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Standard Lithium Awards FEED and DFS Study for First Commercial Lithium Plant in Arkansas to Koch Engineered Solutions Team Led by OPD

EL DORADO, Ark., Sept. 07, 2022 (GLOBE NEWSWIRE) -- **Standard Lithium Ltd.** ("Standard Lithium" or the "Company") (TSXV: SLI) (NYSE American: SLI) (FRA: S5L), an innovative technology and lithium project development company, provides an update on its first commercial lithium plant in Arkansas.

Key Highlights:

- **Front End Engineering Design (FEED) and Definitive Feasibility Study (DFS) for the first commercial plant awarded to Optimized Process Designs (OPD)**
- **OPD is a Koch Engineered Solutions (KES) business specializing in engineering, procurement, fabrication and construction of commercial facilities**
- **OPD will be further supported in process engineering by M3 Engineering**
- **Contract award allows for conversion to a lump sum turnkey EPC contract**

The Company completed a competitive FEED/DFS selection process and is pleased to award the contract to OPD LLC, a Koch-owned business based in Katy, Texas. The FEED/DFS study and subsequent EPC contract are focused on the first commercial lithium project being developed by Standard Lithium. This project contemplates processing the brine that is currently being handled by Lanxess at its South Facility, where the Company's continuously operating pre-commercial Direct Lithium Extraction (DLE) Demonstration Plant is located. The existing brine flow at this location is approximately 3,000 US gallons per minute (usgpm), and using the design criteria of 90% lithium recovery during the DLE process, results in expected annual production of between 5,000 to 6,000 tonnes per annum (TPA) of battery quality lithium carbonate. This first project at Lanxess South, designated as Phase 1A, forms part of a staged development of commercial lithium projects contemplated by Standard Lithium:

- Phase 1A Existing brine flow at Lanxess South Plant (design 5-6,000 TPA lithium carbonate);
- Phase 1B Expansion at Lanxess South Plant (expected approximately 5,000 TPA);
- Phase 2 Lanxess West Plant (reference SLL Lanxess PEA dated August 6th, 2019); and,
- Phase 3 Lanxess Central Plant (reference SLL Lanxess PEA dated August 6th, 2019).

In parallel, Standard Lithium is also contemplating standalone projects;

- South West Arkansas Project (current design contemplates 30,000 TPA lithium hydroxide; reference SLL SWA PEA dated November 26th, 2021); and,
- Other development projects being investigated by the Company.

OPD have engaged M3 Engineering, based in Tucson, Arizona, which will provide additional specialist process and chemical engineering expertise in relation to Phase 1A. Other companies within the Koch Engineered Solutions group will also provide support during the study.

The FEED study will initially consider various process optimization and trade-off studies, after which the design of the facility will be advanced sufficiently to support the delivery of a Definitive Feasibility Study (DFS) and final investment decision (FID) process. At conclusion of the study it is expected the design will be sufficiently developed to allow conversion of the FEED study into a lump-sum engineering, procurement and construction (EPC) contract. The results of the FEED study will be summarized in a NI 43-101 DFS report in H1 2023.

Dr. Andy Robinson, President and COO of Standard Lithium commented, *"The award of this FEED study marks a significant milestone for Standard Lithium as it moves the Company and all our project partners closer to commercialization. Our internal project team went through a rigorous competitive selection process, and we are delighted to work with OPD and its partners in KES and M3 Engineering to design our first commercial facility and move towards an EPC contract and then to construction. The selection process and study award are further examples of Standard Lithium's commitment to disciplined and responsible project development. Commercial discussions with Lanxess that will support the construction and operation of the first commercial plant are ongoing, as are all supporting studies such as permitting, geotechnical investigations and engineering integration with Lanxess' existing infrastructure."*

Brian Boster, President of Optimized Process Designs, added, *"OPD is excited to be moving forward with the Standard Lithium team on this world class project. Our successful project execution strategies and turn-key approach to engineering, procurement, and construction will add significant value to the project. As part of KES, we are well positioned to provide a full range of support as we work closely with Standard Lithium and M3 through FEED and project execution."*

About Standard Lithium Ltd.

Standard Lithium is an innovative technology and lithium development company. The Company's flagship project is located in southern Arkansas, where it is engaged in the testing and proving of the commercial viability of lithium extraction from over 150,000 acres of permitted brine operations. The Company operates its first-of-a-kind industrial-scale Direct Lithium Extraction (DLE) demonstration plant at Lanxess's south plant facility in southern Arkansas. The demonstration plant utilizes the Company's proprietary LiSTR technology to selectively extract lithium from Lanxess's tail brine. The demonstration plant is being used for proof-of-concept and commercial feasibility studies. The scalable, environmentally friendly process eliminates the use of evaporation ponds, reduces processing time from months to hours and greatly increases the effective recovery of lithium. The Company is also pursuing the resource development of over 30,000 acres of separate brine leases located in southwest Arkansas, referred to as the South West Arkansas Lithium Project, and

approximately 45,000 acres of mineral leases located in the Mojave Desert in San Bernardino County, California.

Standard Lithium is jointly listed on the TSX Venture Exchange and the NYSE American under the trading symbol “SLI”; and on the Frankfurt Stock Exchange under the symbol “S5L”. Please visit the Company’s website at <https://www.standardlithium.com>.

About Optimized Process Designs

Optimized Process Designs (OPD) provides clients with detailed engineering packages in all disciplines, single point procurement for all equipment and materials, fabrication and direct-hired construction services at project locations throughout the United States. With a long history of successfully completing projects on a lump-sum, turn-key contract basis, their customers value their ability to provide shortened project cycles through streamlined execution plans. For more information about OPD, please visit www.opdepc.com.

About Koch Engineered Solutions

Koch Engineered Solutions (KES) delivers superior value in developing, integrating and applying innovative technical and service solutions for industrial value chains. KES offers uniquely engineered solutions in construction; mass and heat transfer; combustion and emissions controls; filtration; separation; materials applications; automation and actuation. Based in Wichita, Kansas, KES is a subsidiary of Koch Industries, one of the largest private companies in the world. More information is available at KochEngineeredSolutions.com

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For further information contact:

LHA Investor Relations

David Barnard

+1 415-433-3777

standardlithium@lhai.com

info@standardlithium.com

Twitter: @standardlithium

LinkedIn: <https://www.linkedin.com/company/standard-lithium/>



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