DEVELOPMENT OF PV INVERTER/CHARGER SYSTEM

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May Allah Bless Us,

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ABSTRACT

Nowadays, fossil fuel is the main energy supplier, but the recognition of it as being a major cause of environmental problems makes the mankind to look for alternative resources in power generation. The renewable energy such as solar energy could replace fossil based energy generation such as fuel and coal. This study relates with development of a converter system. This works use solar as the renewable supply energy. This works involves the development of converter system to recharge the battery as a backup supply for this system. This system use charging circuit for charges the rechargeable battery and single phase half-bridge inverter use for convert the DC power to single phase AC power. The charging circuit utilizes the three modes of the battery charging process; normal or bulk charge, finishing or float charge and equalizing charge. To convert DC to AC power, single phase half bridge inverter square wave is used in this project.

CHAPTER 1

INTRODUCTION

1.1 Definition Renewable Energy

Renewable energy is a natural energy which does not have a limited supply. Renewable energy can be used again and again, and will never run out. The above renewable energy definitions describe how renewable are an infinite source of energy.

Renewable energy (REN) is from an energy resource that is replaced by a natural process at a rate that is equal to or faster than the rate at which that resource is being consumed. Renewable energy technologies capture their energy from existing flows of energy, from on-going natural processes.

Renewable energy has been in use for thousands of years in one way or another. An example of this is how ancestors used the wind for sailing, and now generation use the wind to generate electricity.[l1

Example of renewable energy sources are biomass, hydro, geothermal, solar, tidal, wave, wind . Figure 1.1 shows the solar energy use for generate the electricity.

Figure 1.1: Solar Power Plant