the May 10 hearing, Commissioner Baran said: “I try … to have an open-minded, collaborative approach. I want to hear from the NRC staff and a wide range of stakeholders before I form an opinion.” In a regulator, this spirit of collaboration and willingness to change one’s mind in light of new evidence are rare assets.

Throughout his career, Commissioner Baran has prioritized environmental justice for disenfranchised communities. As a former staffer on the House Energy and Commerce

Good Energy Collective is a 501(c)(3) nonprofit research organization working to advance environmentally just and equitable policies that support the ability of nuclear energy to contribute toward reducing emissions, supporting skilled domestic workforces, expanding local and national economies, and strengthening energy security.
Committee, he worked on legislation to clean up uranium tailings within and near the Navajo Nation. His efforts to ensure that the NRC is advancing environmental justice reflect an understanding that the NRC’s policies on environmental justice are outdated. In September 2021, with fellow climate policy nonprofits Nuclear Innovation Alliance and Data for Progress, we praised the NRC’s leadership in conducting a systematic assessment for how the agency addresses environmental justice. We agree with Commissioner Baran’s assessment that prioritizing environmental justice at the NRC will not impede new reactor licensing. During his recent testimony, Commissioner Baran made clear that neither he nor the rest of the Commission believe that the Atomic Energy Act provides the statutory authority for the consideration of environmental justice in licensing activities. Instead, improving the Commission’s accessibility and its public engagement processes will strengthen the NRC’s relationships with the community stakeholders it serves and further democratize the activities of the agency.

We urge the Committee to approve Commissioner Baran’s nomination, and we hope he is expeditiously reconfirmed. We look forward to continuing to work with Commissioner Baran, his expert staff, and the expert staff of this Committee on the efficient licensing of advanced reactors and improvements to the NRC’s competencies in public participation and engagement.

Sincerely,

Jackie Toth
Deputy Director
Good Energy Collective
jackie@goodenergycollective.org

---

May 22, 2023

The Honorable Thomas Carper, Chairman
Committee on Environment and Public Works
410 Dirksen Senate Office Building
Washington, D.C. 20510

The Honorable Shelley Moore Capito, Ranking Member
Committee on Environment and Public Works
410 Dirksen Senate Office Building
Washington, D.C. 20510

Dear Chairman Carper and Ranking Member Capito:

The Nuclear Innovation Alliance (NIA) is writing to support the nomination of Jeff Baran as a Commissioner to the U.S. Nuclear Regulatory Commission (NRC) and his confirmation by the Senate. This would maintain the Commission’s statutorily mandated set of five Commissioners, enabling it to address the policy issues it will be confronting as it moves toward more effective and efficient licensing of advanced reactor technology.

As a firm, reliable and clean component of the U.S. energy system, advanced reactor technologies can play a vital role in ensuring America’s security and economic vitality, and protecting the environment. Domestic commercialization of these reactors will promote energy security; create jobs; enable deep decarbonization of electricity, heat and fuels; expand opportunities for the U.S. in international markets; ensure U.S. leadership in international safety and security; and contribute to a domestic clean energy economy. The NRC will play a critical role as a trusted, independent regulator in the development and deployment of advanced nuclear energy.

We appreciate Commissioner Baran’s remarks at his confirmation hearing on how critical the existing fleet and future reactors are to achieving our climate and energy security goals. He also stated that NRC has a key role to play, and that NRC must have an efficient and effective licensing process to review the large number of license applications we are expecting. Commissioner Baran is also committed to bringing an open-minded and collegial approach to the issues that come before the Commission.

Commissioner Baran has continuously emphasized the importance of public trust and accountability during his tenure at the NRC and his public statements increasingly emphasize the importance of nuclear energy as a key clean energy technology. The deployment of advanced nuclear technology in the United States will require that we ensure effective and efficient licensing processes while maintaining public trust and social license for nuclear technology. Commissioner Baran’s deep NRC experience combined with his growing recognition of the importance of nuclear energy in meeting climate and energy security goals will enable him to play a constructive role in ensuring the safe deployment of future advanced reactor technologies.

The NRC Commission operates as a collegial body with a diversity of viewpoints. We are encouraged by the on-going and increasing bipartisan support for nuclear energy in the Senate and its particular support for advanced nuclear energy. Maintaining the full complement of commissioners will best position the NRC to carry out its mission and responsibilities.

Sincerely,

Judi Greenwald
Executive Director
Nuclear Innovation Alliance
Senator CARPER. The last thing I would mention is in terms of the questions for the record, as you know, we give our colleagues the opportunity to submit those. They have until Wednesday, May 17th, to do that. We would ask that you reply to those questions for the record by May 24th.

It is nice to be with you again. Thanks to our members who came and stayed for this important hearing, to grasp the opportunity we have before us. I think it is important that we do that. We need a strong Commission. We need wonderful and dedicated people working at the NRC.

I remember a time when the NRC was the most sought after place to work in the Federal Government, year after year after year. I look forward to the day, not that far in the future, when it is again.

With that, this hearing is adjourned. Thanks, everyone.

[Whereupon, at 11:30 a.m., the hearing was adjourned.]