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President and Chief Executive Office

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October 2, 2018

The Honorable Lucian Niemeyer
Assistant Secretary of Defense for Energy, Installations, and Environment
U.S. Department of Defense
3400 Defense Pentagon, Room 5C646
Washington, DC 20301-3400

Subject: Micro-Reactors for Department of Defense Installations

Dear Mr. Niemeyer:

Several nuclear technology companies are developing micro-reactors, also known as very small nuclear reactors, which are capable of operating independently from the electric grid for several years without refueling. This innovative technology is a source of resilient energy for critical loads, as well as primary power under normal and emergency conditions that can enable a wide range of DoD installations to enhance their endurance, agility and mission assurance.

On behalf of the nuclear energy industry, the Nuclear Energy Institute (NEI¹) is pleased to provide you with our *Roadmap for the Deployment of Micro-Reactors for U.S. Department of Defense Installations*.

We developed this roadmap in collaboration with our members. In developing this roadmap, we had numerous discussions with members of your Office of Operational Energy and the U.S. Air Force Office of Energy Assurance. We appreciate their insight and support to assure that this roadmap provides a comprehensive picture of what it will take to deploy micro-reactors for DoD installations.

The roadmap finds that the first micro-reactor could be deployed for a DoD installation before the end of 2027, provided the challenges to such deployment are adequately addressed. Among the five recommended actions, we identify two for the DoD. The first is to enter into a contract or agreement for a micro-reactor by the end of 2019. The second is to begin a sustained engagement with the industry and the

¹ The Nuclear Energy Institute (NEI) is responsible for establishing unified policy on behalf of its members relating to matters affecting the nuclear energy industry, including the regulatory aspects of generic operational and technical issues. NEI's members include entities licensed to operate commercial nuclear power plants in the United States, nuclear plant designers, major architect and engineering firms, fuel cycle facilities, nuclear materials licensees, and other organizations involved in the nuclear energy industry.

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U.S. Nuclear Regulatory Commission. We also identify high-assay, low-enriched uranium (HALEU) – enriched up to 20% of U-235 – as a critical need. DoD engagement with the Department of Energy to secure a source of HALEU for the commercial industry would be extremely helpful. The other two recommendations are directed to industry.

A concerted effort is needed to ensure that micro-reactors can be deployed in a timely manner, and we look forward to further engagement as DoD moves ahead. If you need more information, please get in touch with me or Mr. Marc Nichol (mrn@nei.org; 202-739-8131).

Sincerely yours,

A handwritten signature in black ink that reads "Maria Korsnick". The signature is written in a cursive, flowing style.

Maria Korsnick

Attachment

c: Troy Warshel, U.S. Department of Defense
Mark Correll, U.S. Air Force
Eric Grisenbrock, U.S. Air Force
Kristine Svinicki, U.S. Nuclear Regulatory Commission
Dan Brouillette, U.S. Department of Energy