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Exciting Extra Fast Charging Battery Results using Commercial Cells

- Exciting initial results in Extra Fast Charging (EFC) battery program with 7Ah (Amp hour) commercial cells using C4V's patented BMLMP Technology
- Current results show no capacity loss after 250 cycles with 15 min charge and variable discharge rates
- Previous Fast Charging (FC) program concluded with significant results after more than 6,000 cycles
- EFC and FC expected to have a major impact on the transportation industry
- New York State Energy Research & Development Authority (NYSERDA) EFC Bus Program Progressing

Magnis Energy Technologies Limited ("**Magnis**", or the "**Company**") (ASX: MNS; OTCQX: MNSEF) is very pleased to announce significant results from the EFC battery program achieved using 7Ah commercial cells. The cells are developed using BMLMP technology by Magnis' partner, Charge CCCV, LLC. ("**C4V**"). Magnis has a 9.65% stake in C4V.

Extra Fast Charging Results

The FC program previously announced on 22 June 2021 recently ended in a huge success. The program used 2-3Ah cells which had a retention rate of over 60% at 2C-2C rates (30 min charge and 30 min discharge) after over 6000 cycles and at that point the decision was made to fast track the EFC program using larger commercial cells.

There were minor delays in the installation of high voltage power into the building to run these tests as the charge current needed is as high as 70 Amp.

The EFC program has cells currently running with a 15 min charge and variable discharge rate as part of initial test protocols. To date the results received have been very exciting with over 250 cycles achieved **without any capacity loss**.

The plan is to take this program to over 3000 cycles and then run new programs at a higher current to achieve a 10-minute charge and then onto a 6-minute charge.

The optimised cell is still within 95% energy density of a regular energy cell, which means minimal energy density loss. Such high-power density without any Cobalt and Nickel for a Non-LFP cell makes C4V’s technology a leader in the marketplace.

The tests were done at 90% DOD which equates to a maximum energy being infused and withdrawn during charge and discharge cycles. These cells were made with standard scalable processes as well as materials used from highly qualified suppliers which will allow the scale-up of the technology with limited variability leading to a speedy launch in the marketplace.

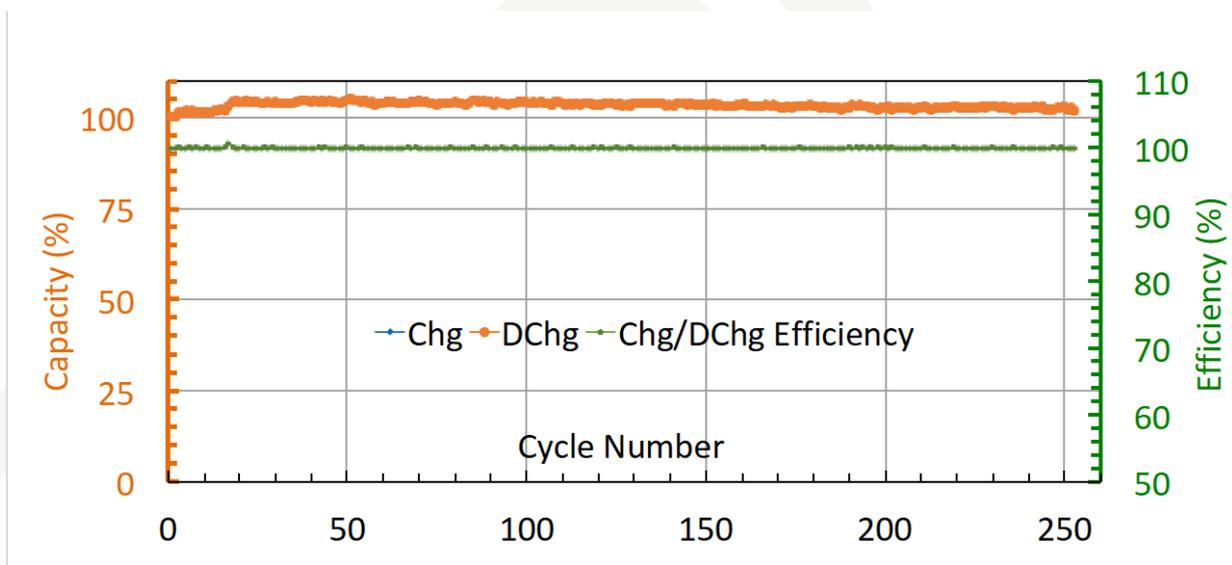


Figure 1: Optimized EFC 7Ah cell cycling data

Significance of Results

Industries that require EFC or FC include the transportation industry as they are constantly on the road and the results announced today could be a game changer for them. The real significance comes from the number of cycles coupled with the charging times.

Traditionally batteries used in the EV industry currently have up to 80% retention after approximately 1,000 cycles using lower charging rates. When constant fast charging rates are applied the battery life decreases dramatically.

Today’s results show no capacity loss after 250 cycles using a 15-minute charge.

NYSERDA New York State EFC Bus Program

The NYSERDA EFC Bus Program started with several delays from all parties with battery packs having been provided in Q2 2021. The feedback to date has been very positive with specific data expected in Q1 2022.

The Program is funded by NYSERDA and has the purpose of illustrating that C4V EFC technology can be applied to State Transit Buses in New York State.

C4V President Dr Shailesh Upreti commented: “We are making significant progress in terms of changing the cell architecture and our recipe to develop extra fast charge designs. Our ultimate goal is to achieve 10,000+ cycles with 10C rates (6 min charge time) and in the past 12 months we have gained significant insight that has allowed us to make significant progress towards that goal. Our no-oxide (oxygen deprived) alongside with no Cobalt and Nickel technology allows us to go extreme on charge and discharge rates without generating a lot of heat to compromise safety.”

Magnis Chairman Frank Poullas commented: “Owners of EV’s will understand the importance of EFC/FC technologies which are also imperative for a number of industries and today’s initial results using commercial cells are very exciting.”

“We look forward to providing further results in the near future and working towards producing these cells for commercial use at the iM3NY Lithium-ion Battery Plant.”

About Magnis

Magnis Energy Technologies Ltd (ASX: MNS; OTCQX: MNSEF) is a vertically integrated lithium-ion battery company with strategic investments in several aspects of the electrification supply chain including manufacturing of green credentialed lithium-ion battery cells, leading edge lithium-ion battery technology and high-quality, high-performance anode materials. The company’s vision is to enable, support and accelerate the green energy transition critical for adoption of Electric Mobility and Renewable Energy Storage.

This announcement has been authorised for release by the Board of Magnis Energy Technologies Limited (ACN 115 111 763).

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