

APPROVAL PAGE	ii
STATEMENT	iii
PAGE OF DEDICATION	iv
PREFACE	v
CONTENTS	vi
LIST OF TABLES	viii
LIST OF FIGURES	ix
NOMENCLATURE AND ABBREVIATION	xi
ABSTRACT	xii
CHAPTER I Introduction	1
1.1 Background of Research	1
1.2 Identification of the Problem	3
1.3 Objective of Research	3
1.4 Limitation of Research	3
1.5 Benefits of Research	3
1.6 Systematic of Research	3
CHAPTER II Literature Review and Basic Theory	5
2.1 Literature Review	5
2.1.1 Synchronous Generator	5
2.1.2 Partial Feedback Linearization	5
2.1.3 Small Signal Stability	6
2.2 Basic Theory	7
2.2.1 Synchronous Generator	7
2.2.2 Power System Stability	7
2.2.2.1 Rotor Angle Stability	7
2.2.2.2 Frequency Stability	8
2.2.2.3 Voltage Stability	8
2.2.3 Partial Feedback Linearization	8
CHAPTER III Research Method	11
3.1 Research Tools	11
3.2 Synchronous Generator Model	11
3.2.1 General System	11
3.2.2 Synchronous Generator	11
3.2.3 Automatic Voltage Regulator	14
3.2.4 Power System Stabilizer	14
3.2.5 Initial Condition	15

3.3	Single Machine Infinite Bus	17
3.4	Controller Synthesis	19
3.5	Research Flow.....	23
CHAPTER IV Results and Discussion		26
4.1	Transient Performance	26
4.1.1	Short Circuit.....	26
4.1.2	Changing Operating Condition	27
4.1.3	Unstable Faults	29
4.2	Small Signal Performance	31
4.2.1	Small Signal at One Operating Condition	31
4.2.2	Eigenvalues Plot for Different Active Power	34
4.2.3	Eigenvalues Plot for Different Transmission Reactance	34
4.2.4	Impact of Changing Q and R on PFBL Performance	35
CHAPTER V Conclusion and Suggestion		40
5.1	Conclusion	40
5.2	Suggestion.....	40
REFERENCES		41