ELECTRICAL ENERGY AUDIT OF DOUBLE STOREY RESIDENTIAL BUILDINGS IN SHAH ALAM

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ABSTRACT

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Electrical energy audit study is preparing the questionnaire and performs this in residential buildings. This study also to identify the electrical energy consumption was selected in Shah Alam. Three houses were selected in Section 24, and another three houses in TTDI were audited from 22 February 2008 to 29 March 2008. . These houses are same double storey link houses, number of occupant between 3 to 9 people and middle income family. The data was collected about two weeks for three houses in Section 24 and another 2 weeks for TTDI. Data was collected from meeting with the owner by interview questionnaire. This questionnaire includes family background, daily family routine and electrical appliances that were used for the every day or week. Electrical bills for a few months were recorded for comparison with the calculation. After interview, data for the houses were collected for example, house description, number of room, area and color of houses and the photo was captured for each space in the houses. To complete the data, the owner agree give the all missing data in the next meeting. Data were process in the 'Microsoft excel' to calculate the energy consumption in the house. The energy in the house was divided b cooling (aircond and fan), general lighting, and electrical appliances. The results show electrical appliances is the higher usage, followed by cooling and general lighting that were used in double story residential buildings in Shah Alam. From this project, load apportioning for each energy usage in the house can identify. Besides that, the users better information about the energy saving measures.

CHAPTER 1

INTRODUCTION

1.0 Background of study

Various energy resources are used to generate electricity needed for our homes, businesses, schools, and factories. Electricity "energizes" our computers, lights, refrigerators, washing machines, and air conditioners, to name only a few. Thus of energy is used for heating, cooling, lighting, and appliances in the building. Unfortunately many users are not aware or knowledgeable on the efficient use of energy. Energy auditing is one of the measures to alert them on use energy more efficiently. Energy Efficiency means using less energy for more of the above purposes. It also means using energy-saving appliances and equipment for use in residential buildings. Energy audit is a study conducted to identify where, when and how much energy is being used in buildings and how to reduce the cost of energy usage. So energy auditing can help increase the level of awareness among users on the importance of efficient utilization of energy.

This study is to document the profile of energy consumption and apportioning in residential building in urban area. Questionnaire is used for data collections. The load apportioning is identified following the electrical appliances; lighting and cooling that are used in the residential buildings.