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Critical-Metals Independence **Starts Here**

JUNE 2023

CAUTIONARY NOTES & DISCLAIMERS

This presentation includes certain statements that may be deemed "forward-looking statements". All statements in this presentation (other than statements of historical facts) that address future business development, technological development and/or acquisition activities (including any related required financings), timelines, events, or developments that the Company expects, are forward-looking statements. Although the Company believes the expectations expressed in such forward-looking statements are based on reasonable assumptions, such statements are not guarantees of future performance or results and actual results or developments may differ materially from those in forward-looking statements. The Company has assumed that it will be able to procure or retain additional partners and/or suppliers, in addition to the wholly owned Innovation Metals Corp. ("IMC"), as suppliers for Ucore's expected future Strategic Metals Complexes ("SMCs"). Ucore has also assumed that sufficient external funding will be found to prepare a new National Instrument 43-101 ("NI 43-101") technical report that demonstrates that the Bokan Mountain Rare Earth Element project ("Bokan") is feasible and economically viable for the production of both REE and co-product metals at the then prevailing market prices based upon assumed customer off-take agreements. Ucore has also assumed that sufficient external funding will be secured to develop the specific engineering plans for the SMCs and their construction. Factors that could cause actual results to differ materially from those in forward-looking statements include, without limitation: IMC failing to protect its intellectual property rights associated with the RapidSX™ technology; the RapidSX™ technology failing to demonstrate commercial viability in large commercial-scale applications; Ucore not being able to procure additional key partners or suppliers for the SMCs; Ucore not being able to raise sufficient funds to fund the specific design and construction of the SMCs and/or the continued commercial rollout of RapidSX™ technology; adverse capital-market conditions; unexpected due-diligence findings; the emergence of alternative superior metallurgy and metal-separation technologies; the inability of Ucore and/or IMC to retain its key staff members; a change in the legislation in Alaska and/or in the support expressed by the Alaska Industrial Development and Export Authority ("AIDEA") regarding the development of Bokan and/or the Alaska SMC; the availability and procurement of any required interim and/or long-term financing that may be required; and general economic, market or business conditions.

For more information about Ucore Rare Metals Inc., please see the information that is available on SEDAR (www.sedar.com). Please also see the risk disclosures that are found in Ucore's most recent Management Discussion & Analysis document (filed on April 19, 2023).

For more information about Ucore's mineral resources and related technical information regarding the Bokan Project, please see Ucore's NI 43-101 technical report (a preliminary economic assessment) filed on SEDAR on March 14, 2013, and Ucore's mineral resource update filed on SEDAR on October 15, 2019. Information about the quantity and grades of the indicated and inferred mineral resources are described in these documents and are available therein. Mineral resources that are not mineral reserves do not have demonstrated economic viability.

Qualified Person: Michael L. Schrider, P.E., VP & COO of Ucore, has approved the scientific and technical content of this presentation and is the Qualified Person responsible for its accuracy. Mr. Schrider, is a registered professional engineer in the State of Louisiana, holds a BS degree in engineering from the University of New Orleans and a MEng in mining engineering (mineral process emphasis) from The University of Arizona.

Neither the TSX Venture Exchange nor its Regulation Services Provider (as that term is defined by the TSX Venture Exchange) accepts responsibility for the adequacy or accuracy of this presentation.

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MANAGEMENT TEAM

Pat Ryan, P.Eng.

Chairman & Chief Executive Officer

Mr. Ryan is the Founder of Neocon International, a multi-million-dollar automotive OEM design and lean manufacturing company which he co-founded in 1993. Mr. Ryan began as a Director of Ucore in 2014 when he had a heightened interest with critical metals needed to drive change for the technologies of the twenty-first century. He is the recipient of the APENS Award from the Association of Professional Engineers of Nova Scotia as the most likely to serve society in an ethical manner.

Geoff Atkins

Vice President of Business Development

Mr. Atkins is a skilled mining executive with 30 years of experience, including over 15 years in the critical mineral sector, focusing on the development of rare earth projects. He remains one of the few mining executives outside of China who has played a critical role in establishing two different rare earth operations, Mt. Weld with Lynas Corporation (Lynas) and Nechalacho with Vital Metals Ltd. (Vital Metals). While at Lynas, he was responsible for a range of functions, including the construction of the Mt. Weld rare earth project, providing corporate construction oversight for the Lynas Advanced Materials Plant in Malaysia, and developing long-term strategic plans. Mr. Atkins is leading the feedstock acquisition efforts for Ucore's North American SMC strategy.

Michael Schrider, Meng, P.E.

Vice-President & Chief Operating Officer

Since 1989, Mr. Schrider has been involved in manufacturing, engineering and managing complex structural and mechanical systems projects. He has led Ucore's project development efforts since joining the Company in 2016. Before that, he held various engineering and management roles in several North American shipyards and a synthetic lubricant manufacturing facility. He received a Bachelor of Science in naval architecture and marine engineering from the University of New Orleans and is a registered Professional Engineer in the State of Louisiana. Mike also holds a Master of Engineering in mining, geological & geophysical engineering (mineral processing emphasis) from The University of Arizona.

Peter Manuel

Vice-President & Chief Financial Officer

Peter Manuel has been Vice President and Chief Financial Officer of Ucore for 12 years. Prior to joining the Company, he practiced as a Chartered Accountant for more than 17 years providing consulting services to companies in a range of sectors, with a focus on the financial services and resource sectors. He spent 10 years in England and The Republic of Ireland providing assurance, strategic planning, corporate finance and other consulting services to a portfolio of both public and private entities including licensed banks, proprietary trading operations, and international corporate treasuries. Mr. Manuel holds a Bachelor of Commerce Degree from Dalhousie University.

RARE EARTH **ELEMENTS**

A Once in a Generation Opportunity

Electric Vehicles

- *REEs are used in the production of permanent magnets, which are essential for the electric motor that drives the vehicle. These magnets provide high torque at low speeds, making them ideal for use in electric motors.*
- *REEs are used in the batteries of hybrid and electric vehicles, which are crucial for reducing carbon emissions and improving fuel efficiency.*
- *The unique magnetic properties of REEs, such as neodymium, praseodymium, and dysprosium, make them ideal for the production of strong and durable permanent magnets. These magnets are essential for many technologies that require high torque, such as electric motors, and for applications where size and weight are critical factors, such as headphones and smartphones.*

Wind Energy

- *In wind energy, REEs are used in the production of turbine generators and in the magnets that drive the turbines.*
- *The use of REEs in wind energy has increased significantly in recent years, as the demand for renewable energy has grown worldwide.*

National Security

- *The United States is heavily dependent on China for the supply of REEs, which raises concerns about the security of the supply chain.*
- *In recent years, the US government has taken steps to address this issue, including funding research into alternative sources of REEs, such as recycling and domestic mining.*

THE RARE ELEMENT SUPPLY CHAIN

The Challenge

- China:
  - controls **80%+** ***Global REE Resources***
  - manufactures **90%+** ***Global REE Components***
  - will eventually consume ***100% of its Production***
- Minimal North American REE Infrastructure
- REE security of supply has become a western democracy strategic concern

The Opportunity

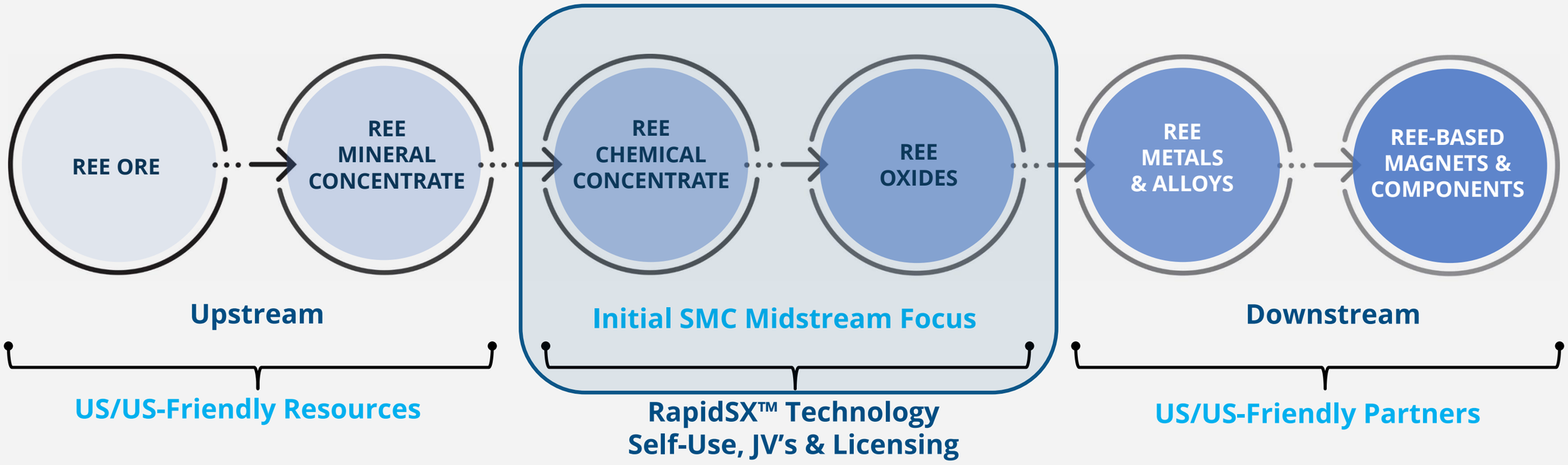
- **$3B in 2020 / $32B+ by 2030 or 300kt**
- REPM EV Motors and Generators Require REOs
- Antiquated Existing SX Technology
- No Current North American REO Production
- Relocating REO Supply Chain to North America represents a large business opportunity and strategic solution to an overconcentration in China

Separation is key – ***Shipping Concentrate to China is NOT Independence***

THE RARE EARTH ELEMENT **SUPPLY CHAIN**

Ucore is Focused on Individual Rare Earth Oxide Production

Ucore's Plan of a North American REE Supply Chain



Ucore is strategically positioning itself into the North American midstream of REO production:

- *Multiple HREE and/or LREE sources of US-Friendly feedstock for the production of individual REOs in 2025*
- *HREE prioritized OEM supply*
- ***Multiple SMCs in development** based on modern RapidSX™ technology*
- *Separation to REOs is the most difficult aspect of the REE Supply Chain*
- *Unique strategy to Ucore, limited to nil competition*

Southeast Conference · Greater Alexandria Economic Development Authority gaeda · ENGLAND AIRPARK & COMMUNITY · thyssenkrupp · LOUISIANA CENTRAL · MATERION · LED LOUISIANA ECONOMIC DEVELOPMENT · vital METALS · ucore®

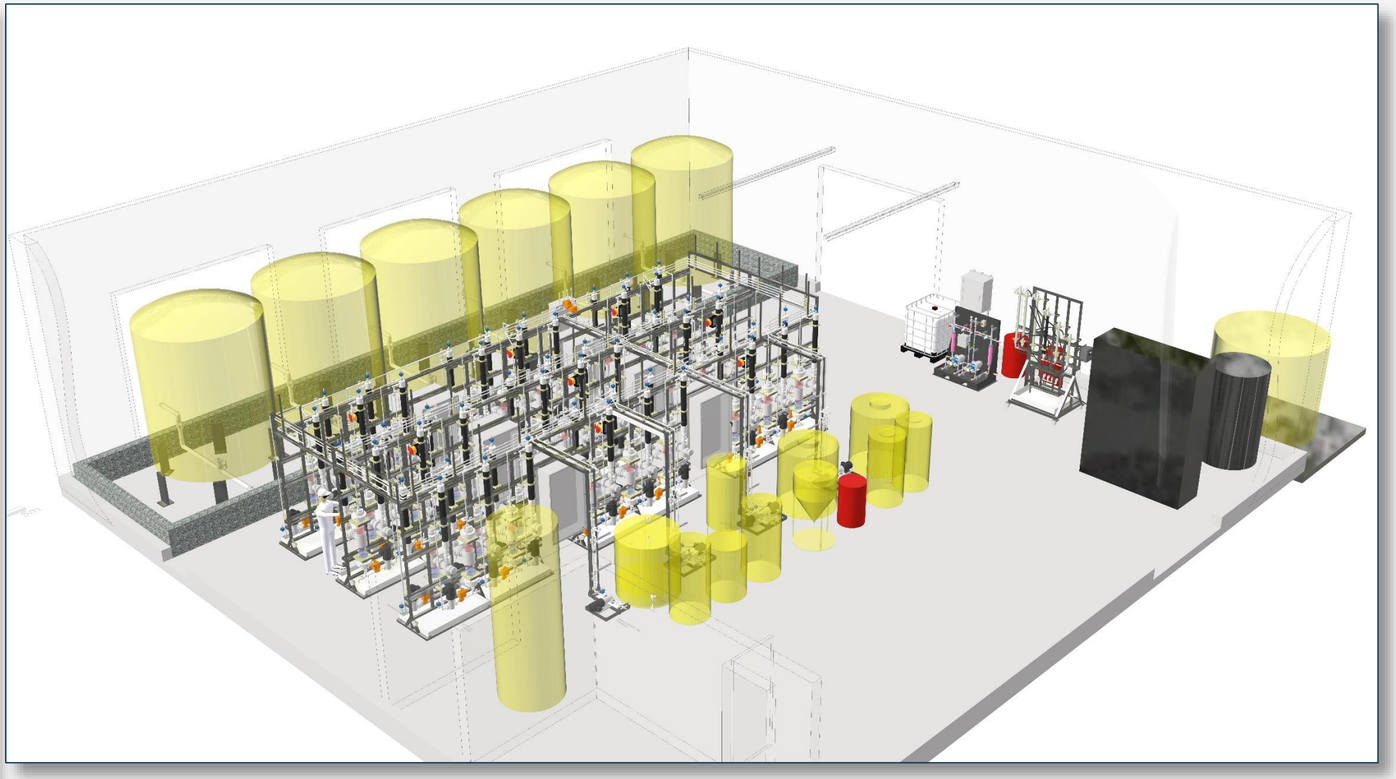
RAPIDSX™ TECHNOLOGY

RapidSX™ is a Transformative REE Separation Technology

Key Advantages vs. Conventional SX

	RapidSX™	Conventional SX
Performance & Efficiency		
Commercial Purity	Yes	Yes
REE Recovery Rates	High	High
Processing Time	Rapid	Slow
Time to Restart	Hours/Days	Several Weeks
CAPEX		
Equipment Cost	Low	High
Physical Footprint	Low	Very High
Scalability	High	Low
OPEX		
Metal Inventory/WIP	Low	High
Organic Volumes	Low	High
Labour	Low	High
Power Consumption	Low	High

The RapidSX™ Commercialization and Demonstration Facility (CDF) *Kingston, Ontario*



Engineered Design of the 80 tpa Demonstration Plant

RAPIDSX™ TECHNOLOGY

RapidSX™ HREE and LREE Separation and OEM Qualification Facility

- *10's of tpa LREE & HREE Processing Utilizing the Same Equipment*
  - *A First for North America*
- *Capable of Processing HREE & LREE Feedstocks Derived from Bastnasite, Eudialyte, Ionic Clay, Monazite, Xenotime, and other Mineralization Sources*
- *Commissioning Commenced in Q1-23, with 1000s of Planned Run-time Hours Over 2023 & 2024 in Support of Technology Scale-up and OEM Qualification Trials*

Commercial Demonstration Plant *- Kingston, Ontario*

KPM Kingston Process Metallurgy Inc.

Mech-Chem Associates, Inc.

Planned Output Products

- *Y*
- *NdPr*
- *Pr*
- *Nd*
- *Tb*
- *Dy*

THE SMC BUSINESS MODEL

Multiple Planned Strategic Metals Complex Facilities in North America

Ucore has a Series of SMCs Planned for North America

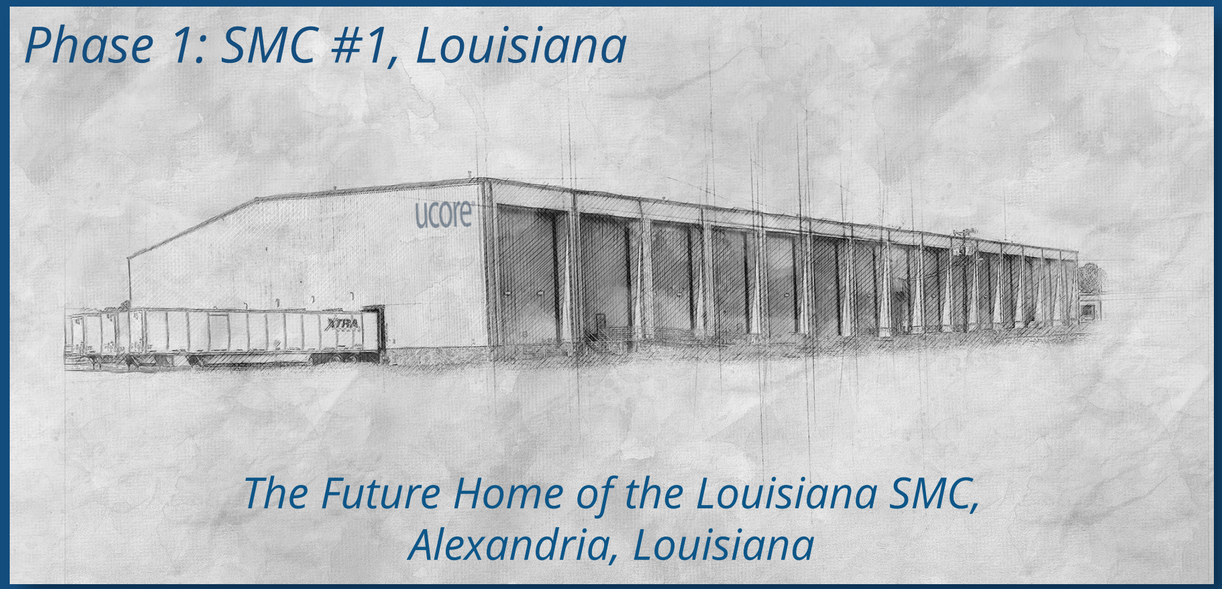
2,000 tpa/5,000 tpa/7,500 tpa TREO HREE & LREE Separation & Purification Facilities to Produce REOs

Strategic Metals Complex (SMC)

- *Founded on state-of-the-art RapidSX™ separation technology with a common engineering platform*
- *Rapidly expandable to 5,000 tpa then 7,500 tpa of TREO throughput*
- *Three US-friendly feedstock agreements in-place*
- *Multiple developing offtake arrangements*

The Alexandria SMC location is within a R/T truck shift of the Port of New Orleans

Phase 1: SMC #1, Louisiana



The Future Home of the Louisiana SMC, Alexandria, Louisiana

On April 6, 2023, Ucore announced developing SMC No. 1 in Alexandria, Louisiana, after receiving a C$20M+ Incentive Package offer from Louisiana Economic Development (LED).

THE SMC BUSINESS MODEL

Multiple Planned Strategic Metals Complex Facilities in North America with SMC No. 1 Developed in Louisiana

The Future Home of

The Louisiana SMC

Alexandria, LA

Selected Facility Principal Characteristics:

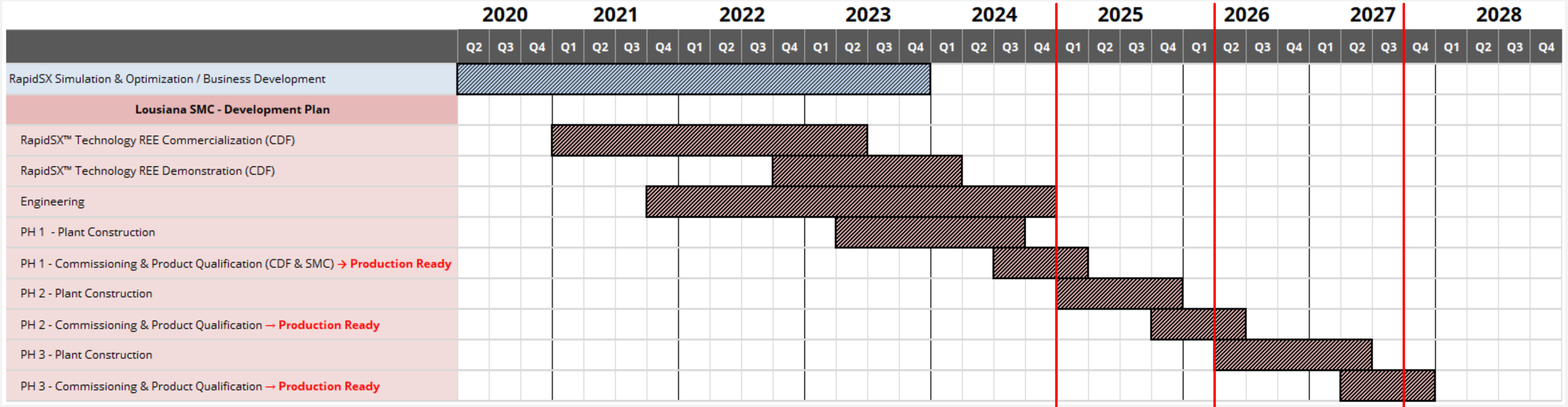
- *404’ Long x 200’ Wide*
- *36’ Eave Height*
- *10+ Acres*
- *110+ Miles from the Gulf of Mexico*
- *In a Foreign Trade Zone*
- *114,000 Available Workforce 60-minute Drive Radius*
- *Adjacent Rail Spur*

THE SMC BUSINESS MODEL

The Louisiana SMC – Planned Development Schedule

Development Schedule for a State-of-the-Art Technology Rare Earth Oxide Production Plant

*Ucore will apply the final Demonstration Plant product qualification trials data and techno-economic assessment to the development of the first modern full-scale REE refinery in North America – **the Louisiana SMC***



Through a joint qualification and verification program the Kingston and Louisiana plants will work together to shorten the final OEM qualification timeline

Note 1: 2025 production driven by North American automotive OEMs REO requirements

*Note 2: **PH 1 = 2,000 tpa** TREO; **PH 2 = 5,000 tpa** TREO; **PH 3 = 7,500 tpa** TREO throughput*

US$4 MILLION AWARD

*From the **US Department of Defense***

June 6, 2023

- A **US$4 million award** from the US Army Contracting Command-Orlando to demonstrate Rare Earth Element Separation Technology Capabilities at the RapidSX™ Commercialization and Demonstration Facility in Kingston, Ontario (the "Project")(1)
- It is anticipated that upon successful completion of the Project(2), a follow-on production award may be issued to further support Ucore's REE separation capabilities in Louisiana

The objectives of the Project are to present to the US-DoD:

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

In addition to increasing the technology readiness level of the RapidSX™ technology and developing a corresponding techno-economic assessment, the Project is designed to demonstrate that RapidSX™ can be used to efficiently and quickly separate individual light and heavy REEs and compounds (such as PrNd, Pr, Nd, Tb, and Dy) sourced from a domestic-friendly mixed heavy rare-earth-oxide concentrate feedstock source.

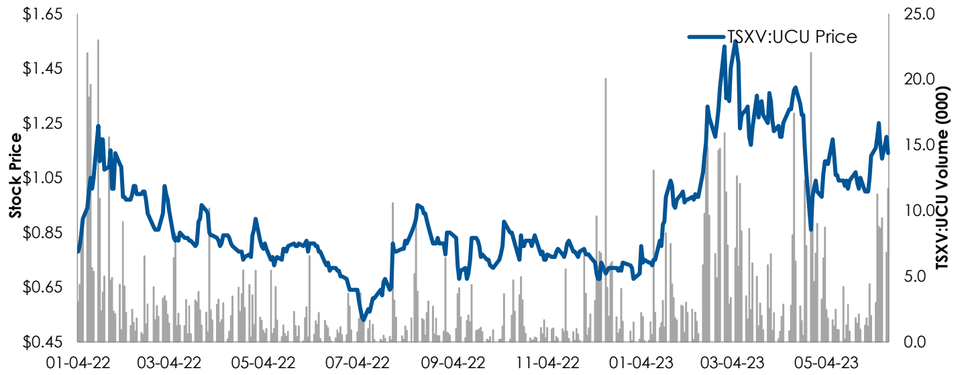
Note 1: Providing nearly 80% of the estimated required Project funding, with the balance provided by Ucore.
Note 2: Successful completion will occur when the prototype project has been validated and is accepted by the Government

CAPITAL STRUCTURE

Capital Structure (As at May 31, 2023)

Common Shares Issued & Outstanding	***56,139,925***
Options	***5,209,000***
Restricted Share Units	***55,710***
Warrants	***15,684,075***
Fully Diluted	***77,088,710***
Insider Ownership	***22%***

TSXV: UCU



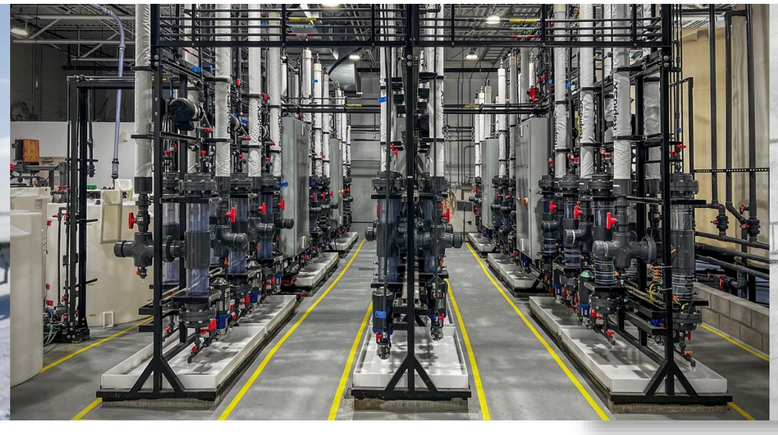
Year High: ***$1.57*** | *Year Low:* ***$0.53***

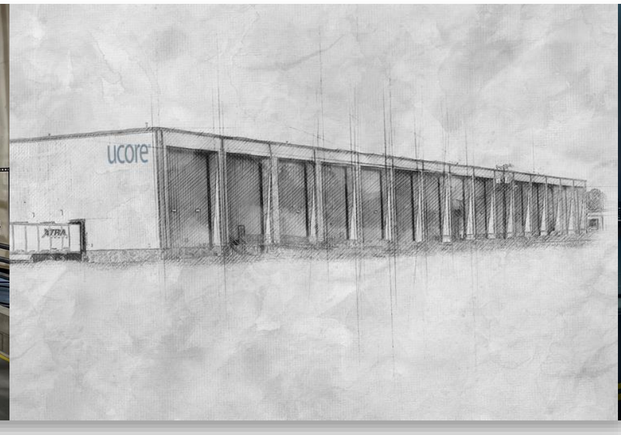
EXPECTED **NEAR TERM DRIVERS**

- *Demonstration Plant – OEM Qualified Products*
- *Canadian & US Government Support*
- *OEM Offtake Agreements*
- *Contractor Selected – Alexandria, Louisiana*

Ucore is Leading the Strategic Initative North America by Establishing a Modern and Independent REE Supply Chain

- *Operating a Commercial Demonstration LREE & HREE Separation and OEM Product Qualification Plant*
  - *The Only HREE Processing Plant in North America*
- *Deploying Next-Generation RapidSX™ Critical Metals Separation Technology*
- *Aligning Numerous and Geographically Diverse US-Friendly Feedstock Sources*
- *Establishing North America's First Modern LREE & HREE Commercial Separation Facility in Louisiana*
  - *Only a 6X Technology Scale-Up*
- *Engaging other Jurisdictions for Multiple LREE & HREE Commercial Separation Facilities Over the Next 2-5 years*





Investment Highlights

Experienced management team with expertise across:

- *Automotive OEM Manufacturing*
- *Critical Mineral Processing*
- *Capital Markets Experience*

Strategic and Business Validation by U.S. Department of Defense through its award of USD$4 Million

Strategically positioned to process rare earth elements in North America

Strategic partnerships with leading Canadian mineral processing and metallurgy contract engineering firm

Pilot facility located in Kingston, Ontario with commissioning underway

Strategic Metals Complex Facility ready for development located in Louisiana utilizing state-of-the-art RapidSX™ separation technology to initially process 5,000 tpa of TREO throughput

C$20M+ Incentive Package offer from Louisiana Economic Development (LED)

Strategic Critical-Metals Independence Starts Here