

## LITERATURE SURVEY:

A number of reviews on the subject of gas leakage detection techniques were done in the past either as part of research papers/technical reports on a certain leak detection method and other gas related subjects.

- **A.Mahalingam, r. T. Naayagi, n. E. Mastorakis;** they introduce design and implementation of an economic gas leakage detector. They gave the formulation of many problems in previous gas leakage detectors. They told that several standards have been formulated for the design of a gas leakage detection system such as IEEE, BS 5730, and IEC. For this work, the recommended UK safety standards have been adopted. The proposed alarm system is mainly meant to detect LPG leakage, which is most commonly used in residential and commercial premises. The system detects not only the presence of gas (gas leak), but also the amount of leakage in the air, and accordingly raises an appropriate audio visual alarm. The objective of the system is to detect LPG gases such as propane and butane. The allowed UK level for butane is 600 ppm above which it is considered to be of high level and poses a danger.

The proposed system ensures a continuous monitoring of the gas levels. If the gas level increases above the normal threshold level of 400 ppm butane (LPG), the system starts to issue early warning alarms at 100ms interval, which implies low level gas leakage. If the leakage level increases to 575 ppm of butane (LPG), the system activates high severity audio alarms at 50 ms intervals warning the occupants to run to Safety.

- **Prof. M.Amsaveni, A.Anurupa, R.S.Anu Preetha, C.Malarvizhi, M.Gunasekaran;** they told in their research paper on “GSM based LPG leakage detection and controlling system” the leakage of LPG gas is detected by the MQ-6 gas sensor. Its analog output is given to the microcontroller. It consists of predefined instruction set. Based on this, the exhaust fan is switched on. So, the concentration of gas inside the room gets decreased. Then, the stepper motor is rotated thus closing the knob of the cylinder. Because of this process, the leakage of gas is stopped. The relay is switched to off the power supply of the house. The buzzer produces an alarm to indicate the gas leakage. Then, the user is alerted by SMS through the GSM module. They proposed their methodology that the system takes an automatic control action after the detection of 0.001% of LPG leakage. This automatic control action provides a mechanical handle for closing the valve. We are increasing the security for human by means of a relay which will shut down the electric power to the house. Also by using GSM, we are sending an alert message to the users and a buzzer is provided for alerting the neighbors about the leakage.

- **B. B. Did paye, Prof. S. K. Nanda;** in this paper they told about their research on leakage detection and review of “Automated unified system for LPG using microcontroller and GSM module”. Their paper proposed an advance and innovative approach for LPG leakage detection, prevention and automatic booking for refill. In advance, the system provides the automatic controlling of LPG regulator also if leakage is detected the system will automatically turn off the main switch of power supply. Hence it helps

to avoid the explosion and blast.

- **Srinivasan, Leela, Jeya bharathi, Kirthik,Rajasree;** in this research paper they told about gas leakage detection and control. In this paper, the gas leakage resulting into fatal inferno has become a serious problem in household and other areas where household gas is handled and used. It alerts the subscriber through the alarm and the status display besides turning off the gas supply valve as a primary safety measure.

- **Hitendra Rawat, Ashish Kushwah, Khyati Asthana, Akanksha Shivhare,**in the year 2014 planned a framework, They gave security issues against hoodlums, spillage and fire mishaps. In those cases their framework sends SMS to the crisis number gave to it.[5]

- **P.Meenakshi Vidya, S.Abinaya, G.Geetha Rajeswari, N.Guna,**“Automatic LPG detection and hazard controlling “ published in April 2014 proposed the leakage detection and real time gas monitoring system.