

ENERGY MANAGEMENT SYSTEMS

PRESENTATION ABSTRACT:

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For: IEEE guest presentation

TITLE: ENERGY MANAGEMENT SYSTEM TECHNOLOGY:

This presentation will look at the latest applications, developments, and innovations managing new energy technologies. Lithium ion batteries are in widespread use in consumer electronics. The focus will be on Lithium Ion Iron Phosphate (LiPO4) battery technology in electric vehicle applications, failure modes, codes and standards, and a hazard assessment during the life cycle. As electric vehicles enter the marketplace there is an expectation of a step increase in the number and size of battery performance. Studies of the hazards associated with lithium ion battery storage are being performed to develop fire protection strategies to mitigate loss associated with any failure incidence. The overall aim is to advance energy efficiency and insure the technical basis for safety. Advancements in these alternative energy sources are being developed every day and this requires new energy management systems that can provide status updates.

Summary of Presentation Content:

- 1) Lithium-ion Battery Chemistry Types and Energy Density
- 2) Stability and Safety Standards, Effluence Factors
- 3) Battery Management Systems
- 4) Energy Management Status Computing.
- 5) State of Charge, Fuel Gauge
- 6) Energy Capacity (Watt Hour)
- 7) Hybridization, and the on Board Control
- 8) Peak Source and Sink Currents (up to 5 C)
- 9) Inverter Inrush current and Power Factor Correction
- 10) Motion Synchronization, Modbus
- 11) GPS, Wi-Fi, Wireless Controls
- 12) Show Action Synchronization
- 13) Touch Screen Controls
- 14) Drive by Camera and Monitors
- 15) Electric Vehicle Application Reveled

Conclusions and Questions:

By
Steve Hepburn