

## **ABSTRACT**

Electrical energy is energy produced from several sources, for example, the sources of electrical energy are: PLTA, PLTB, PLTD (diesel), PLTM, PLTS (solar), PLTU, and others. However, Indonesia still uses fossil energy which has negative impacts such as global warming and the need for using fossil energy is limited, so the use of electrical energy using fossil energy sources is still less efficient in terms of quantity. This research uses a power source from the Solar Power Plant (PLTS). This solar power plant absorbs heat from the sun and converts that heat into a source of electrical energy. From this, the purpose of this research is to create a source of electrical energy by using an environmentally friendly and efficient electrical energy source.

In addition to using environmentally friendly research, this research makes electrical circuits for power management in the tools that are made. Power management is an electrical circuit that helps a device so that the circuit can store the power generated from solar panels, can regulate the desired power voltage to a device, and can monitor power voltages to prevent overcurrent relays or excessive power voltages from occurring. may cause damage to the tool. Then these authors researched a Citarum river flood detector that uses PZEM-004T and INA 291 sensors. This shows that the power management needs of this research will be very influential for the manufacture of this flood detector.

Then the power management at the local weather station takes a power of 3.6 watts, a power invoice of 1 pf, and a frequency of 50. And proving the results in power usage can be done continuously and follows the electricity standard in Indonesia. Then with the quality of service with parameters throughput, delay, jitter, and Avr. Byte has had great results on ITUT G1010 standardization.

Keywords: power management, flood detection, sensor components, and electrical energy