ABSTRACT

Electrical energy is one of the basic needs that cannot be separated from human life at this time. But in the rainy season, many areas have the potential to be flooded and result in mass blackouts for the safety of residents whose areas are flooded. This situation is very dangerous because there is no lighting and electricity source for emergencies. This research discusses the construction of a portable hydroelectric power plant using flood water as an emergency power source. works by utilizing flood water to drive the turbines in the 12V Generator. by converting potential energy into mechanical energy, and from mechanical energy to electric energy. The energy generated by the generator will be read by the voltage sensor and if the resulting voltage is below 13.8V, the Arduino will order the Relay to drain the resulting voltage to the dry battery for storage, then the DC voltage from the battery is converted to AC using an inverter. The result of this research is that the 12V DC generator successfully delivers electrical energy to the battery and the voltage generated by the generator can be read by the voltage sensor so that the battery will not experience overvoltage. The DC voltage is converted to AC by the inverter which can be used for emergency purposes such as turning on lights and cellphone charges

Keywords : Power Plants, Generator, Inverters, Arduino Uno