

Ucore Awarded \$4M from the US DoD to Support Rare Earths Separation Facility in North America

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This week [Ucore Rare Metals Inc.](#) (TSXV: UCU | OTCQX: UURAF) (“Ucore”) [announced](#) it has received a US\$4 million award from the US Department of Defense (“DoD”) to demonstrate rare earth element (REE) separation technology capabilities at its RapidSX™ Commercialization and Demonstration Facility in Kingston, Ontario.

The objectives of the project are to:

- Demonstrate the capability to commercially source a sustainable domestic (US and Canada) processing facility for converting heavy and light REEs feedstock sources to individual rare earth products, and
- Present a new innovative separation process that increases the ability to create domestic REE processing plants.

The project aims to demonstrate Ucore’s RapidSX™ technology platform for rare earth element separation and showcase Ucore’s ability to operate the plant for extended periods of nearly continuous operation, its ability to separate both light and heavy REEs with the same equipment, and the technology’s readiness level.

Successful completion of the project may lead to a follow-on production agreement with the DoD to further support Ucore’s REE

separation capabilities in North America, specifically the Louisiana Strategic Metals Complex planned for Alexandria, Louisiana.

Ucore's path from a demonstration plant to production

Ucore is building a North American rare earths supply chain, with an initial focus on the midstream refining process of rare earths in North America. To achieve this the Company has been making excellent progress with the help of government support in both Canada and the USA.

The end goal is to achieve, with the help of strategic partnerships, a westernized rare earths supply chain including [feedstock, oxides, metals/alloys, and eventually magnets](#).

Ucore plans to use their RapidSX™ rare earth elements (“REE”) separation technology Demonstration Facility in Canada to demonstrate their technology and then to replicate that technology at their planned Louisiana Strategic Metals Complex (“LSMC”) in the USA at a larger scale.

Ucore summarizes its plan to produce end-stage rare earth materials [stating](#):

“Ucore has developed a proprietary critical metals separation technology that dramatically improves the efficiency and environmental characteristics of the REE separation process. Ucore’s RapidSX™ REE separation technology Demonstration Plant in Kingston, Ontario, Canada....has formed the “copy and paste” template to establish the process of building a RapidSX™ plant inside an existing building. This construction process will be replicated in Alexandria to establish the commercial-scale LSMC processing facility on an accelerated timeline. Furthermore,

the two plants will work together to shorten the schedule for the LSMC plant start-up and original equipment manufacturers' ("OEM") product qualification trials."

FIGURE 1: Ucore's plan for a North American REE supply chain



Source: [Ucore company presentation](#)

RapidSX™ REE Commercialization and Demonstration Facility in Canada

The company has successfully demonstrated the technology at its RapidSX™ Commercialization and Demonstration Facility (CDF) in Kingston, Ontario, Canada. The RapidSX™ Demonstration Plant was commissioned earlier this year and is located within the 5,000-square-foot CDF.

Its RapidSX™ technology is based on research and development by Innovation Metals Corp. with some funding assistance from the US Department of Energy. Innovation Metals was acquired by Ucore in 2020.

FIGURE 2: Ucore's RapidSX™ Technology Platform Demonstration Plant in Kingston, Ontario, Canada



Source: [Ucore company announcement April 6, 2023](#)

Louisiana Strategic Metals Complex

As [announced](#) on April 6, 2023, Ucore has selected a facility for their planned Louisiana Strategic Metals Complex (“LSMC”) rare earth element separation and oxide production refinery. Ucore selected an 80,800 square-foot brownfield facility within the England Airpark in Alexandria, Louisiana, USA. The announcement [states](#):

“Ucore and the England Authority have established a multi-decade lease arrangement to ensure the long-term viability of the LSMC.”

The plan is for the refinery (LSMC) to [start with 2,000 tpa total rare earth oxide \(“TREO”\) by the beginning of 2025](#), then ramp up to produce 7,500tpa of TREO in 2027, using the RapidSX™ technology.

The 7,500tpa LSMC refinery has an estimated capital expenditure of [US\\$75 million](#) and is expected to be the first of several planned modern REE refineries in North America by Ucore.

FIGURE 3: Ucore’s future Louisiana Strategic Metals Complex (“LSMC”) in Alexandria, Louisiana, USA



Source: [Ucore company announcement April 6, 2023](#)

Summary of Ucore’s projects timeline

- 2022 – 2024 – RapidSX™ Commercial Demonstration Plant – construction, commissioning and tonnes of HREE & LREE demonstration testing.

- 2023 – 2025 RapidSX™ full-scale commercial deployment in the first of several planned modern REE refineries in North America, the Louisiana SMC for individual REO production.

Closing remarks

Ucore has already received about [C\\$20 million plus](#) in government support towards achieving its goal to produce rare earth oxides in North America. It is clear that there is a huge support to establish a North American rare earths supply chain.

Ucore has the technology and is now at the stage of demonstrating it at a larger scale and then commercializing the technology at their planned LSMC refinery in the USA. This will take a few years but if all goes well, Ucore plans to ramp up from 2,000tpa TREO production in 2025 to 7,500tpa TREO in 2027.

Big plans, yes, but there is definitely a growing demand for local rare earths material to support the green revolution, and now finally some good Western government support.

Ucore Rare Metals trades on a market cap of [C\\$67 million](#).