



Ridgetop Group Awarded a Phase I SBIR Contract from U.S. Department of Energy to Design & Develop an Innovative Battery Diagnostic & Prognostic System (BDPS) Tool Suite

Tucson, Arizona, August 11, 2023

Ridgetop Group has recently secured a Phase I SBIR contract from the U.S. Department of Energy (DOE) to create a scalable Battery Diagnostic & Prognostic System (BDPS) Tool Suite. This initiative aims to expedite the deployment of grid energy storage facilities by incorporating advanced control, communication, and decision-making technologies. As the demand on the power grid continues to grow, there is a crucial need for innovative tools that can alleviate strain on aging infrastructure and utility service providers. Due to their high energy density, availability, and operational stability, lithium-ion batteries are expected to play a pivotal role in grid energy storage applications. However, they can still degrade over time, be misused, and even experience dangerous faults like ignition, fires, and explosions. Despite these risks, there are sophisticated techniques and solutions that can help detect and manage such issues.

The U.S. DOE Office of Electricity (OE) acknowledges these challenges and has sponsored multiple SBIR programs to support their efforts toward ensuring a reliable, resilient, and secure energy delivery system for our Nation. As a technology leader in the development of Condition-based Maintenance (CBM), Integrated Vehicle Health Management (IVHM), and Prognostic Health Management (PHM) solutions, Ridgetop is well suited to lead the design, development, and deployment of the BDPS Tool Suite and has partnered with Idaho National Laboratory (INL) to execute the Phase I work plan.

Through this SBIR program, Ridgetop and INL shall expand their business and technology collaboration activities, and leverage several years of joint research and development that has brought a collection of battery health modeling, simulation, and analysis software tools to industry. Some of these software capabilities such as the [Advanced Electrolyte Model](#) (AEM), [CellSage](#), and [ARULE](#) have been used by battery manufacturers, researchers, and integrators worldwide and will serve as a solid foundation for the BDPS Tool Suite.

By developing the BDPS Tool Suite, Ridgetop and INL aim to enhance the safety and efficiency of Li-ion batteries in grid energy storage and related domains. The finalized solution will offer a robust blend of hardware, software, and advanced testing capabilities that enable battery health modeling, diagnostics, and prognostics throughout the entire battery lifecycle. This comprehensive solution aims to bolster energy resilience and significantly reduce time and cost expenditures associated with testing, diagnosing, and replacing degraded batteries at the cell, string, and module levels within a larger battery-based grid energy storage system.

For more information, please contact a Ridgetop Group representative directly or visit our website.

Ridgetop Group Contact Information

Email: marketing@ridgetopgroup.com

Phone: 520.742.3300

Website: www.RidgetopGroup.com

Address: 3580 West Ina Road Suite 200

Tucson, AZ 85741 USA