

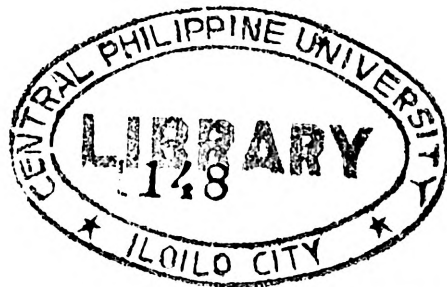
**REHABILITATION, TESTING, AND EVALUATION OF THE SOLAR PV
SYSTEM OF FILAMER CHRISTIAN UNIVERSITY, ROXAS CITY, CAPIZ**

A SPECIAL PROBLEM

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ABSTRACT

This study aimed to rehabilitate, test, and evaluate the solar PV system of Filamer Christian University (FCU), Roxas City, Capiz. The rehabilitation of the PV system is expected to provide numerous benefits to the university such as additional source of electric power, promotion of renewable energy to local society of Capiz, and it will also serve as a training module for the laboratory experiments of the Electronics Engineering department.

The solar PV system of FCU comprised of five building blocks: the PV modules; the batteries; the charge controller, inverter and the load. Specifically, the 14 80 Watt-peak PV modules, 30 A 12/24 V charge controller, 1500 W pure sine-wave inverter and the 4 120 Ah batteries are used. The system is expected to light the President's office located at the second floor of the Centennial building of FCU. The rehabilitation of the PV system was done based on the existing solar PV system of FCU and was transferred from the Technology Building to Centennial Building of the said university. The rehabilitation process included the installation of the PV panels, combining the output of the PV panels to the combiner junction box, connecting the combined output of the PV panels to the charge controllers, then to the batteries, and finally to the inverter. The components of the entire assembly was constructed and successfully implemented using

locally available products with the best circuit options for functionality and reliability of the system which provides 1 kilowatt source of electricity.

The solar PV system of FCU was tested and evaluated based on the features and specification required and successfully gave reasonable results. The system successfully indicated the desired output data needed based on its nameplate rating using the input voltage and current from the PV modules and the batteries.