

**DEVELOPMENT OF FREE FLOW WATER TURBINE FLOATING
PLATFORM FOR 5KW ELECTRIC POWER GENERATOR**

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“I declared that this thesis is the result of my own work except the ideas and summaries which I have clarified their sources. The thesis has not been accepted for any degree and is not concurrently submitted in candidature of any degree.”

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ABSTRACT

The free flow water turbine project is meant to provide electricity to the UiTM Perhilitan Research Station at Kuala Keniam, Pahang. The concept of free flow water turbine is by using hydro power which is the river current to turn the turbine that operates the electric power generator. The scope of the project is focusing on the design, and evaluation of the floating platform, protection system, and water path for the free flow water turbine. The design of the floating platform, protection system, and water path for the free flow water turbine is done using CATIA software. The design is done by considering type of materials use and the strength of the assembled product. Using CATIA, the effect of river flow on the protection system evaluated. Flow of water in open channel analysis used to enhance the flow and velocity of water going through the water path to get maximum output of electric power up to 5kW. After the design and evaluation of design processes, the free flow water turbine expected to generate electric power up to 5kW using AC electric power generator without being supervise. The protection system and floating platform expected to stand extreme condition such as heavy flood and driftwood hence ensure the free flow water turbine operate with minimal maintenance and supervision.

TABLE OF CONTENTS

CONTENTS		PAGE
	PAGE TITLE	iv
	ACKNOWLEDGEMENT	v
	ABSTRACT	vi
	TABLE OF CONTENTS	vii
	LIST OF TABLES	ix
	LIST OF FIGURES	x
	LIST OF ABBREVIATIONS	xii
CHAPTER 1	INTRODUCTION	
	1.1 Project Overview	1
	1.2 Project Background	2
	1.3 Project Objective	2
	1.4 Project Significant	3
	1.5 Project Scope	4
	1.6 Methodology	4
CHAPTER II	LITERATURE REVIEW	
	2.1 Introduction	6
	2.2 Hydroelectricity	6
	2.3 Large Scale Hydroelectricity Plant	7
	2.3.1 Disadvantages Of Large Scale Hydroelectric Plant	8
	2.4 Pico Hydro Power	9
	2.4.1 Advantages Of Pico Hydro Power Plant	11
	2.5 Free Flow Water Hydro Power	12
	2.6 Floating Platform	14
	2.7 Water Path	15