

CHAPTER 1

INTRODUCTION

Power cut or load shedding is a common process in countries where the production of electricity is less than the total requirement. To balance the availability and the requirement of electricity a concerned authority has to execute this process. This process is prone to human errors as an operator has to manually switch the channel on/off. If we can design an efficient and economical solution to this operation remotely from a centralized location, we will be able to replace the manual system with a centralized remote system. GSM is a wide area wireless communications system that uses digital radio transmission to provide voice, data, and multimedia communication services. It coordinates the communication between mobile telephones (mobile stations), base stations (cell sites), and switching systems. The messages are sent from the mobile set that contain commands in written form which are then processed accordingly to perform the required task.

The proposed approach for designing this system is to implement microcontroller based control module that receives its instructions and command from a cellular phone over the GSM network. The microcontroller then will carry out the issued commands and transfer the control to electromagnetic relay which acts as a circuit breaker. First, the sent SMS is stored and polled from the control station modem. Then, the required control signal is generated and sent to the modem of the base station. This signal is interpreted by the microcontroller module and instruction is given to the hardware i.e. relays which perform the action of turning on/off of the supply.
