

## ABSTRACT

Fuel conversion from kerosene to gas declared by the government made in the form of LPG gas cylinders 3 kg was negatively impacted the community who still lay on the use of gas as a fuel stove. The negative impact is leaking gas cylinder LPG 3 kg which used and the resulting explosion and fire.

In this Final Project realized a system and gas leak detectors on LPG cylinders which will result in explosion of LPG gas cylinders and other effects of fires. Gas leak detectors on LPG cylinders using a gas sensor type TGS 2610 and to detect any type of fire using a light sensor phototransistor. As the main controller system used AVR family of microcontrollers manufactured by Atmel is ATmega 8535. ATmega 8535 microcontroller is also coupled with Siemens C45 mobile phone, LCD, and buzzer.

In this system, the sensors used are woven into a Minimum Microcontroller System ATmega 8535 to process signals from gas sensors and light sensors that are placed into some space in a home production in small industries. The output generated from this system into the form of an LCD display and the reaction of an alarm. Detection system is also integrated into the system sends an SMS Gateway that serves a warning signal directly to the parties concerned over the cellular network wherever they are. Display on the LCD and the contents of a short message that shows the information from which it originated and the warning signal to the large volume of gas that leaked from the LPG gas cylinder.

Keywords : *LPG gas cylinders, ATmega 8535 microcontroller, SMS Gateway, gas sensor, flame sensor, TGS 2610, phototransistor, LCD, alarm*