



JOINT RELEASE

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Terrestrial Energy and Orano Complete Successful IMSR Fuel Packaging and Transportation Evaluation

Bethesda, Maryland, and Oakville, Ontario, Canada – November 1, 2022 – Terrestrial Energy has completed a regulatory evaluation of packaging and cross-border transportation of Integral Molten Salt Reactor (IMSR) nuclear fuel in collaboration with Orano, a global leader in the nuclear fuel cycle.

This work demonstrates that nuclear fuel packaging used by Orano today to service the nuclear industry is suitable for the transportation and supply of IMSR fuel. The scope of the evaluation covered compliant packaging and transportation for Canada, the United States, United Kingdom and selected EU countries. This outcome avoids the costly and lengthy process of developing, licensing and manufacturing new nuclear fuel packaging and has important commercial implications for early deployment of IMSR plants in key markets.

Packaging and transportation of nuclear reactor fuel are subject to strict regulatory requirements that ensure safety and protect property and the environment. The International Atomic Energy Agency (IAEA) and regional governmental authorities have established regulations for the safe and secure handling of radioactive material. The regulations are administered in Canada by the Canadian Nuclear Safety Commission (CNSC), in the United States by the Department of Transportation (DOT) and the Nuclear Regulatory Commission (NRC), in the United Kingdom by the Office for Nuclear Regulation (ONR), and in France by the Nuclear Safety Authority (ASN).

“Orano has long been a trusted nuclear fuel cycle partner to the global energy industry, including managing and performing more than 5,000 transports of nuclear material every year,” said Amir Vexler, President and CEO of Orano USA. “Next-generation technologies such as Terrestrial Energy’s IMSR will deliver new and valuable commercial applications of nuclear energy. We are pleased to apply our nuclear fuel cycle expertise to help advance the development of these nuclear energy facilities of the future.”

“This outcome is possible because the IMSR plant is fueled with Standard Assay Low Enriched Uranium, which is commercially available and widely used in reactors today,” said Simon Irish, CEO of Terrestrial Energy. “Terrestrial Energy’s IMSR plant uses a molten salt reactor for high-temperature heat supply, which is essential for direct industrial use and high efficiency electric power generation. Using Standard Assay Low Enriched Uranium fuel ensures this transformative reactor technology incorporates the existing capabilities of the nuclear industry, such as those provided by Orano, for a clear path to early deployment.”

Orano and Terrestrial Energy completed this evaluation as part of a broad-scope agreement that includes services such as uranium enrichment, chemical conversion to IMSR fuel form, its production, transportation, packaging and logistics. The agreement is part of Terrestrial Energy’s multiple-sourcing strategy for IMSR fuel supply and reflects Orano’s intention to support next-generation reactor commercialization with its broad range of fuel services.

For more than 50 years, the Orano Group has provided nuclear fuel products and expert services across the entire nuclear fuel cycle to the global nuclear industry. These services include uranium enrichment as well as fuel conversion, production, packaging, and transportation. The security of commercial fuel supply over life-of-plant is backed by Orano’s modern, world-leading conversion and enrichment facilities performing at the highest standards of safety, quality and security while achieving a reduced environmental footprint.

About Orano

As a recognized international operator in the field of nuclear materials, Orano delivers solutions to address present and future global energy and health challenges. Its expertise and mastery of cutting-edge technologies enable Orano to offer its customers high value-added products and services throughout the entire nuclear fuel cycle. Every day, the Orano group's 16,500 employees draw on their skills, unwavering dedication to safety, and constant quest for innovation with the commitment to develop know-how in the transformation and control of nuclear materials, for the climate and for a healthy and resource-efficient world, now and tomorrow. Orano, giving nuclear energy its full value.

About Terrestrial Energy

Terrestrial Energy is developing for near-term commercial operation a zero-emissions cogeneration plant for global industry using its proprietary Integral Molten Salt Reactor (IMSR) fission technology in an innovative, small and modular plant design. The IMSR is a non-Light Water Reactor of the Generation IV class that operates at the high temperature required for broad industrial relevance with transformative economic potential. The IMSR plant is capable of grid-based electric power generation and industrial cogeneration in many energy-intensive industries, including petrochemical and chemical synthesis for hydrogen and ammonia production. The IMSR plant offers a near 50 percent improvement in efficiency of electric power generation compared to Light Water Reactor nuclear plants. Its industrial cogeneration capability delivers to today's markets industrial competitiveness, security of energy, and zero-emissions industrial production. The IMSR plant's use of existing industrial materials, components, and fuels supports its near-term deployment, setting the stage for a rapid global decarbonization of the primary energy system.

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