



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

October 3, 2023

The Honorable Jeff Duncan  
Chairman, Subcommittee on Energy, Climate,  
and Grid Security  
Committee on Energy and Commerce  
United States House of Representatives  
Washington, DC 20515

Dear Mr. Chairman:

On July 18, 2023, Daniel H. Dorman, Executive Director for Operations, U.S. Nuclear Regulatory Commission appeared before the House Energy and Commerce Subcommittee on Energy, Climate, and Grid Security at a hearing entitled, "American Nuclear Energy Expansion: Updating Policies for Efficient, Predictable Licensing and Deployment."

From that hearing, members forwarded questions for the record. The responses to these questions for the record are enclosed.

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

Sincerely,

A handwritten signature in blue ink, appearing to read "E. Dacus".

Eugene Dacus, Director  
Office of Congressional Affairs

Enclosures:  
As stated

cc: Representative Diana DeGette

**House Committee on Energy and Commerce**

**Subcommittee on Energy, Climate, and Grid Security**

**Hearing Entitled, “*American Nuclear Energy Expansion: Updating Policies for Efficient, Predictable Licensing and Deployment.*”**

**July 18, 2023**

**Questions for the Record for Mr. Dan Dorman**

**The Honorable Jeff Duncan**

1. I understand you require licensing actions to be completed within two years, what are you doing to revisit this goal, to identify actions that can – or should – be completed faster?

**RESPONSE:**

The NRC does not have a requirement to complete all licensing actions within two years. As directed by the Nuclear Energy Innovation and Modernization Act (NEIMA), the NRC staff established generic milestone schedules for issuing the final safety evaluation for various types of applications. The generic milestone schedules established for requested activities of the Commission (including licenses, permits, certifications, license renewals, and license amendments) are posted on the NRC’s public website at <https://www.nrc.gov/about-nrc/generic-schedules.html>. The milestone schedules for each activity type are considered “generic” and are largely based on historical data for each activity type. The NRC staff shares with each licensee or applicant a specific schedule for each request, which may be shorter or longer than the generic milestone schedule based on the specifics of the request.

The NRC tracks progress on each licensing action review to ensure that schedules are met. In FY22, the NRC staff completed 94% of licensing action reviews within established schedules. A recent example of the NRC staff’s commitment to timely and efficient licensing decisions was the completion of both the safety review and the environmental review for Kairos Power’s Hermes non-power reactor construction permit application ahead of schedule. Notably, the NRC staff issued the final safety evaluation in 18 months. The NRC staff is using lessons learned from this safety review to inform future licensing activities such as early engagement meetings with applicants. The NRC will continue benchmarking against prior tracking results to determine whether the generic milestone schedules can be adjusted to account for recognized efficiencies.

2. It has been communicated that the staff is looking at a 24-month review period for new SLR applications. This is a regression from the staff’s previously stated review schedule of 18 months.

a. Why the backsliding?

**RESPONSE:**

The NRC staff is committed to timely license renewal safety reviews. Over the last year, the nuclear industry has substantially increased its plans to pursue license renewals. The NRC has historically budgeted for conducting three reviews annually based on industry projections and plans. The substantial increase in industry interest will result in the NRC receiving and having 12 applications under review in FY24. This rapid acceleration in the number of applications will challenge NRC resources and may have an effect on schedules. In response to this increased workload, the NRC staff is implementing enhancements to its review process and is engaging with the nuclear industry on efforts to improve the quality and consistency of submitted applications.

- b. Given that the NRC has reviewed and approved 94 license renewals and several subsequent license renewals, shouldn't we be seeing improvements in the time it takes to review these applications?

**RESPONSE:**

The NRC's experience in reviewing license renewal applications has allowed the NRC to expedite the review of new applications. Where a new application adopts previously approved references that apply to the new application, the review time can be further expedited. However, each license renewal application may involve new issues that were not present in other applications. For example, a facility may have encountered unique degradation mechanisms and implemented appropriate actions to address those conditions. Accordingly, each application must be reviewed on its own.

In addition, subsequent license renewals (SLRs) may require more hours than initial license renewals for a variety of reasons. While some areas covered in the initial license renewal review may be streamlined during the SLR review, the staff has found that the new and unique variables introduced during the SLR review at a minimum balance out any efficiencies, and in some cases add additional review time.

The NRC staff is implementing enhancements to the license renewal process. Some examples include more effective use of audits, streamlining of safety evaluations, and enhanced project management tools that will reduce the resources needed to complete these reviews. In an August 2023 public meeting, the NRC staff and industry discussed a new effort to identify and prioritize further enhancements to the licensing process. The NRC staff is planning to accommodate further public engagements with the industry and other stakeholders to identify actions both the industry and staff can take to enhance the efficiency and timeliness of these reviews.

- 3. The NRC's license application review resources for license renewals and power up rates have continued to grow over time. Please discuss what actions you are taking to adopt efficiencies in your reviews to reverse this trend.

## RESPONSE:

The NRC has implemented several subsequent license renewal process improvements to increase efficiencies, and we are currently engaged with the industry (through public meetings, workshops, NEI Forums, etc.) to identify additional means to streamline reviews. Completed and ongoing enhancements to process improvements include:

- Expanding the use of Requests for Confirmatory Information (RCIs) to access specific non-docketed information, which, if it is used to support a regulatory finding, will be formally docketed.
- Reducing the number of Advisory Committee on Reactor Safeguards (ACRS) meetings to one full committee meeting.
- Eliminating the inspection required as part of the licensing decision and instead leveraging information from the post-approval inspections from the initial license renewal.
- Increasing the use of remote communications, including online portals, to maximize the efficiency of in-office review time and reduce the level of staff activities at the reactor site. The upcoming revisions to the Generic Aging Lessons Learned for Subsequent License Renewal Report and Standard Review Plan for Review of Subsequent License Renewal Applications for Nuclear Power Plant would enhance generic guidance to minimize the need to review common technical issues on a plant-specific basis.
- Enhancing the Technical Review Package tool to increase project management efficiency.
- Optimizing audits to increase efficiencies and reduce the need for requests for additional information (RAIs).
- Continuing to streamline safety evaluations and audit reports by combining similar or repetitive sections.

The NRC has a well-established process for reviewing and approving power uprate applications, as demonstrated in the over 120 uprates that have been approved since 2000. The NRC has an Office of Nuclear Reactor Regulation (NRR) Office Instruction, "Power Uprate Process," for reviewing power uprate applications. The staff plans to review this NRR Office Instruction and enhance it, as appropriate, as the staff prepares for potential future reviews.

In [SECY-13-0070](#), the NRC staff established resource estimates and goals for uprate reviews. The NRC staff is reviewing past data to determine potential efficiencies in the licensing process associated with power uprate reviews. The staff will also continue to identify additional efficiencies to enhance its process, as appropriate. In order to reasonably inform any changes, staff will need additional engagement with industry to understand specific plans for applications.

To date, while the NRC has heard that the industry is generally interested in pursuing uprates, the NRC has not received any specific information or timelines. Examples of considerations important to our ability to plan include the type of power uprate review, whether the applications will rely on generic methodology (e.g., approved topical reports), and anticipated schedules for submittal.

As with all licensing reviews, the NRC staff will also leverage its data-driven project management tools to provide near real-time analytics on project execution to monitor progress. The staff intends to continue to leverage its proven process for future reviews but is also open to using more recent lessons learned and data to enhance and improve efficiency.

4. I understand that the NRC's process for resolving differing professional opinions can hamstring agency decision-making because it can slow down important decisions. The process is not built around the safety significance of issues. I am encouraged that the NRC has adopted new processes that focus on safety significance such as the very low safety significance issue resolution process. Can you commit to adopting a similar approach to make the NRC's resolution of differing professional opinions more safety focused and streamlined?

**RESPONSE:**

The NRC is committed to ensuring the Differing Professional Opinion (DPO) program is managed and conducted in a manner that supports agency goals for openness, inclusion, safety, efficiency, and effectiveness. We achieve this by establishing clear guidance and expectations regarding use of the DPO program, providing hands-on support for process implementation, conducting periodic assessments of the DPO program, incorporating best practices and lessons learned into program guidance, and by leveraging risk and safety insights to ensure the review effort is appropriate.

The NRC places safety as its utmost priority and has implemented a robust process to facilitate the consideration of diverse views during the decision-making process. This dedication to safety entails creating and maintaining a culture where staff are encouraged to raise safety concerns, which are assessed and resolved based on their safety significance. The NRC's dedication to safety is ingrained in our mechanisms for formally addressing safety concerns and differing views: the Open Door Policy ([Management Directive \(MD\) 10.160](#)), the Non-Concurrence Process ([MD 10.158](#)), and the DPO Program ([MD 10.159](#)). In establishing completion dates for the resolution of safety concerns, consideration is consistently given to the need for prompt action, the safety significance of the issue, and the priority of other concurrent work activities within the responsible office or organization.

The Office of Enforcement (OE) has been proactively working to ensure safety concerns submitted under the formal differing views program continue to be addressed in an effective and efficient manner. To better serve its stakeholders and in response to feedback related to the differing views program, OE revised MD 10.159, The NRC DPO Program.

The revised MD 10.159 includes several process improvements and flexibilities to ensure safety concerns continue to be addressed in an effective and efficient manner. Some of the recent relevant improvements include: 1) enhancing kick-off meetings; 2) developing a rapid resolution stage; 3) implementing a DPO Tiger Team; and 4) delegating and expanding roles involving DPO program participants. OE will monitor the impact of the recent DPO program

improvements as they relate to better focusing resources on issues of greater safety significance and will revisit integrating the very low safety significance issue resolution process as part of the differing views program in the future, as necessary.

Recent Relevant Improvements to the DPO program:

- **Enhanced Kick-Off Meeting:** OE implemented an enhanced DPO kick-off meeting where they proactively work with the DPO program participants to align on a case specific review schedule and to ensure the DPO program does not result in a schedule-driven process that fails to recognize the safety significance and complexity of the issues, priority of other work activities, and the availability of DPO participants.
- **Rapid Resolution:** OE developed a rapid resolution stage for the informal resolution of concerns. This stage is designed to identify opportunities to constructively resolve safety concerns in an effective and efficient manner before entering the formal differing views program. This process improvement also creates opportunities for earlier understanding of the involved parties' interests and enables creative resolutions, thus enhancing the timeliness associated with the resolution of highly technical and highly complex safety concerns.
- **DPO Tiger Team:** OE implemented a DPO Tiger Team, which establishes a list of subject matter experts throughout the agency that can be called upon to conduct an evaluation of the issues, scope, and any other important circumstances. The DPO Tiger Team can help to quickly understand and assess the issues raised in a DPO submittal to the extent that it can assist in resolving differing views and recommend potential DPO program process flexibilities. This allows the agency, when appropriate, to prioritize its activities and apply the appropriate resources to resolve the issues in a timely manner.
- **Delegation and Expansion of Roles:** To balance and distribute the workload of DPO cases among highly qualified individuals, OE implemented a process improvement that allows Office Directors and Regional Administrators to delegate the disposition of DPO cases to their deputies. In addition, a recent change now allows Senior Level Advisors to serve as DPO panel chairs to lead the independent review of the safety concerns raised in a DPO and provide recommendations to a DPO decision-maker. Previously, only Senior Executive Service (SES) members were permitted to chair a DPO panel. This change is anticipated to yield substantial efficiency gains and enhance the timeliness of DPO cases reviews.

5. In developing a budget request, NRC presumably uses a labor model to manage its anticipated workload, with metrics for reviewing significant licensing actions like subsequent license renewals. For example, the FY 2004 NRC Budget Request included metrics for completing the review of initial license renewal applications: 22 months to complete the review of an uncontested application or 30 months, if contested. Looking at the FY 2024 NRC Budget Request, there are no metrics specified.

- a. Given the absence of metrics, how can NRC provide the assurance to prospective applicants that their application will be reviewed in a timely, efficient, and predictable manner?

**RESPONSE:**

For Fiscal Year (FY) 2024, the NRC published an Annual Performance Plan and Report containing the agency's metrics, provided to Congress to accompany the FY 2024 Congressional Budget Justification. These agency metrics are consistent with the metrics that have been included in NRC Budget Requests in recent years. As directed by NEIMA, the NRC staff established generic milestone schedules for issuing the final safety evaluation for various types of applications, including applications for license renewal. The generic milestone schedule for issuing the final safety evaluation for license renewal applications for light water reactors is 18 months. When the generic milestone schedules were established, the NRC staff noted that it will work with each licensee or applicant to establish a specific schedule for each request. A specific schedule may be shorter or longer than the generic milestone schedule based on the complexity of the review, information provided by the licensee or applicant, and agency resource availability.

- b. Absent a labor model and metrics, what is the basis for NRC's estimate on the resources needed to complete an initial or subsequent license renewal review? If there is a labor model and internal metrics, what is the rationale for not making them available to licensees and the public?

**RESPONSE:**

For each new license renewal application, the NRC conducts an acceptance review and issues a letter to the licensee documenting the results of that review. If the NRC accepts the application for review, the letter includes a planned schedule and resource estimate that the staff manages throughout the review. The NRC routinely communicates the status of the review to the licensee, and the licensee receives updated resource expenditures as part of the NRC's billing process. In addition, the NRC documents the status of each license renewal application review in a semi-annual report to Congress and provides resource expenditure details for significant ongoing licensing reviews, including subsequent license renewal application reviews, in a quarterly report to Congress.

NEIMA Section 102(c) required the NRC to develop performance metrics and milestone schedules for the requested activities of the Commission by July 13, 2019, and requires reporting of delays associated with certain final safety evaluations related to these activities. The generic milestone schedules established for requested activities of the Commission, including license renewal applications, are posted on the NRC's public website at <https://www.nrc.gov/about-nrc/generic-schedules.html>. The milestone schedules for each activity type are considered "generic" and are largely based on historical data for each activity type. Specifically, for license renewal applications for light water reactors, the NRC reviewed historical data for past initial and subsequent license renewal application reviews and adjusted the overall review schedules to incorporate efficiencies gained in our licensing process over the years. The NRC will continue

benchmarking against prior tracking results to determine whether the generic milestone schedules can be adjusted to account for recognized efficiencies.

The NRC continues to strive to complete its review of reactor license renewal applications within 30 months from receipt if a hearing is required or within 22 months from receipt if no hearing is required. This information is available on the NRC's public website at <https://www.nrc.gov/reactors/operating/licensing/renewal/process.html>.

6. The NRC's mission states that: *The NRC licenses and regulates the Nation's civilian use of radioactive materials to provide reasonable assurance of adequate protection of public health and safety and to promote the common defense and security and to protect the environment.*

I'm told that NRC's Standard Review Plan (or SRP) – is used to ensure consistency, completeness, predictability, and repeatability of NRC licensing decisions and that every application receives the same level of scrutiny. In the past, there has been a concerted effort by the Commission to ensure discipline in the staff's reviews by limiting requests for information (or RAIs) that involve information beyond what is necessary for the agency to make a safety finding.

- a. Would you agree that using the reasonable assurance of adequate protection standard for reviewing license applications and amendments limits how far the staff can go in requesting information during licensing reviews?

**RESPONSE:**

The NRC has a well-established process for issuing a request for additional information (RAI). For example, for reactor applications, the NRC uses office instruction, "Processing Requests for Additional Information," to implement an effective and efficient RAI process to obtain missing, incomplete, inconsistent, or unclear information within the application or docketed correspondence. The NRC staff also engages with applicants through pre-application interactions to create an opportunity for regulatory issues to be addressed prior to submittal of the application to try and minimize RAIs during the licensing review.

The staff relies on our regulatory requirements and guidance to make findings of reasonable assurance. RAIs should be directly related to the applicable regulatory requirements associated with a licensing submittal, and used by the NRC to obtain information, not previously submitted by the applicant, that the NRC needs to make required regulatory findings in a licensing review. The NRC may also issue RAIs if necessary to make regulatory findings pursuant to the National Environmental Policy Act or related environmental statutes.

- b. Absent a disciplined and predictable review process, how does NRC limit the ability of individual reviewers' interests exceeding the bounds of what is necessary to reach a safety conclusion?



**RESPONSE:**

NRC staff reviewers are expected to issue RAIs that are directly related to the applicable regulatory requirements if needed to obtain information not previously submitted by the applicant. The NRC has established guidance for reviewers to facilitate a disciplined and predictable review process with respect to RAIs. For example, the NRC has guidance for reviewers for reactor applications in “Processing Requests for Additional Information,” to provide an effective and efficient RAI process. Additionally, the guidance in “Requests for Additional Information,” enhances staff’s clarity and focus when developing RAIs for fuel facilities, spent fuel storage, and transportation actions. The established guidance focuses reviewers on developing RAIs that are necessary for a regulatory finding in a licensing review. The NRC staff also holds internal deliberations on any additional rounds of RAIs prior to engaging with the licensee or applicant, including obtaining division management alignment and approval on the RAIs. The NRC staff’s review process also affords opportunities for the licensee or applicant to engage with the NRC staff on RAIs and gain more information related to staff findings or determinations, particularly on the regulatory basis of such requests.

- c. If this is occurring, isn’t this a form of NRC’s “mission creep”?

**RESPONSE:**

The NRC continues to focus on its safety and security mission. The NRC’s established guidance for reviewers, coupled with management oversight, maintains discipline and focus in the NRC’s licensing reviews and development of RAIs. The NRC staff will continue to work to focus RAIs on information necessary to make the required regulatory findings on an application.

7. Last year the staff completed its assessment of whether Environmental Justice (EJ) is appropriately considered and addressed in agency programs, policies, and activities, such as adjudicatory procedures and environmental reviews, given the agency’s mission. The bottom line of the staff’s analysis found the consideration of EJ in these areas is consistent with applicable law, and that it is also generally consistent with the spirit of Executive Orders (EOs) that address EJ. Nonetheless, the staff proposed potential improvements, enhancements, and updates on how the agency addresses EJ. This comes at a time when there are wide-spread concerns about the NRC’s ability to conduct timely review of licensing applications, including advanced reactor designs needed to address clean energy needs.

- a. Given the bottom-line conclusion by the staff, aren’t some of the elements of NRC’s Environmental Justice Assessment recommendations above and beyond those required by NEPA (e.g., creation of an outside Federal Advisory Committee for Environmental Justice and reversing the current prohibition on intervenor funding)?

**RESPONSE:**

In April 2021, the Commission directed the staff to systematically review how the agency’s programs, policies, and activities address environmental justice. As part of that direction, the

Commission directed the staff to evaluate whether the NRC should incorporate environmental justice beyond implementation through the National Environmental Policy Act (NEPA). Consistent with that direction, the staff provided a notation vote paper to the Commission that identified areas where consideration of environmental justice could be updated, enhanced, or modernized both within and outside the context of NEPA. This paper is currently under consideration by the Commission.

- b. Has NRC conducted a cost-benefit review of the EJ Assessment recommendations that exceed NEPA requirements? For example, did the staff assess the impact these enhancements have on the cost, timeliness, and predictability of NRC licensing reviews for the existing fleet, SMR applicants, and advanced reactor applicants?

**RESPONSE:**

The staff considered high-level resource estimates in developing its recommendations in this paper; it did not conduct a detailed cost-benefit analysis. In addition, during the development of the recommendations, the staff considered whether and how the recommendations may affect the timeliness and predictability of NRC licensing reviews.

## **The Honorable Rick W. Allen**

1. Plant Vogtle 3 is on the cusp of commercial operation and a decision authorizing Vogtle 4 to load fuel is expected this month. This is a tremendous accomplishment for both Georgia Power and the NRC. This achievement highlights the critical importance of nuclear energy in addressing the nation's need for reliable, dependable, and clean baseload energy that is available 24/7. It also represents a significant investment in the critical infrastructure (manufacturing, supply chain, skilled craft, etc.) necessary for constructing new nuclear power plants going forward.

- a. From the perspective of the nuclear safety regulator, please share with us the key NRC lessons learned from the Vogtle 3&4 construction experience that can be applied to future new nuclear construction projects, particularly SMRs and advanced reactors.

### **RESPONSE:**

Vogtle Unit 3 declared commercial operation on July 31, 2023. The licensee was authorized to load fuel at Vogtle Unit 4 after the NRC's finding on July 28, 2023, that the licensee met the acceptance criteria in the license. The NRC staff has continually assessed the enhancements put in place that facilitated timely regulatory activities related to Vogtle. Many of these are already being applied to advanced reactor reviews, which supported the staff's recent timely and efficient review of the first-of-a-kind construction permit for the Kairos Hermes test reactor. The staff is preparing a report documenting the lessons learned and good practices observed from the construction of Vogtle and expects to issue its report by late 2023. Some of the lessons learned and good practices from Vogtle construction that could be applied to future advanced reactor projects are:

- The creation of the Vogtle Readiness Group, which has been valuable in supporting construction oversight by using "core" teams to identify and resolve issues in licensing and inspection early, by using performance monitoring tools throughout the project, and by engaging management consistently.
- The development of an expedited license amendment review (LAR) process that could be used for low-complexity compliance issues. This revised process promotes accelerated review schedules in which some LARs could be processed in as few as 35 days.
- Scheduling weekly public meetings to allow the NRC and licensees to address emerging licensing or inspections, tests, analyses, and acceptance criteria issues quickly.
- The development of more effective processes for tracking charged hours to a project to assess the efficient use of hours, which could be valuable for the shorter time frames and smaller budgets for advanced reactors.

- Improving efficiency in licensing and inspection activities by identifying and focusing on areas of greatest safety significance.

**The Honorable Frank Pallone, Jr.**

1. Has the NRC reviewed the Nuclear Innovation Alliance report on ACRS reform? If so, what are the Commission's views on its content and its recommendations?

**RESPONSE:**

Yes, the NRC is familiar with the report; however, the Commission has not formulated any views or taken an official position on the report.

The ACRS is receptive to improving effectiveness and efficiency as it provides independent advice to the Commission. There are many recommendations in the Nuclear Innovation Alliance report the ACRS supports. In fact, a number of these items were identified by ACRS members, NRC staff, and applicants in recent years, and actions were implemented to address them. As noted in several ACRS letter reports and in ACRS Commission briefings since December 2019, significant progress has been made in areas such as enhancing focus on safety significant matters, reducing duplicative meetings, increasing Commission and Executive Director for Operations awareness of ACRS activities, increasing communications with staff, reducing costs, increasing member diversity, and ensuring members conduct tasks professionally and in an effective and efficient manner.

## **The Honorable Lori Trahan**

1. I recently shared a discussion draft of the Fusion Energy Act with the NRC. I plan on introducing this bill shortly. Among other things, the legislation seeks to codify the Commission's unanimous decision to regulate commercial fusion energy under 10 CFR Part 30, byproduct materials. In your view, does this legislation effectively achieve its end goal to codify the Commission's decision?

### **RESPONSE:**

In April 2023, the Commission clarified the regulation of fusion energy in the United States by directing the staff to license near-term fusion energy systems under a byproduct material framework. The NRC's planned rulemaking effort will focus on adapting the byproduct material requirements and associated guidance to be commensurate with the hazards and risks posed by fusion energy systems to protect the public health and safety and promote the common defense and security of the United States. The current definition of byproduct material in section 11e. of the Atomic Energy Act provides a foundation to regulate many planned fusion energy systems. However, there are some fusion devices that may not utilize byproduct material as fuel. Additionally, there are some fusion devices that utilize aneutronic technologies to sustain fusion reactions that incidentally produce radioactive material that may not meet the definition of byproduct material.

The Fusion Energy Act, as introduced on August 18, 2023, would add a new section 11e.(5) to the Atomic Energy Act. It would expand the definition of byproduct material to explicitly include "any material that is made radioactive directly or indirectly by use of a fusion energy machine." It would also amend the Atomic Energy Act to define the term "fusion energy machine" as a "particle accelerator that is capable of—(1) transforming atomic nuclei, through fusion processes, into other elements; and (2) directly capturing and using the resultant products . . . for a commercial or industrial purpose."

The Fusion Energy Act would achieve its end goal of codifying a byproduct material framework for some, but not necessarily all, fusion devices. The Fusion Energy Act would cover fusion devices, including fusion devices that utilize aneutronic technologies to sustain fusion reactions that incidentally produce radioactive material, so long as the device meets the definition of a fusion energy machine. The definition of a fusion energy machine in the Fusion Energy Act would include only fusion devices that are also particle accelerators. For instance, if the definition of a fusion energy machine referred to a "device" instead of a "particle accelerator," it would cover all fusion devices that meet the other criteria and would not be limited to particle accelerators. The definition would also include only particle accelerators that transform atomic nuclei, through fusion processes, into other elements and not particle accelerators that transform atomic nuclei, through fusion processes, into different isotopes of the same element. For example, a fusion device might use deuterium, a hydrogen isotope, as fuel and transform the deuterium into hydrogen and tritium, which is also a hydrogen isotope. In addition, the definition of a fusion energy machine would include only particle accelerators used for commercial or industrial purposes and not ones used for other purposes, such as research.

2. Are there any areas of concern in the discussion draft of the Fusion Energy Act that you would regard as being inconsistent with the Commission's decision to regulate fusion under Part 30 or NRC's existing policies and procedures?

**RESPONSE:**

The NRC has not identified at this time any areas of concern that would be inconsistent with the Commission's decision to regulate near-term fusion energy systems under a byproduct material framework.

3. Does the discussion draft of the Fusion Energy Act help ensure that the Commission's decision will be implemented across all fusion technologies in the technology-inclusive, risk-informed manner that the Nuclear Energy Innovation and Modernization Act (NEIMA) directed?

**RESPONSE:**

NEIMA defines the term "advanced nuclear reactor" as including both nuclear fission reactors and fusion reactors that have "significant improvements compared to commercial nuclear reactors under construction as of the date of [NEIMA's] enactment." As a result, NEIMA's requirements for advanced nuclear reactors currently apply to nuclear fission reactors and fusion energy systems, including the requirement for the NRC to establish, by December 31, 2027, a "technology-inclusive, regulatory framework for optional use by commercial advanced nuclear reactor applicants for new reactor license applications." Consistent with NEIMA and the Commission's direction in April 2023, the NRC staff is currently working to develop a draft proposed rule to establish a technology-inclusive regulatory framework for fusion energy systems and to develop guidance under, "Consolidated Guidance About Materials Licenses."

The Fusion Energy Act, as introduced on August 18, 2023, would add a new definition to NEIMA for the term "fusion energy machine" and would not amend NEIMA's definition for the term "advanced nuclear reactor." The definition of a fusion energy machine in the Fusion Energy Act would capture some, but not necessarily all, fusion devices. The Fusion Energy Act would also amend NEIMA to require the NRC to establish, by December 31, 2027, a "technology-inclusive, regulatory framework for optional use by fusion energy machine applicants for new license applications."

4. What are NRC's plans to work with the agreement states to ensure their preparations for the licensing of fusion machines?

**RESPONSE:**

The NRC staff is working collaboratively with our Agreement State partners as part of the NRC's efforts to develop a draft proposed rule to establish a technology-inclusive regulatory framework for fusion energy systems and associated guidance and to enhance preparedness for licensing fusion systems. The NRC is also leveraging the Agreement States' experience with

fusion devices. The NRC staff and staff from Agreement States have met to exchange licensing and inspection experience as well as guidance currently in use for fusion devices. In August, the NRC and Agreement States held an all-day session on fusion systems at the Organization of Agreement States annual meeting that included a regulators panel, industry panel, and a tour of the Helion facility in Everett, Washington. The NRC and Agreement States plan to work with the fusion industry to host a half day training session in May 2024. As the rulemaking for fusion systems progresses, the NRC will continue to work with the Agreement States to develop additional training opportunities to enhance preparedness for licensing and effective oversight of fusion devices.