A novel, low-cost approach to stabilization of Li metal anodes for high-performance rechargeable batteries was developed. Electrolyte additives are selected and used in Li cell electrolyte systems, promoting formation of a protective coating on Li metal anodes for improved cycle and safety performance.

Li batteries developed from the new system will show significantly improved battery performance characteristics, including energy/power density, cycle/calendar life, cost, and safety.

This work was done by Tuqiang Chen of TH Chem for Glenn Research Center. Further information is contained in a TSP (see page 1).

Inquiries concerning rights for the commercial use of this invention should be addressed to NASA Glenn Research Center, Innovative Partnerships Office, Attn: Steven Fedor, Mail Stop 4–8, 21000 Brookpark Road, Cleveland, Ohio 44135. Refer to LEW-18715-1.