**DEVELOPING AN ISLANDING ARRANGEMENT FOR GRID ON SENSING BAD VOLTAGE/ BAD FREQUENCY**

**ABSTRACT:**

The project is designed to develop an islanding arrangement for grid on sensing bad voltage/ bad frequency. There are several power generation units connected to the grid such as hydro, thermal, solar, wind etc. to supply power to the load. In modern power system, electrical energy from the generating station is delivered to the ultimate consumers through a huge network of transmission and distribution. These generating units need to supply power according to the rules of the grid. Thus, for satisfactory operation of loads, it is desirable that consumers are supplied with substantially constant voltage and frequency.

In this project, we present the development of islanding arrangement system for power grid on sensing the abnormalities in frequency and voltage. For feasible transmission, the frequency and voltage of the AC supply should be within the limits as decided by the grid, depending upon the demand of the power supply.

As per CENTRAL ELECTRICTY AUTHORITY OF INDIA Regulations 2010, variation of the system voltage should be of +- 5 % and that for frequency close to 50 Hz and shall not allow it to go beyond the range 49.2 to 50.3 Hz or a narrower frequency band specified in the Grid Code, except during the transient period following tripping.

In case these limits are exceeded and the demand for power is more than the demand for supply, it results in grid failure. In such situations, the feeder unit is completely disconnected from the grid, causing islanding situation. Thus synchronization is needed between the grid and the feeder unit, so as to prevent the large scale brown out or black out of the grid power. These rules involve maintaining a voltage variation within limits and also the frequency. If any deviation from the acceptable limit of the grid it is mandatory that the same feeder should automatically get disconnected from the grid which by effect is termed as islanding.

**BLOCK DIAGRAM:**

****