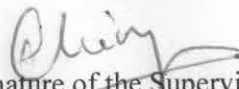



Title of the Thesis: IMPLEMENTATION OF ENERGY CONSERVATION BUILDING CODE AND ISO 50001-ENERGY MANAGEMENT SYSTEM IN COMMERCIAL ESTABLISHMENT (A Case Study)

ABSTRACT

Indian commercial buildings are expanding at a fast rate. These commercial buildings are guzzlers of power. In a scenario where we have power shortage, such buildings further strain our system. To meet the challenge of power shortage, the government devised Energy Conservation Building Code ECBC so that the commercial buildings are made energy efficient. The ECBC established standard for energy consumption in buildings under various climate zones. For this work, one of the reputed hotels in city of Ludhiana has been selected. Hotels fall under category of commercial buildings.

The building has conventional lighting system which involves the use of Halogen Lights in the banquet hall consuming very high power. It was suggested to replace them with the LED lights which are highly energy efficient. The aim was to make the building ECBC (Energy Conservation Building Code) complaint. This building code has emphasized on setting the least energy performing references for the construction of big commercial and other buildings considering various climate zones of the country. Energy Efficiency department, which is a standard authority, have started taking steps for the implementation of several building techniques along with the generation of some documents which states that Indian government authorities will be issuing several certificates based on the saving of energy among the valued and aware consumers those have annual energy utilization and consumption lower than the allowed given norms and reference standards as per the procedure. The newly designed buildings have the potential to reduce about 25-55% of power consumption by using different structural techniques for constructing commercial building covers as in lighting process, considering the HVAC system. Suggestion is given in the present work regarding the replacement of the conventional motors and pumps by the Variable Frequency Drives is given which consumes very less power and makes the system energy efficient and reliable, thereby reducing energy consumption.


Signature of the Supervisor


Signature of the Student
1411375
1411735