



National University of Science and Technology

Think in Other Terms



EVALUATION OF THE USE OF SOLAR POWER IN MILITARY BASES:

A CASE STUDY OF THE ZNA

A Research Project Presented to

The Faculty of Industrial Technology

Department of Technical Teacher Education

In (partial) fulfillment of the requirements for the
Bachelor of Technical Teachers Education Honours Degree in
Electrical and Electronic Engineering

Research Project TTE 3020

by

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ABSTRACT

The purpose of this research is to evaluate usage of solar power, and its prospects for military bases applications. Military operations are quite demanding in terms of fuel requirements, hence place a heavy burden on the country's financial ability to sustain them and even a non-operational environment also place heavy reliance on the national grid and with increase in power outages.

This research will validate the hypothesis that Photovoltaic technology enables a solar power system to produce usable power for military purposes both in operations and non-operations environments, conditions which standard or traditional power systems fail to provide. Solar cell panels are exposed to sunlight at different angles and with variable intensity, therefore the resulting output power varies depending on the illumination angle as well as the light intensity of each panel.

In addition, this research will also show the vital sustaining information to substantiate PV's claim of usefulness and effectiveness to allow for longer time on station both in the field and in barracks so it can extend its missions.