Statement by Emily Hsu, United States Representative, on Agenda Item 13, "Use of Nuclear Power Sources in Outer Space" February 11, 2025

Thank you, Chair. The United States calls on Member States and international organizations that are considering the use of space nuclear power sources to implement the joint Safety Framework developed in 2009 by this Subcommittee, in partnership with the International Atomic Energy Agency. The United States actively participates in the NPS Working Group, which provides a useful forum to discuss specific aspects of the Safety Framework's guidance and to learn from presentations and papers. Our experience of more than 30 missions involving space nuclear power sources during the last 60 years allows us to offer mission-specific experiences implementing the guidance of the Framework. The United States remains committed to the development of safe and small modular nuclear reactors for human and robotic space exploration efforts, as evidenced by President Trump's 2021 Executive Order on "Promoting Small Modular Reactors for National Defense and Space Exploration."

Since 1961, nuclear power has opened the solar system to exploration, allowing us to observe and understand dark, distant planetary bodies that would otherwise be unreachable. For the last four years, the NASA Mars 2020 Perseverance rover, powered by radioisotope power, has been exploring Mars, seeking signs of ancient life and collecting samples of rock and regolith for possible future return to Earth. Perseverance brought with it the world's first extraterrestrial rotorcraft "Ingenuity," which just recently ended its mission at the Red Planet after surpassing expectations and making dozens more flights than planned.

Another example of exploration uniquely enabled by nuclear power in space is the NASA Dragonfly mission. Scheduled to launch to Titan in 2028 and arrive at Saturn in 2035, Dragonfly adds nuclear power to enable nearly unlimited flight with eight rotors to fly like a large drone on multiple journies through the atmosphere. The United States has formalized a partnership with the European Space Agency through the signing of the NASA-ESA Memorandum of Understanding in May 2024 on the Rosalind Franklin Mars rover mission, which will be enabled by heat from radioisotopes.

Chair, use of nuclear power sources for in-space propulsion of spacecraft is a potential technology for crew and cargo missions to Mars, and scientific missions

to the outer solar system, enabling faster and more robust human and robotic missions. Expanding into a new era for space exploration depends on massefficient, high-energy solutions to power deep space vehicles, the ability to operate in harsh environments, and increasing mission flexibility. NASA nuclear technology investments are targeting power for surface operations and propulsion for fast transit deep space missions, all with the ability to reliably operate without the need for repair or refueling. NASA and the U.S. Department of Energy (DOE) are partners in ensuring the safe use of these vital space power technologies that enable and enhance such ambitious and exciting exploration missions for the benefit of humankind.

Chair, the United States believes the Principles Relevant to the Use of Nuclear Power Sources in Outer Space and the Safety Framework provide a comprehensive foundation to support the safe use of nuclear power in space. The Safety Framework allows for States and international intergovernmental organizations to innovate new approaches based on the expansion of knowledge and best practices gained from experience, and thereby continuously improve safety.

The United States supports continued opportunities and efforts to allow for the sharing of information in order to promote further understanding and awareness of effective processes to ensure the safe use of nuclear power in space. To support the objectives in the new five-year workplan for the NPS Working Group, the United States supports the collection and analysis of relevant technical information about potential future uses of NPS in outer space, particularly those involving nuclear reactors, by inviting more member States and international intergovernmental organizations, in particular, the International Atomic Energy Agency, to join the working group; collecting information about potential future uses of Nuclear Power Systems in outer space; and analyzing the safety implications of gathered information.

Chair, the United States Delegation extends our gratitude to Austria for its chairmanship of the NPS Working Group, and to the Secretariat for facilitating the work of the NPS Working Group. Thank you, Chair.