LFP Innovation for Lithium Ion Batteries Provides Nano One with Cost and Performance Advantages

written by Raj Shah | July 18, 2018

July 18, 2018 (Source) – Dan Blondal, CEO of Nano One Materials (TSXV: NNO) (OTC Pink: NNOMF) (FSE: LBMB), is pleased to provide an update on Nano One's innovative process for the production of Lithium Iron Phosphate (LFP) initially announced in a press release on July 24, 2017.

"*Recent process innovations in the laboratory have improved the discharge capacity of Nano One's LFP to over 160 mAh/g,*" said Mr. Blondal, "*making it 10 mAh/g better than typical LFP. We have also made process innovations at the pilot scale and we believe this will provide an economic advantage in terms of scaled up production.*"

A preliminary engineering model, based on annual production of 1000 metric tonnes, indicates that Nano One's LFP process is competitive in both cost and performance metrics. These advances have been included as part of Nano One's recently filed LFP patent application. Nano One will continue optimizing its LFP process for further cost reduction, improved process throughput and enhanced battery performance.

LFP is the cobalt-free, high durability, low cost, and safest cathode material of choice for lithium ion batteries used in e-buses, e-bikes, power tools and grid energy storage systems. Currently, LFP is produced commercially through either hydrothermal or solid-state methods. The hydrothermal method

produces high quality LFP but is costly due to high pressure high temperature aqueous reactions and a waste lithium salt stream that must be recovered. The solid-state method, by comparison, is lower cost with lower quality LFP, produced by grinding, milling and firing in controlled atmospheres. Both of these methods require powders of LFP to be carbon coated in a series of post-production steps.

Dr. Majid Talebi, a senior scientist at Nano One, has developed a simple process that produces high performance carbon coated LFP from an aqueous solution operating at atmospheric temperature and pressure.

Dr. Talebi said "The process uses low cost raw materials, involves fewer steps and does not produce a waste stream. We also add carbon directly in our process which coats the LFP particles automatically in the firing stage, promoting ideal particle formationwhile eliminating post-production coating costs."

Mr. Blondal added *"We are confident that our progress with LFP makes a compelling business case and we will be pursuing opportunities with LFP stakeholders, adding to the opportunities being pursued with Nano One's other cathode materials and processes."*

Nano One Materials Corp.

Dan Blondal, CEO

About Nano One:

Nano One Materials Corp ("Nano One" or "the Company") is developing patented technology for the low-cost production of high performance battery materials used in electric vehicles, energy storage and consumer electronics. The processing

technology addresses fundamental supply chain constraints by enabling wider raw materials specifications for use in lithium ion batteries. The process can be configured for a range of different nanostructured materials and has the flexibility to shift with emerging and future battery market trends and a diverse range of other growth opportunities. The novel three-stage process uses equipment common to industry and Nano One has built a pilot plant to demonstrate high volume production and to optimize its technology across a range of materials. The pilot plant is being funded with the assistance and support of the Government of Canada through Sustainable Development Technology Canada (SDTC) and the Automotive Supplier Innovation Program (ASIP) a program of Innovation, Science and Economic Development Canada ISED). Nano One also receives financial support from the National Research Council of Canada Industrial Research Assistance Program (NRC-IRAP). Nano One's mission is to establish its patented technology as a leading platform for the global production of a new generation of nanostructured composite materials. For more information, please visit www.nanoone.ca

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