

AN ASSESSMENT OF BATTERY SYSTEMS SUITABLE FOR USE IN PHOTOVOLTAIC SYSTEMS

Hittman Associates, Inc., 9190 Red Branch Road, Columbia, MD 21045 (U.S.A.)

The objective of this study is to compile an up-to-date comprehensive data base for research, design, and development of photovoltaic systems, primarily in the areas of applications and battery technology, and secondarily in the area of power conditioning technology. The study will compile and organize systematically the available data on existing and potential terrestrial photovoltaic applications, with particular emphasis on those for which battery storage is appropriate for remote, residential, commercial/institutional, industrial/utility, agricultural and military applications. For each end-use area a scenario will be developed in which the most cost-competitive battery system will be selected and the R&D needed for these systems will be determined.

These objectives will be accomplished by the following tasks:

Development of a data base on batteries; development of a data base on power conditioning equipment; development of a data base on solar arrays; development of end-use characteristics; interfacing of battery systems, array and power conditioning equipment; cost analysis of battery systems; analysis of cost competitiveness of battery systems; identification of R&D needs and selection of battery systems; preparation of the final report; project management.

The completion of the above ten tasks is planned for November 1980.

Accomplishments/status - June 1979

The first four tasks together with the project management have already been started. Literature search has almost been completed. Battery, array and power conditioning equipment manufacturers have been contacted to obtain published brochures and other pertinent data. Specifics of the end-use areas have also been determined.

BATTERIES FOR SPECIFIC SOLAR APPLICATIONS

Sandia Laboratories, Albuquerque, NM 87185 (U.S.A.)

This program consists of a multitask effort to: (1) conduct detailed system analyses to define battery requirements for photovoltaic system applications; (2) conduct laboratory and photovoltaic systems tests to verify