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## United States Senate

COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS

WASHINGTON, DC 20510-6175

August 18, 2022

The Honorable Christopher T. Hanson  
Chairman  
U.S. Nuclear Regulatory Commission  
11555 Rockville Pike  
Rockville, MD 20852

Dear Chairman Hanson,

We support the U.S. Nuclear Regulatory Commission's (NRC) ongoing efforts to develop a risk-informed, technology-neutral regulatory framework to support the development and deployment of advanced nuclear reactors, and consideration of the appropriate treatment of commercial fusion energy devices. We also recognize and applaud the strong work the NRC has undertaken since 2020 to evaluate the regulation of nuclear fusion devices from a "clean slate" perspective, while incorporating substantial stakeholder input through multiple public meetings.

Nuclear fusion has the potential to provide safe, clean baseload energy needed to power our cities and industries while providing important economic and national security benefits. The pace of innovation in fusion has dramatically accelerated over the last decade, with the U.S. at the forefront. There are currently over a dozen private sector companies seeking to commercialize fusion energy in the near term, and many of these companies are vying to demonstrate net energy and even net electricity production by the middle of the decade.

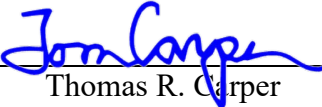
On March 17, 2022, the White House Office of Science and Technology Policy and the U.S. Department of Energy hosted a summit on "Developing a Bold Decadal Vision for Commercial Fusion Energy". The event brought together leaders in fusion energy across government, national laboratories, industry, and academia to discuss the latest developments in achieving a viable fusion reaction, to consider how to build a fusion industry with an equitable and sustainable approach, and to highlight the remaining technical challenges the government can help address. This summit underscored the Federal government's interest in fusion energy and the importance of clarity and predictability as companies build proof-of-concept devices, engage with the NRC's regulatory and licensing processes, and work to ultimately commercialize the technology.

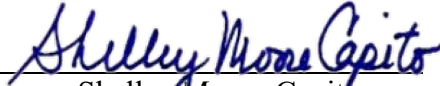
Leading scientists from around the world have determined that fusion does not pose safety concerns similar to fission.<sup>1</sup> Unlike fission, fusion does not use or generate fissile material, raises minimal proliferation concerns, and can be turned off on demand. The NRC should continue its efforts to craft an efficient and effective framework for licensing commercial fusion devices alongside the Commission's work to develop a regulatory framework for advanced nuclear reactors, commensurate with the technology and the risks it poses.

As part of this analysis, we encourage the NRC to evaluate how fusion could fit within the existing regulatory framework as it applies to research and development fusion devices and what additional efforts are necessary to support this pathway. If, in evaluating policy options, the Commission identifies necessary additional statutory authority to facilitate an appropriate regulatory framework for fusion, please share that information with the Environment and Public Works Committee.

Thank you for your consideration of our request.

Sincerely,

  
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Thomas R. Carper  
Chairman

  
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Shelley Moore Capito  
Ranking Member

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<sup>1</sup> See, e.g., National Academies of Sciences, Bringing Fusion to the U.S. Grid, at 42 (2021), (“Fusion power plants cannot have a chain reaction. As a result, safety issues associated with fusion are different from those associated with fission reactors.”); U.K. Atomic Energy Authority, Technology Report – Safety and Waste Aspects for Fusion Power Plants (Sept. 2021).