

July 8, 2022

## US companies partner on nuclear recycling technology



A Memorandum of Understanding (MoU) signed by Energy Northwest and Curio sees Energy Northwest as an industry partner and potential off-taker of products produced through Curio's NuCycle nuclear waste recycling process.

The MoU is part of Curio's plans to deploy the USA's first state-of-the-art commercial nuclear fuel recycling facility that will provide a variety of in-demand commodities and products, the companies said. These include domestically produced low-enriched uranium fuel for the current US reactor fleet, as well as HALEU (high-assay low-enriched uranium) and transuranic-based TRUfuel for advanced reactors under development.

Curio announced its novel NuCycle process for used fuel recycling in February. According to the company, the process leverages "decades of American research and development" in a compact, modular, and proliferation-resistant design to recycle used nuclear fuel and develop off-take isotopes for a wide variety of industries. It has submitted a patent for the process to the US Patent and Trademark Office.

"Yesterday's nuclear waste is holding back tomorrow's reactors," Curio CEO Edward McGinnis said. "It's time to tap this enormous stockpile of unused energy and repurpose it into non-carbon-emitting fuel that will help power our future clean electricity generation needs. Curio's partnership with such an important nuclear utility leader as Energy Northwest represents an important step in realising the full potential of our NuCycle technology."

Bob Schuetz, Chief Executive Officer of Energy Northwest - whose generation portfolio includes the Columbia nuclear power plant in Washington State - said the partners' exploration of the potential to recycle used low-enriched uranium fuel would represent a "game-changing development" for the commercial nuclear energy industry. "Leveraging used fuel as a resource has numerous benefits: from reducing US reliance on foreign fuel and increasing US energy security and independence, to demonstrating the nuclear industry's long-term commitment to sustainability and environmental stewardship," he said, adding that the development of Curio's NuCycle recycling process would be an "invaluable tool as we embark on a promising new phase for carbon-free nuclear energy".



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Reprocessing of used fuel from commercial reactors has been prohibited in the USA since 1977, with all used fuel being treated as high-level waste. However, the nation has more than 250 plant-years of reprocessing operational experience, mostly from reprocessing oxide fuels at government-operated defence plants as part of its military programme. A civil reprocessing plant at **West Valley, New York**, operated successfully from 1966-1972: a second one at Morris, Illinois, failed to work successfully and was declared inoperable in 1974. A third civil reprocessing plant was built at Barnwell, South Carolina but was not commissioned due to the changed government policy.