



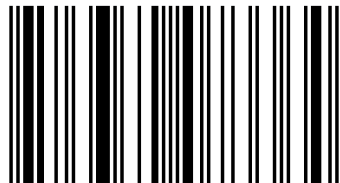
This book presents contingency analysis of power system is to predict the line outage, generator outage and to keep the system secure and reliable. Whenever the maximum violation occurs in Power system, line and generator are outage elements. For the system, security can be assessed using contingency analysis. It also describes the power flow analysis of power system network using Matpower 5.0 and estimating the real and reactive power flows, power losses in the entire network and phase angle using Matpower 5.0. This book shows the example of 5 bus test system and IEEE-14 bus power system, on which N-1 contingency sensitivity factors found out by MATLAB. N-1-1 contingency sensitivity factors are found out by Power World Simulator 11.0 by making 5-bus test system in it. For the corrective actions, FACTS devices like TCSC, FC are installed on line by finding proper location by sensitivity analysis method based on real power performance index by AC load flow. After installed FACTS device, GSF and LODF sensitivity factors are compared for TCSC and FC conditions. FC can improve sensitivity factors more than the TCSC and cheaper also than TCSC, but it has higher losses than TCSC.

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Contingency Analysis and Power System Security

Contingency Methods and Application of FACTS
Devices

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With Great pleasure, I would like to present this book on the dissertation work related to “**CONTINGENCY ANALYSIS IN POWER SYSTEM AND IMPROVEMENT OF POWER SYSTEM SECURITY BY LOCATING FACTS DEVICES**”. Success is mainly achieved by the hard work & it depends on the dedication, sincerity and efforts. Any task will completed by the motivation, guidance, encouragement and time management.

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TABLE OF CONTENTS

Content	Pg. No
Acknowledgement	i
Table of Contents	iii
List of Figures	vii
List of Tables	viii
Chapter 1 Introduction	1
1.1 Background	1
1.2 Thesis Objective	5
1.3 Thesis Organization	6
Chapter 2 Literature Survey	7
2.1 Distributed Transmission System	7
2.2 Balanced three-phase steady-state conditions	7
2.3 Power Flow Analysis	8
2.4 Types of Violations	8
2.5 Line Loadability	9
2.6 Contingency Analysis	10
2.6.1 Types of Contingencies	11
2.6.2 Steps of Contingency Analysis	11
2.7 Methods for Contingency Analysis	12
2.7.1 DC Load Flow Methods	12
2.7.2 AC Load Flow Methods	14
2.7.3 Comparison of DC Load Flow and AC Load Flow	16
2.7.4 Contingency Ranking	16
2.8 Remedial Actions	21
2.8.1 FACTS Devices	21

2.9 Sensitivity Analysis	22
2.10 Security of Power System	22
2.11 Software Used	23
2.11.1 Power World Simulator	23
2.11.2 Matpower	23
Chapter 3 Power System Security	26
3.1 Introduction to Power System Security	26
3.2 Power System Security Analysis	26
3.3 Operating States of Power System	28
3.4 Factors affecting power system security	32
Chapter 4 Contingency analysis	35
4.1 Selection of the Contingencies	35
4.2 Contingency Evaluations	36
4.3 Approximations in Contingency analysis	39
4.4 Necessity of Contingency Analysis	40
4.5 Sensitivity Factors	41
4.5.1 Generation shift factor	41
4.5.2 Line Outage Distribution Factor	44
4.5.3 Power Transfer Distribution Factor	45
4.5.4 Derivation of sensitivity factors	45
Chapter 5 Optimal Location of FACTS Devices	51
5.1 FACTS Devices	51
5.1.1 Advantages and Drawbacks of FACTS Devices	52
5.2 Thyristor Controlled Series Capacitor (TCSC)	52
5.2.1 Operating Modes of TCSC	54
5.2.2 Purpose of TCSC	55
5.2.3 Advantages and Disadvantages of TCSC	55

5.2.4 Applications of TCSC	56
5.2.5 TCSC Modeling	56
5.2.6 Operational Feasibility of TCSC in Inductive Region	58
5.3 Fixed Capacitors	59
5.4 Sensitivity Analysis	60
5.4.1 TCSC Device Parameter	61
5.4.2 FC Device Parameter	61
5.4.3 Sensitivity Analysis by Real Power Performance Index	62
5.5 Optimal Location of FACTS	62
Chapter 6 Analysis, Results and Discussion	64
6.1 5-Bus Test System Case	64
6.1.1 Load flow analysis and sensitivity factors for 5-bus system	64
6.1.2 Location of TCSC on 5-bus test system	67
6.1.3 Location of FC on 5-bus test system	69
6.2 IEEE-14 Bus Test System Case	72
6.2.1 Load flow analysis and sensitivity factors for IEEE-14 bus	72
6.2.2 Location of TCSC on IEEE-14 bus test system	80
6.2.3 Location of FC on IEEE-14 bus test system	87
Chapter 7 Conclusions	95
7.1 Conclusion	95
7.2 Scope of Future Work	96

References	97
Appendix A MATLAB Program to find out Generation Shift Factor	101
Appendix B MATLAB Program to find Line Outage Distribution Factor	104
Appendix C Abbreviations	107

LIST OF FIGURES

Figure	Name	Page No.
Figure 3.1	Power System Operating States	30
Figure 3.2	An example of States and Control Action	31
Figure 4.1	Procedure for Contingency	38
Figure 4.2	Flow Chart for GSF	49
Figure 4.3	Flow Chart for LODF	50
Figure 5.1	TCSC	53
Figure 5.2	The impedance vs. delay angle characteristic of the TCSC	54
Figure 5.3	The impedance vs. delay angle characteristic of the TCSC for Modeling Value	58
Figure 6.1	5-Bus test system in Power World simulator	65

LIST OF TABLES

Table	Name	Page No.
Table 6.1	Branch data for 5-Bus test system	64
Table 6.2	Bus data for 5-Bus test system	65
Table 6.3	DC and AC load flow results on 5-bus test system	65
Table 6.4	GSF for N-1 and N-1-1 contingencies for 5-bus	66
Table 6.5	LODF for N-1 contingency for 5-bus	66
Table 6.6	LODF for N-1-1 contingencies for 5-bus	67
Table 6.7	Sensitivity analysis for 5-bus for TCSC	67
Table 6.8	DC load flow for 5-bus after TCSC located	68
Table 6.9	AC load flow for 5-bus after TCSC located	68
Table 6.10	GSF for 5-bus after TCSC located	69
Table 6.11	LODF for 5-bus after TCSC located	69
Table 6.12	Sensitivity analysis for 5-bus for FC	70
Table 6.13	DC load flow for 5-bus after FC located	70
Table 6.14	AC load flow for 5-bus after FC located	71
Table 6.15	GSF for 5-bus after FC located	71
Table 6.16	LODF for 5-bus after FC located	72
Table 6.17	Bus data for IEEE-14 bus test system	73
Table 6.18	Branch data for IEEE-14 bus test system	74
Table 6.19	DC load flow result on IEEE-14 Bus test system	75
Table 6.20	AC load flow result on IEEE-14 Bus test system	76
Table 6.21	GSF of IEEE-14 bus system when generator-2 trips	77
Table 6.22	LODF of IEEE-14 bus system from L=1 to L=7	78
Table 6.23	LODF of IEEE-14 bus system from L=8 to L=14	79
Table 6.24	LODF of IEEE-14 bus system from L=15 to L=20	80
Table 6.25	Sensitivity analysis for IEEE-14 bus for TCSC	81

Table 6.26	DC load flow of IEEE-14 bus system after located TCSC	82
Table 6.27	AC load flow of IEEE-14 bus system after located TCSC	83
Table 6.28	GSF of IEEE-14 bus system when G=2 trips after TCSC located	84
Table 6.29	LODF of IEEE-14 bus system for L=1 to L=7 after TCSC located	85
Table 6.30	LODF of IEEE-14 bus system for L=8 to L=14 after TCSC located	86
Table 6.31	LODF of IEEE-14 bus system for L=15 to L=20 after TCSC located	87
Table 6.32	Sensitivity analysis for IEEE-14 bus for FC	88
Table 6.33	DC load flow of IEEE-14 bus test system after location of FC	89
Table 6.34	AC load flow of IEEE-14 bus test system after location of FC	90
Table 6.35	GSF for IEEE-14 bus system at G=2 trips after located FC	91
Table 6.36	LODF of IEEE-14 bus system for L=1 to L=7 after FC located	92
Table 6.37	LODF of IEEE-14 bus system for L=8 to L=14 after FC located	93
Table 6.38	LODF of IEEE-14 bus system for L=15 to L=20 after FC located	94