Cairo University

CRITERIA TO EVALUATE ENERGY SAVING AND PRODUCTION IN HOSPITALS: "NURSING UNITS"

By

Noha Mohamed Ezz El-din Abdel setter Amin

A Thesis Submitted to the
Faculty of Engineering at Cairo University
In Partial Fulfillment of the
Requirement for the Degree of

DOCTOR OF PHILOSOPHY
In
Architectural Engineering

FACULTY OF ENGINEERING, CAIRO UNIVERSITY
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Under the Supervision of

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Title of Thesis:

Criteria to Evaluate Energy Saving and Production in Hospitals: "Nursing Units"

KEYWORDS: Energy, energy efficiency in hospitals, energy conservation, green hospitals, zero energy hospitals.

Summary:
Hospital buildings consume about 4-6% of energy consumption in the construction sector. The operation cost of these buildings represents 25 to 60% of public health expenditure.
Hospitals may be daily exposed to a large amount of renewable energy as solar and wind energy which are not fully considered in hospital designs.

The basic energy influencing parameters has been enumerated and assessed to be an input data for evaluating hospitals from an architecture point of view .A proposed design for a nursing unit will be introduced taking into account all the energy influencing parameters and will be finally evaluated by Autodesk , Green Building Studio.

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I wish to express my sincere thanks and gratitude and appreciation to my distinguished professors:

Prof. Dr. Hesham Sameh Hussein
Professor of building technology , Architectural Engineering Department, Faculty of Engineering, Cairo University

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Dr. Eman Mokhtar Amr
Lecturer of Architecture, Department of Architectural Engineering, Faculty of Engineering, Modern University

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To accept the invitation to attend to discuss this research, calling God to be accepted, they have full of pride and appreciation.

Thank you very much

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Dedication

I am also very grateful to my family who supported me financially and morally, my father and the representative of the Supreme Brigade Professor Dr. Engineer /Ezz eldine Abdel-Sattar, who shared this dream with me and I will always carry on to continue working hard.

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Table of Contents

Contents **Page**

LIST OF TABLES

LIST OF FIGURES