

# Designing of Emergency Light Using Secondary Source of Energy

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**Abstract-** This paper considers the classification of parallel operation of power transfer to particular point (load of demand) using secondary source (solar, diesel generator, wind). However, the power distribution among receivers can be a difficult task due to the different load characteristic i.e. power requirement, receiver size and coupling coefficient. The experimental result show that the proposed design can meet the power requirement of loads within 5% error and achieve system efficiency of 90% at a power level as power demand.

**Keywords-** distribution, efficient, flow, loop, voltage, current.

## I. INTRODUCTION

The distribution system is the part of an electric power system after the transmission system that is committed to delivering electric energy to an end user as shown in figure 1. A drop in voltage levels results when demand for electricity surpasses the capacity of the distribution system. A system whereby power is received at the utility supply voltage level by a single, incoming substation as shown in figure 2. Through a series of step downs and splits, the power is converted for individual end-use equipment. Now a day to day life, there is cut in electrical supply by power grid. So, for the solution of this interruption of supply, we use two sources of supply. One is primary and other is secondary. When there will be interruption in primary supply then secondary will be automatically in use with the help of relay. In this room there is one switch for multiple loads. Same case is seen in many industries, apartments also. So, the main aim of this project is to provide supply for only that load which is needed at that time in case when primary supply is cut. So, there are no any extra losses of extra electrical energy and also there is continuous supply. So, there is saving of electrical energy [1-3].

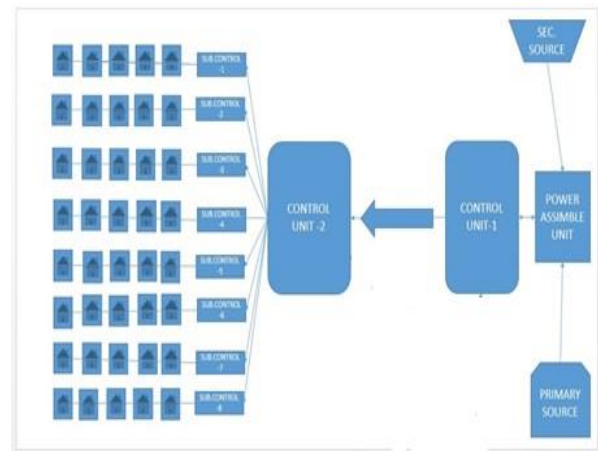


Fig 1 Distribution system Block diagram

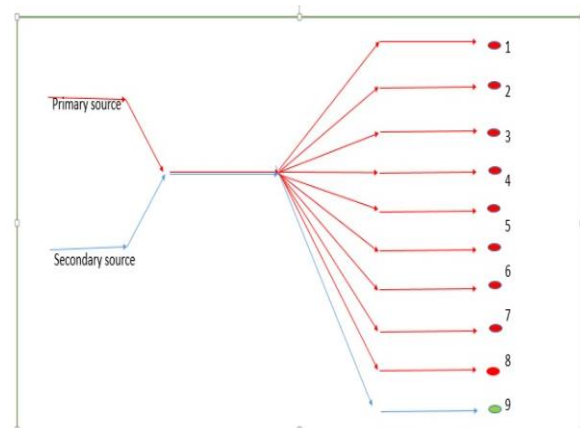


Fig 2 Primary and secondary source

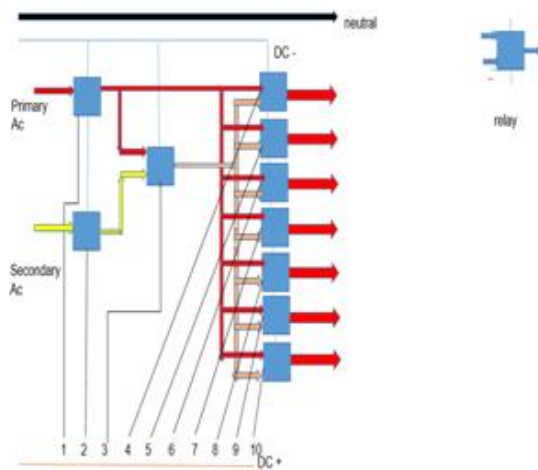


Fig no 3 power flow through the primary and secondary source.

**II. PROBLEM FORMULATION**

Its major problem that if there is cut in electricity then lot of issues we face because approximately all the daily use machines (washing machine, mixer, T.V etc) work on electricity. So if there is availability of secondary source then there is the continuous working of these machines [6-8].

**III. WORKING**

In fig.1 there is block diagram of panel in which it is shown that there are many relays are used and also there are two sources are used and power flow through the relays to the load. in case primary supply is cut then also there is continuous flow of supply due to secondary source [2-5]. In fig.2 and 3 it is shown that how the power flow through the primary and secondary source.

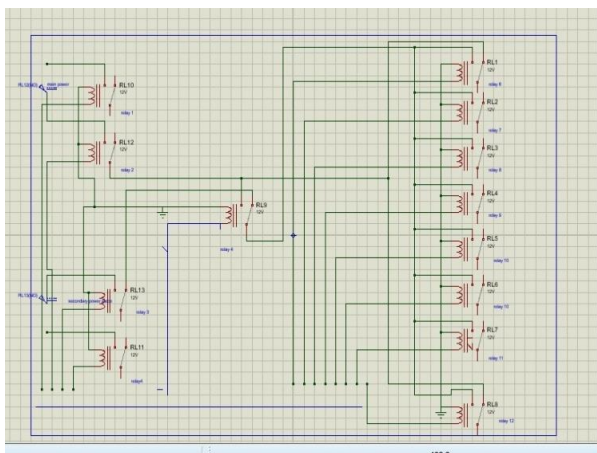


Fig no 4 Circuit Diagram

Given figure 4 show the actual diagram in the project primary source are connect with the grid and secondary power

supply by secondary source. Shown in figure 5 is actual project image on PCB.

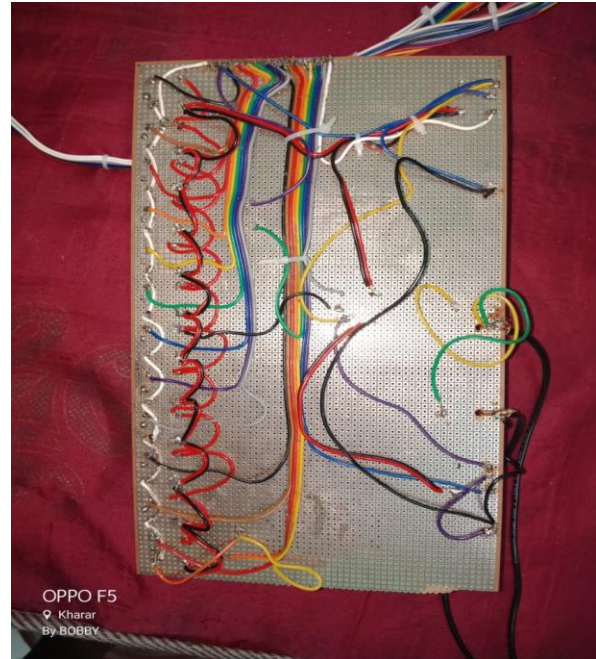


Fig 5 Actual wiring circuit of project

Given figure 6 and 7 are control panel of the primary and secondary power source. In the given project image using 15 Push pull button 19 green LED and 14 red LED.

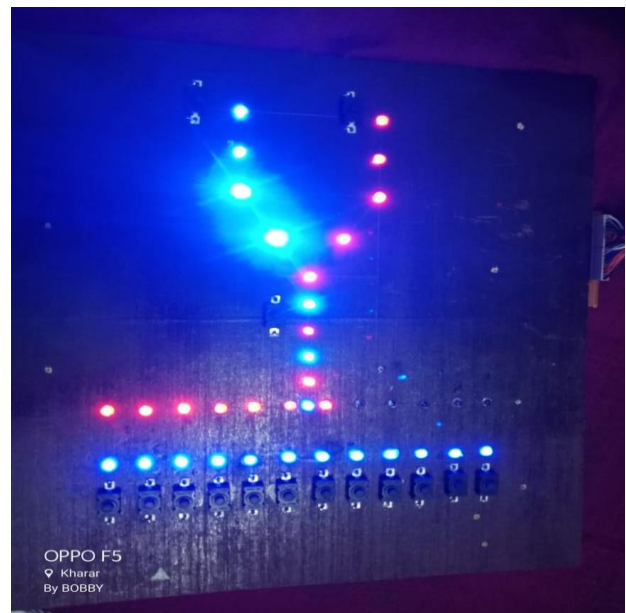


Fig 6 Control panel

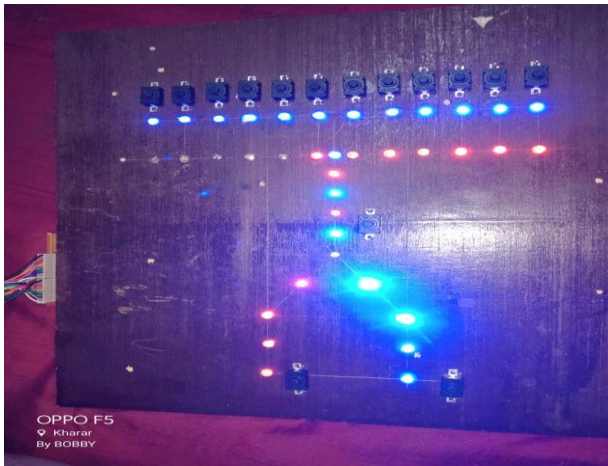


Fig 7 Control panel

#### IV. CONCLUSION

The main purpose of this project is that to provide continuous supply so that there is no interruption in the work. And it is also seen that the most of the daily life work is related with electricity. The secondary source used for supply is limited so the supply is given to the load which is very important to operate at that time. So there will be the saving of the electrical energy and our work will be going on. It is fully automated system. So there will be comfortness also.

#### V. ACKNOWLEDGEMENT

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