



MARA INSTITUTE OF TECHNOLOGY
SCHOOL OF MECHANICAL ENGINEERING

FINAL YEAR PROJECT REPORT

TITLE:
**DISTRICT COOLING SYSTEM WITH CHILLED
WATER STORAGE.**

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ABSTRACT

This study is carried out as a partial requirement for the award of Bachelor of Mechanical Engineering (Hons.) from the School of Mechanical Engineering, MARA Institute of Technology, Shah Alam.

District Cooling System is a method of providing the needs for cooling load of a large area (District term) collectively from one or more central chiller plants. Since cooling is a necessity and is known to consume a large amount of power, a mean of saving in terms of expenditure is normally goes with it.

Thermal Energy Storage is well known for this purpose. Thus, this study is about District Cooling System with Chilled Water Storage. This study will try to extract the possibility of applying this system to PNB Building and the possibility of selling the excessive cooling load to neighbourhood buildings like LUTH , second phase under construction PNB's Building and a nearby apartment's block. We will also analyse the savings applicable by PNB's electrical expenditures for HVAC System.

In doing so, a brief study is made onto the existing conventional applied system at PNB Building to investigate the cooling load and it's electricity bills. The cooling load at LUTH and the apartments is estimated.

This study will also cover relevant topics like TES and DCS with chilled water storage to help further understandings.

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We praise Him and we seek His blessings on His noble Prophet s.a.w.,

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TABLE OF CONTENTS

PAGE

Abstract	i
Acknowledgement	ii
Contents	iii
List of Tables	vi
List of Figures	vii
List of Appendices	ix
Chapter 1	
1.0 Introduction	2
1.1 Problem Statement	3
1.2 Objectives of Study	5
1.3 Scope of Study	6
1.4 Outline of Study	7
Chapter 2	
2.0 Permodalan Nasional Berhad (PNB) Building's HVAC System	9
2.1 Building Background	9
2.2 Air-Conditioning System	9
2.3 The Electrical Billing History	13
2.4 Data Collection	21
2.4.1 PNB Building	21
2.4.2 LUTH Building	30
2.4.3 Apartments Block	30
2.5 Load Breakdown	33
Chapter 3	
3.0 Thermal Energy Storage	35

TABLE OF CONTENTS**PAGE**

3.1	Basic Concept	35
3.2	Method and Medium	37
	3.2.1 Sensible Heat Storage	37
	3.2.2 Latent Heat Storage	40
3.3	Characteristics	44
3.4	Mode of Operation	45
	3.4.1 Full Load Storage	45
	3.4.2 Partial Load Storage	46
3.5	Advantages and Benefits	47

Chapter 4

4.0	District Cooling With Chilled Water Storage	50
4.1	System Components	52
	4.1.1 Central Chiller Plant	52
	4.1.2 Storage	53
	4.1.3 Control Panel	56
4.2	System Performance	56
	4.2.1 Storage	56
	4.2.2 Charge Cycle	57
	4.2.3 Recharge Cycle	57
	4.2.4 Heat Gain	57
	4.2.5 Heat Loss	58
4.3	System Operation	58
	4.3.1 Thermal Stratification	61
	4.3.2 Thermocline Mechanism	65
	4.3.3 Stratification Diffusers	66
4.4	System Maintenance	68