

Sensor Enhanced and Model Validated Life Extension of Batteries for Energy Storage

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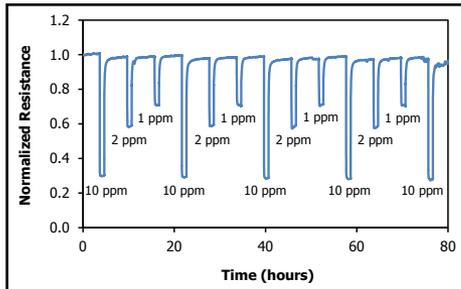
Technology

DNV is testing a novel off gas measurement concept to detect degradation in Li-ion batteries. This monitoring and measurement concept will be used to monitor batteries under varied stress, and demonstrate safe monitoring of second life batteries in a community energy storage application.

Novel, non invasive sensing technique for battery degradation and off gas

Validation and economic test of second life of batteries

Deployment of second life system with sensors in a commercial community energy storage system



Advantage and Differentiation

The sensor concept is unobtrusive and nondestructive. Monitoring in this fashion offers the following benefits:

- Improved safety
- Providing a warning mechanism for flammable off gas
- Correlating state of health or stress with off gas activity – may add additional dimensions to control
- Viable for stationary or mobile applications

Addressing safety is a unique feature of this technology.



Performance Targets

Metric	State of the Art	Proposed
Sensor for multiple cell faults	Temperature or voltage	Novel off-gas sensor
Battery life prediction with +/- 10% accuracy	Intentional overdesign	Life extension with doubled revenue
Demonstration of second life in CES	Never been done	Validation of performance

Please contact regarding: R&D, technology validation, collaboration, press, business development

