Opening Statement
Dr. Kathryn Huff
Nomination Hearing
United States Senate Committee on Energy and Natural Resources
March 17, 2022

Chairman Manchin, Ranking Member Barrasso, distinguished members of the Committee: it is an honor and a privilege to appear before you today as the nominee for Assistant Secretary of the Office of Nuclear Energy. I am grateful to President Biden and Secretary Granholm for trusting me with this important role.

I also want to thank my family, friends, mentors, and colleagues for their support, especially my husband, Strom, twin sister Allison, and parents Diane and Harold. I am deeply honored by the opportunity to lead the Office of Nuclear Energy. Nuclear power critically underpins a safe, secure, and sustainable global energy future. And this office underpins nuclear energy.

I would like to share a few thoughts about the background and experiences that have prepared me for this position.

I was born and raised in rural Texas. At 16, I was fortunate to be admitted to the Texas Academy of Mathematics and Science where I had the opportunity to begin college early as a student at the University of North Texas. This qualified me for my first summer job as an undergraduate researcher at the Los Alamos Neutron Science Center. There, I fell in love with nuclear physics, neutron science, scientific computing, and nuclear energy.

Subsequently, I received a bachelor's degree in physics at the University of Chicago where I conducted research in both cosmological astrophysics and soft condensed matter physics.

Thereafter, I received my Ph.D. in Nuclear Engineering from the University of Wisconsin – Madison. My dissertation work, conducted during a fellowship with Argonne National Laboratory, resulted in a thermal and hydrologic model of spent nuclear fuel disposal system performance in generic geologic media. At Wisconsin, I was also the lead developer of the Cyclus nuclear fuel cycle simulator. This software simulator has now grown from an individual project to a multi-institution, international collaboration.

With my PhD in hand, I became a Postdoctoral Fellow at the University of California - Berkeley in both the Nuclear Science and Security Consortium and the Berkeley Institute for Data Science. In those roles, I leveraged advanced scientific computing techniques to contribute to reactor design, predict reactor accident evolution, and analyze nuclear fuel cycles.

Finally, as a professor at the University of Illinois, I established the Advanced Reactors and Fuel Cycles research group that develops open-source software, advanced computational models, and repeatable, extensible simulations. Two national American Nuclear Society (ANS) awards have accordingly recognized my leadership in reproducible scientific computing and the adoption of open-source software in the broader nuclear engineering community.

I was honored to be appointed to serve in the Department of Energy's Nuclear Energy office as its Principal Deputy Assistant Secretary in May of 2021. In that role, I had the opportunity to lead DOE-NE efforts in multiple high priority activities including the restart of a consent-based strategy for siting an interim spent nuclear fuel storage facility, implementation of the Bipartisan Infrastructure Law such as the Civilian Nuclear Credit Program, and a recent report on the Nuclear Energy Supply Chain. I have also contributed to the bold vision of a transition to nuclear power in locations and communities around the country, including retiring coal plant sites. Finally, in the last few weeks in my role as a Senior Advisor in the Office of the Secretary, I have been tightly engaged in the interagency response to Russia's invasion of Ukraine.

With the passage of the Bipartisan Infrastructure Law, and current events, it is a pivotal time for the Office of Nuclear Energy (NE). If I have privilege of being confirmed and leading NE, my priorities and decisions will be informed by science – and with a clear understanding of the importance of nuclear energy in ensuring that our energy systems are reliable, secure, and sustainable. To meet our domestic energy needs and rebuild U.S. leadership globally, I will prioritize activities to preserve the existing fleet of nuclear power plants, deploy advanced reactor technologies, and sustainably manage spent nuclear fuel, as well as work with our international partners to support technological transfer and American innovation.

As an applied energy research, development, and demonstration organization, DOE-NE enables innovation, supports unique research infrastructure, and solves crosscutting challenges facing the nuclear energy sector. Nuclear energy can also play a major role beyond the electricity sector, including hydrogen production, desalination, and other industrial applications in the United States and abroad. NE serves a vital role in meeting that mission. NE invests in RD&D that the private sector or other non-governmental stakeholders are unable or unwilling to perform alone due to uncertainty, cost, scale, or timeframes. NE funds and creates opportunities for world-class researchers in industry.

The United States pioneered the development of nuclear power to produce electricity in the late 1940s. Since then, U.S. leadership in nuclear energy technology has given us the benefit of clean, reliable electricity for seven decades. It would be my honor to help the United States bolster and reclaim its global leadership in nuclear energy.

Thank you, again, for this opportunity to speak before you today. I look forward to your questions.