

CRCPD's Committee on Commercial Nuclear Power

(E-47)

Conference of Radiation Control Program Directors, Inc.
A Partnership Dedicated to Radiation Protection

U.S. Nuclear Regulatory Commission
Mail Stop O-16 B33
Washington, DC 20555-0001

March 24, 2023

Dear Commissioners,

On behalf of the Conference of Radiation Control Program Directors (CRCPD) Committee on Commercial Nuclear Power (E-47), we would like to express our full endorsement of the recent positions set forth by Commissioners Caputo and Baran related to SECY-23-0001, "Options for Licensing and Regulating Fusion Energy Systems". We believe that their positions reflect a common-sense approach that will benefit all stakeholders involved. We are writing to further emphasize the capabilities of states in regulating fusion and the current framework under which it is being done.

The Committee stresses the importance of resolving jurisdictional issues in a way that is both practical and effective. In our experience and interactions with private fusion start-up companies, the development of fusion is most likely to follow a trajectory starting with a research and development (R&D) facility evolving to a demonstration facility before commercialization as a full power generation facility. A hybrid approach to regulation may necessitate a transition from a material license to a utilization facility license. For those facilities located in the 39 (soon to be 42) Agreement States, this would also result in a change from Agreement State to NRC jurisdictional authority. The regulatory uncertainty produced by these transitions – and as to which systems may be subject to these transitions in the first place – is further complicated by the lack of clarity surrounding the criteria and regulatory framework that would be applied to fusion as a utilization facility. While we recognize that the regulatory framework for fusion will continue to develop, we believe that applying a consistent materials approach will provide better certainty as well as improve our ability to inform regulatory changes through specific learnings from licensing and regulatory activities conducted by a consistent, single licensor. This approach would avoid the confusion and back-fitting that can arise when transitioning from one regulatory regime to another, creating reliable expectations for licensees, while also likely improving overall public health and safety.

We have seen this regulatory confusion firsthand with SHINE, where NRC regulates the production facility while the state of Wisconsin regulates other licensed devices such as industrial radiography and nuclear gauges used by contractors on the NRC-licensed site. This situation has resulted in two regulators overseeing licensed activities on the same property, requiring licensees to operate under two different regulatory frameworks without any clear benefit to public safety.

Jeffrey Semancik, Chairperson

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Currently, fusion is being regulated within the framework of the National Materials Program (NMP), where Agreement States and the NRC work together to develop and implement consistent regulatory guidance. This framework has been effective in providing a regulatory structure for fusion that allows for safe and efficient development of the technology. We recognize that the fusion industry is developing at a rapid pace, and it is important that regulatory frameworks keep pace with this development. However, we believe that the current materials framework is a strong foundation upon which to build as the industry expands. Agreement States operating with the NRC as partners in the National Materials Program are fully capable of developing the centralized technical guidance and training to consistently regulate fusion facilities under the material licensing model. This is an area where the Committee is already making progress by developing a white paper on key licensing issues and guidance that the states need today in order to ensure safety of the fusion facilities being developed.

As fusion technology scales, it is possible that states may need additional resources to handle the workload. However, we believe that this to be a personnel resource issue rather than requiring new technical capabilities. With the right support and guidance, we are confident that Agreement States will continue to be able to regulate commercial fusion safely, effectively, and efficiently. Indeed, certainty today as to the Agreement States' role in licensing fusion systems will also enable Agreement State regulators to make the necessary investments to be even more ready for fusion as it deploys. Such investment would be challenging to undertake under a hybrid approach to regulation, where there would be substantial confusion for some time as to what devices would be licensed by Agreement States versus the NRC in the future.

Therefore, we urge you to consider the capabilities of National Material Program and the effectiveness of the current materials framework as you consider the regulatory approach to fusion technology. With mutual support and guidance, we believe that the NRC and Agreement States working together as partners in the National Materials Program will be able to continue to regulate fusion effectively and efficiently. Once again, we would like to express our full support for Commissioner Caputo's and Baran's thoughtful positions and urge you to take our perspective into account as you consider this important issue.

Sincerely,



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NRCExecSec Resource

From: Semancik, Jeffrey <Jeffrey.Semancik@ct.gov>
Sent: Friday, March 24, 2023 3:31 PM
To: NRCExecSec Resource
Cc: Michael Hua; Shober, Megan L - DHS
Subject: [External_Sender] Letter to Commissioners from CRCPD E-47
Attachments: E-47 letter to Cmr on fusion regulation.pdf

Please distribute the attached letter from the Conference of Radiation Control Program Directors (CRCPD) Committee on Commercial Nuclear Power (E-47) to the Commissioners.

Thank you. You may contact me directly if you have any questions.

V/R,

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