# Issues in Facilities Management and Maintenance Malaysian Perspective





IIUM PRESS
INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA

## ISSUES IN FACILITIES MANAGEMENT AND MAINTENANCE A MALAYSIAN PERSPECTIVE

#### MASARAH ALI PUTERI SHIREEN JAHNKASSIM



#### Published by: IIUM Press International Islamic University Malaysia

First Edition, 2011 ©HUM Press, HUM

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without any prior written permission of the publisher.

Perpustakaan Negara Malaysia

Cataloguing-in-Publication Data

Maisarah Ali

Issues in Facilities Management and Maintenance: A Malaysian Perspective Maisarah Ali ... [et al.].

ISBN: 978-967-418-035-5

Member of Majlis Penerbitan Ilmiah Malaysia – MAPIM (Malaysian Scholarly Publishing Council)

Printed By:

HUM PRINTING SDN.BHD.

No. 1, Jalan Industri Batu Caves 1/3
Taman Perindustrian Batu Caves
Batu Caves Centre Point
68100 Batu Caves
Selangor Darul Ehsan

Tel: +603-6188 1542 / 44 / 45 Fax: +603-6188 1543 EMAIL: iiumprinting@yahoo.com

#### **CONTENTS**

		Page No.
Contents		iii
List of Tables		v
List of Figures		vi
Foreword		ix
Preface		X
Editors Note		xi
Contributors		xiv
CHAPTER 1:	MOULD GROWTH PREVENTION IN PUBLIC	
	HOSPITALS	1
	FUNDAMENTALS, CHALLENGES AND ISSUES	
	Maisarah Ali, Shireen Jahnkassim, Mohd Shariffuddin Ibrahim, Ibrahim Bamgbopa	
CHAPTER 2:	MAINTENANCE MANAGEMENT OF QARIAH	
	MASJIDS IN THE KLANG VALLEY ISSUES AND PERSPECTIVES	40
	Md Najih Ibrahim, Anis Azura Abdul Rashid	
	wa naja toranin, anis azara aban tasina	
CHAPTER 3:	ENERGY MANAGEMENT ISSUES AND	
	PRACTICES IN REGIONAL TRANSPORTATION	61
	HUBS A CASE STUDY OF AIRPORT TERMINAL	
	Shireen Jahnkassim , Zulkefli Yaacob and Abdul	
	Mahtheen Mohammed	
	Manneen Monamea	
CHAPTER 4:	FLAT ROOF CONSTRUCTION AND SYSTEMS	
CHAITER 4.	PRINCIPLES AND ISSUES IN MAINTENANCE	77
	MANAGEMENT	,,
	Maisarah Ali, Salawati Zainuddin	
CHAPTER 5:	DEFECTS AND DETERIORATION OF MULTI-	
	STOREYBUILDING FACADES	95
	ISSUES AND CHALLENGES	
	Maisarah Ali, Rosmawati Ali	

CHAPTER 6:	FIRE SAFETY IN BUILDINGS AND FIRE DOOR ASSESSMENT PRINCIPLES AND STANDARDS Tay Hao Giang, Maisarah Ali, Dewi Sarah	119
CHAPTER 7:	FIRE RISK ASSESSMENTS IN MAINTENANCE MANAGEMENT: THE CASE OF HERITAGE BUILDINGS IN MALAYSIA Md Najib Ibrahim, Khirani Abdul Hamid	140
CHAPTER 8:	SOLID WASTE MANAGEMENT AND THE POTENTIAL OF RECYCLED GLASS A MALAYSIAN PERSPECTIVE Muhammad Abu Eusuf, Atikah Razali	172
CHAPTER 9:	WASTE MANAGEMENT IN THE WORKING ENVIRONMENT PRINCIPLES, ISSUES AND IMPLEMENTATION Khairusy Syakirin Has-Yun Hashim, Puteri Shireen Jahn Kassim	198
CHAPTER 10:	PERFORMANCE BASED APPROACH IN FIRE SAFETY ASSESSMENT THE CASE OF EVACUATION TIME IN SHOPPING COMPLEXES Puteri Shireen Jahn Kassim, Normala Sulliaman	215

### ENERGY MANAGEMENT ISSUES AND PRACTICES IN REGIONAL TRANSPORTATION HUBS A CASE STUDY OF AIRPORT TERMINAL

Shireen Jahnkassim, Zulkefli Yaacob. Abdul Mahtheen Mohammed

International Islamic University Malaysia

#### 1.1 INTRODUCTION

In recent years, regional and international transport hubs around the world have initiated and undertaken various energy efficient policies and retrofitting activities in an effort to reduce long term operating costs such as energy consumption.

Energy efficiency in these large structures is important as it may consume power equivalent to the demand of a small town. Generally these hubs are regarded as national symbols and they are structures which act as gateways by tourists to cities and countries. These building types are usually operated 24 hours every day, seven days a week. In a hot, humid climate, they are typically fully air conditioned. There is continued pressure to decrease operational costs that crode the bottom line. Energy savings and energy management are key areas that are targeted as part of overall environmental management as part of its efforts towards reducing carbon emissions and achieving long term operational cost savings of such facilities. A facility's environmental policy will need to address energy efficiency as part of its overall facility and environmental management plan through more detailed understanding of energy usage patterns, a more comprehensive energy monitoring regime and regular internal reviews of energy performances of its facilities.

There is a trend to investigate the opportunities available in developing a systematic approach for tackling the multiple opportunities for energy and maintenance cost savings in energy consuming systems such as lighting and control system(s) in the main transport buildings such as transport hubs such as train stations and airport terminals- starting with the main entrance and concourse areas. Issues and targets on energy savings have become part of the maintenance and costs policies. Currently, various technologies and products are available