HIGHER TECHNICAL INSTITUTE

ELECTRICAL ENGINEERING DEPARTMENT

DIPLOMA PROJECT

DESIGN OF THE ELECTRICAL SERVICES OF A HOTEL

by

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JUNE 1995

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Project Report

Submitted to
the department of Electrical Engineering
of the Higher Technical Institute
Nicosia, Cyprus
in partial Fulfillment of the
requirements for the diploma of

TECHNICIAN ENGINEER

IN

ELECTRICAL ENGINEERING

June 1995

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ACKNOWLEDGEMENTS

I would like to express my sincere appreciation and thanks to my project supervisor Mr Michael for his guidance and assistance given throughout the project period.

Also I would like to thank all those who in any way helped me and gave me courage during the design period of this project.

ABSTRACT

This project deals with the design of the Electrical Services of a Hotel. The electrical services are the Lighting, power and telecommunication installation. This work has been divided into chapters as follows:

CHAPTER 1: This chapter deals with the illumination design and in accordance with the CIBS code we can find the level of illumination of the various areas.

CHAPTER 2: This chapter deals with the power and lighting circuits in accordance with the IEE regulations as currently amended and the local EAC conditions of supply.

CHAPTER 3: This chapter deals with safety and earthing.

CHAPTER 4: This chapter deals with the telephone distribution design of the hotel in accordance with CYTA requirements.

The necessary pictures, catalogues and information are given in the appendices.

The drawing of the electrical installation of the hotel are also included.

SYMBOLS AND ABBREVIATIONS

MDB	Main Distribution board
DB	Distribution board
AC	Alternative current
DC	Direct current
MDC	Main Distribution Case
DC	Distribution case
IEE	Institution of Electrical Engineers
EAC	Electricity authority of Cyprus
MCB	Miniature circuit breakers
MCCB	Moulded Case Circuit Breakers
RCCB	Residual Current Circuit Breakers
PVC	Polyvinyl Chronide
CPC	Circuit protection Conductor
CSA	Cross Sectional Area
SWA	Steel Wire Armoured
EFLI	Earth fault loop impedance
PF	Power Factor
CCT	Circuit
VD	Voltage Drop
F01L1	Lighting circuit L1 supplied by Distribution board of flat 01 in the Ground Floor.
S/O	Socket Outlet

INTRODUCTION

This project deals with the design of the Electrical Services of a hotel.

It consists of the ground floor, the first floor, the second floor and the third floor.

The whole installation is carried out in accordance to the following requirements:

(1) The 16th edition of the IEE wiring regulations and additional local regulation.

(2) EAC Conditions of supply

(3) C.I.B.S. code for interior lighting

(4) Interior lighting design.

(5) CYTA regulations

ASSUMPTIONS

(1) Supply Voltage: 415Vrms, 50Hz, TT earthing system.

(2) Wiring method: PVC conduit (method 3)

(3) Earth conduit carries one cct only, so grouping factor Cg=1

(4) Ambient temperature is assumed to be 30°C so ambient temperature factor Ca=1.

(5) Thermal insulation is not used, so insulation factor Ci=1.

(6) External earth fault loop impedance=0.5Ω