Assignment 3. System design

This is the third part of three assignments:

1. Develop a specification for an electrical energy system
2. Compare options
3. Develop a system component design specification

The objective of these assignments is for students to develop an appreciation of system design principles and of applications of electrical energy conversion devices.

Typical systems included:
- Electric vehicles
- Remote area power supply
- Grid connected power supply

In the first part an electrical energy system was selected and a specification prepared. The specification was written from the point of view of the final end user or owner, and did not enter into details of what was inside the system.

In the second part some options for the components of the system which might meet the specification were evaluated and a proposal to meet the specification presented.

In this third part, a concept design of the system for the particular application chosen in the first and second assignments is to be prepared. This concept design would enable a third party to complete a detailed design for prototyping. For example, the design could include

- System layout
- Components in each unit
- Expected performance against the specification
- Consideration of safety and reliability

Each group will present the assignment work and submit a hardcopy of the complete report on the assignment presentation day, which is Wednesday 8 November 2007 in Week 13. The Power point presentation slides must be sent as an email attachment to the lecturer well before the presentation day. It is encouraged to submit a softcopy of the assignment report besides the hardcopy.