



Calhoun: The NPS Institutional Archive
DSpace Repository

Energy Academic Group

Energy Academic Group Publications

2014

Lead Acid Semi-Solid Flow Cells (LA-SSFC) for Medium- and Large- Scale Energy Storage

Osswald, Sebastian

<http://hdl.handle.net/10945/43348>

Downloaded from NPS Archive: Calhoun



Calhoun is a project of the Dudley Knox Library at NPS, furthering the precepts and goals of open government and government transparency. All information contained herein has been approved for release by the NPS Public Affairs Officer.

Dudley Knox Library / Naval Postgraduate School
411 Dyer Road / 1 University Circle
Monterey, California USA 93943

<http://www.nps.edu/library>

ENERGY ACADEMIC GROUP

Energy Goals Academics Executive Ed Research Faculty Seminar Resources

Science and Technology Projects

NPS Energy Academic Group > Research

LEAD ACID SEMI-SOLID FLOW CELLS (LA-SSFC) FOR MEDIUM- AND LARGE-SCALE ENERGY STORAGE

Professor Sebastian Osswald

Department of Physics
831-656-2817 | sosswald@nps.edu

- SSFC provide distinct advantage of over conventional batteries and fuel cells, particularly for military applications where energy demand/supply are strictly managed and energy sources must be replenished.
- SSFC batteries operate on the principle of moving a suspension of active materials past an inert electrode to store or utilize electricity
- SSFC enables the designer to increase the specific energy at constant specific power by adding tanks to contain charged and flowing electroactive material, suspended in electrolyte.
- Energy density is determined by size of the storage tanks, which are exchangeable. Power density is controlled by flow velocity and total electrode surface area, which can be changed in a modular design.

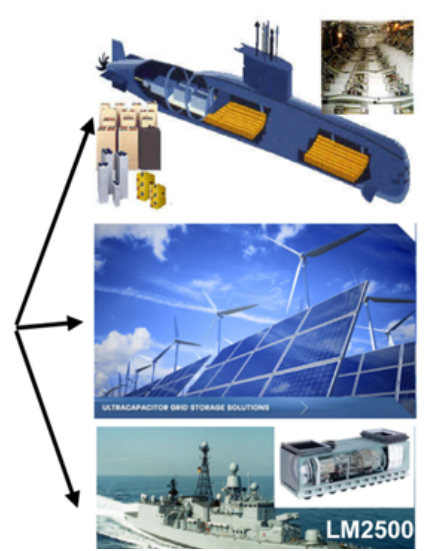
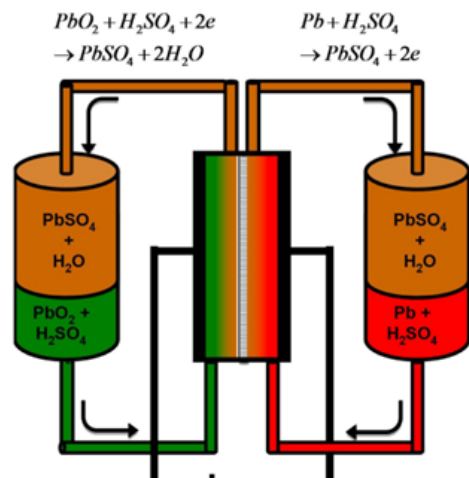
— RESEARCH PROJECTS —

View Other Research Projects:



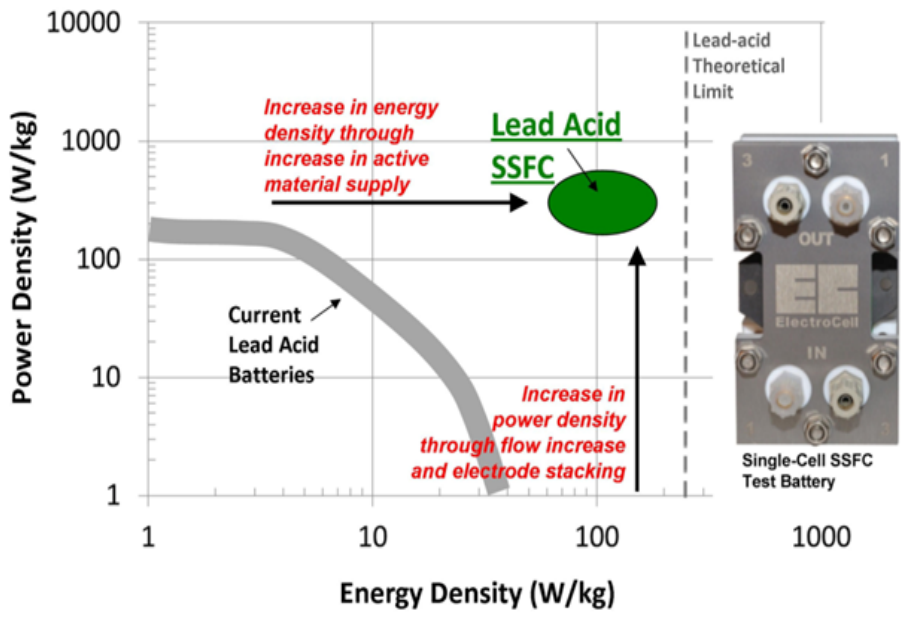
[Return to S&T Home](#)

Schematic of LA-SSFC





Schematic of LA-SSFC



Performance Increase through modular SSFC Design

