



## **BUILDING ENERGY SAVINGS**

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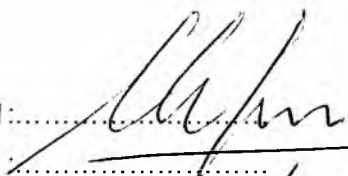
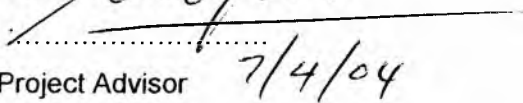
**(2001448829)**

A thesis submitted in partial fulfillment of requirement for the award of Bachelor  
Engineering (Hons) (Mechanical)

**Faculty of Mechanical Engineering  
Universiti Teknologi MARA (UiTM)**

**MARCH 2004**

"I declared that I read this thesis and in our point of view this thesis is qualified in term of scope and quality for the purpose of awarding the Bachelor of Mechanical"

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## **ABSTRACT**

In this thesis, chapter 1 addresses the introduction to the project. It deals with the energy efficiency and energy savings. Apart from that, the objectives of this project are described as well as the scope of project. Chapter 2 includes the methodology of the project. Chapter 3 introduces the district cooling concept in brief. The theory of air-conditioning is presented in chapter 4. All the theories are based on the thermodynamics and heat transfer point of view. In this chapter, the relevant equations that is important for the energy analysis is defined. Chapter 5 and 6 put forward the energy analysis of the plant 1 and 2. In these chapters, the system's energy balance is analysed. Chapter 7 relates the costing analysis of plant 1. This includes the cost analysis to the theoretical design and actual operating modes. The cost for partial and full-storage system is carried out based on the theoretical operating design. Hence, the payback period for partial and full storage system is obtained. Some improvements to the system is analysed in chapter 8. It involves the modification and replacement of certain component. This analysis is followed by the savings gained through the improvements. The discussion, conclusion and recommendation are imparted in chapter 9, 10 and 11 respectively.

## TABLE OF CONTENTS

CONTENTS	PAGE
ACKNOWLEDGEMENT	i
ABSTRACT	ii
TABLE OF CONTENTS	iii
LIST OF TABLES	ix
LIST OF FIGURES	xi
LIST OF ABBREVIATION	xii
<b>CHAPTER 1 INTRODUCTION</b>	
1.0 Introduction	1
1.1 Objectives	2
1.2 Scope of project	2
<b>CHAPTER 2 METHODOLOGY</b>	3
<b>CHAPTER 3 DISTRICT COOLING</b>	
3.0 Introduction to district cooling (DC)	4
3.1 Advantages of district cooling	4
3.2 Basic principle of district cooling system	5
3.3 Thermal energy storage (TES)	6
3.4 Gas district cooling (GDC)	8

## **CHAPTER 4 THEORY OF AIR-CONDITIONING SYSTEM**

4.0	The vapour compression cycle	9
4.1	The reversed Carnot refrigeration cycle	9
4.2	Coefficient of performance	11
4.3	Cooling tower	13
4.4	Air handling unit (AHU)	14
4.5	Heat exchanger	16
4.6	Absorption chiller	19
4.7	AC motor and pump	21

## **CHAPTER 5 ENERGY ANALYSIS ON PLANT 1**

5.0	Introduction to the plant 1	23
5.1	Energy analysis to operating design on normal mode	23
5.1.1	Primary ethylene glycol side	23
5.1.2	Primary heat exchanger	24
5.1.3	Energy balance to the primary ethylene glycol loop	27
5.1.4	Primary ethylene glycol pump (PEGP)	27
5.1.5	Condenser water	28
5.1.6	Chiller analysis	29
5.1.7	Secondary heat exchanger and tertiary chilled water loop	30
5.1.8	Secondary chilled water pump	31
5.1.9	Air handling unit analysis	32
5.1.10	Cooling tower analysis	34
5.2	Energy analysis to operating design on ice mode	35
5.2.1	Primary ethylene glycol side	35
5.2.2	Ice making analysis (Recharging Mode)	36
5.3	Analysis of actual mode	38
5.3.1	Cooling load of hot side primary heat exchanger	38
5.3.2	Cooling load of cold side primary heat exchanger	39