

# Guide to Improved Earthquake Performance of Electric Power Systems



AMERICAN SOCIETY OF CIVIL ENGINEERS

# Guide to Improved Earthquake Performance of Electric Power Systems

Prepared by  
Electric Power and Communications Committee  
Technical Council on Lifeline Earthquake Engineering

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Published by

**ASCE** *American Society  
of Civil Engineers*

1801 Alexander Bell Drive  
Reston, Virginia 20191-4400

*Abstract:* The Manual documents methods to improve the earthquake response of electric power systems. A review of the Manual should raise the awareness and understanding of the vulnerabilities of power system facilities and equipment. The emphasis is on power system elements that have been damaged by earthquakes, primarily high-voltage substation equipment. Power-generating stations, transmission and distribution lines, substations, system communications and control, and ancillary facilities and functions are also discussed. A detailed review of earthquake damage to power facilities and suggestions to improve their performance are presented. The Manual suggests an overall approach to an earthquake mitigation program. Postearthquake emergency response procedures to reduce the disruption from damaged facilities are also discussed. The Manual demonstrates that improved installation practices and other mitigation measures, particularly for new construction and during refurbishment, that are cost-effective in any region with a history of significant earthquakes can be implemented to improve earthquake performance.

Library of Congress Cataloging-in-Publication Data

American Society of Civil Engineers. Electric Power and Communications Committee.

Guide to improved earthquake performance of electric power systems / prepared by Electric Power and Communications Committee, Technical Council on Lifeline Earthquake Engineering.

p. cm.—(ASCE manuals and reports on engineering practice ; no. 96)

Includes bibliographical references and index.

ISBN 0-7844-0414-3

1. Electric power systems—Earthquake effects. 2. Lifeline earthquake engineering. I. Title.

II. Series.

TK1005.A633 1999

621.31'21—dc21

99-20666

CIP

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Library of Congress Catalog Card No: 99-20666

ISBN 0-7844-0414-3

Manufactured in the United States of America

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66	Structural Plastics Selection Manual	93	Crane Safety on Construction Sites
67	Wind Tunnel Studies of Buildings and Structures	94	Inland Navigation: Locks, Dams, and Channels
68	Aeration: A Wastewater Treatment Process	95	Urban Subsurface Drainage
		96	Guide to Improved Earthquake Performance of Electric Power Systems
		97	Hydraulic Modeling: Concepts and Practice

# TABLE OF CONTENTS

<b>PREFACE</b> .....	<b>xiii</b>
<b>ACKNOWLEDGMENTS</b> .....	<b>xv</b>
<b>EXECUTIVE SUMMARY</b> .....	<b>xvii</b>
<b>1 INTRODUCTION</b> .....	<b>1</b>
1.1 Background .....	1
1.2 Purpose .....	3
1.3 Basis for Recommendations .....	3
1.4 Scope .....	4
1.5 Organization of the Manual .....	4
<b>2 EARTHQUAKES: SOURCES AND EFFECTS</b> .....	<b>7</b>
2.1 Sources of Earthquakes .....	7
2.2 Quantifying the Size and Intensity of Earthquakes .....	12
2.2.1 Earthquake Size .....	12
2.2.2 Earthquake Intensity .....	13
2.3 Effects of Earthquakes .....	14
2.3.1 Ground Vibration .....	14
2.3.2 Soil Liquefaction .....	16
2.3.3 Soil-Structure Interaction .....	18
2.3.4 Earthquake-Induced Landslides .....	19
2.3.5 Subsidence .....	20
2.3.6 Ground Faulting .....	20
2.3.7 Earthquake-Induced Water Waves .....	23
2.4 Regional Differences in Earthquakes and Associated Hazards .....	24
2.5 Regional Seismicity of the United States .....	25
2.5.1 Western Region .....	27
2.5.2 Central Region .....	29
2.5.3 Eastern Region .....	33

2.6 Summary of Differences between Earthquakes in California and Other Regions ..... 35

2.7 Commonly Used Terms ..... 35

    2.7.1 Fault and Fault Trace ..... 35

    2.7.2 Hypocenter and Epicenter ..... 36

    2.7.3 Earthquake Magnitudes ..... 36

    2.7.4 Intensity Scales ..... 36

    2.7.5 Tsunamis ..... 36

Endnotes ..... 37

**3 OVERVIEW OF EARTHQUAKE PERFORMANCE OF POWER SYSTEMS AND FACILITIES. .... 39**

    3.1 Overall Power System Seismic Performance ..... 39

    3.2 Power Transmission and Distribution Systems ..... 40

        3.2.1 Transmission Lines ..... 40

        3.2.2 Distribution Lines ..... 40

        3.2.3 Substations ..... 41

    3.3 Power Generation Facilities ..... 41

    3.4 Control, Protection, and Communications Facilities ..... 42

**4 APPROACH TO IMPROVED EARTHQUAKE PERFORMANCE ..... 43**

    4.1 Overview of Improved Earthquake Performance ..... 45

    4.2 Earthquake Hazard and System Vulnerability Evaluation ..... 45

        4.2.1 Initial Earthquake Hazard and System Vulnerability Evaluation... 47

        4.2.2 Detailed Earthquake Hazard and System Vulnerability Evaluation ..... 47

    4.3 Earthquake Planning ..... 53

        4.3.1 Disaster Response Plans ..... 53

        4.3.2 Corporate Recovery Plans ..... 54

        4.3.3 Evaluation of System Vulnerabilities ..... 54

        4.3.4 Emergency Operations Center ..... 54

        4.3.5 Alternate Energy Control Center ..... 55

    4.4 Earthquake Mitigation ..... 55

        4.4.1 Implementing Tasks with a High Benefit-Cost Ratio ..... 56

        4.4.2 Seismically Upgrading Manuals of Practice ..... 56

        4.4.3 Detailed Vulnerability Assessment of System Facilities ..... 59

        4.4.4 Implementation of Mitigation Plan ..... 59

        4.4.5 Periodic Review and Revision of Mitigation Program ..... 60

    4.5 Comments on Implementing an Earthquake Damage Mitigation Program ..... 61

        4.5.1 Initiating an Earthquake Mitigation Program ..... 61

        4.5.2 Commitment of Top Management Is Needed ..... 61

        4.5.3 Cost-Effectiveness ..... 62

        4.5.4 Maintaining Mitigation Program ..... 62

        4.5.5 Seismic Design Engineering ..... 63

Endnotes ..... 64

<b>5</b>	<b>SUBSTATIONS</b>	<b>65</b>
5.1	Overview of Substations	69
5.2	Substation Configuration and Components	70
5.3	Earthquake Effects on Substations	71
5.3.1	Earthquake-Induced Vibration	72
5.3.2	Soil Deformation and Ground Faulting	72
5.3.3	Soil–Structure Interaction	74
5.4	Recommended Design Criteria for Substations	75
5.5	Common Failures	77
5.5.1	Failures of Porcelain Members	78
5.5.2	Failures of Equipment Anchorage	82
5.5.3	Failure of Cast-Aluminum Hardware	84
5.6	Substation Busses, Conductors, and Their Supports	84
5.6.1	Dead-End Transmission Towers	85
5.6.2	Busses, Conductors, and Their Supports	86
5.6.3	Bus and Conductor Support Structures	92
5.6.4	Mitigation and Retrofit of Substation Busses, Conductors, and Their Supports	93
5.6.5	Emergency Response Procedures for Substation Busses, Conductors, and Their Supports	100
5.6.6	Recommended Installation Practices for Substation Busses, Conductors, and Their Supports	100
5.7	Power Transformers	101
5.7.1	Sudden Pressure, Bucholtz and Protective Relays	102
5.7.2	Anchorage	103
5.7.3	Bushings	132
5.7.4	Radiators	139
5.7.5	Conservators	144
5.7.6	Tertiary Bushings and Lightning Arresters	148
5.7.7	Transfer Busses	148
5.7.8	Emergency Response Procedures for Transformers	149
5.7.9	Summary of Earthquake Issues Related to Transformers	152
5.8	Distribution Transformers	153
5.8.1	Earthquake Performance of Distribution Transformers	154
5.8.2	Mitigation and Retrofit of Distribution Transformers	156
5.8.3	Recommended Practice for Distribution Transformers	157
5.9	Lightning (Surge) Arresters	158
5.9.1	Earthquake Performance of Lightning Arresters	159
5.9.2	Mitigation and Retrofit of Lightning Arresters	161
5.9.3	Emergency Response Procedures for Lightning Arresters	162
5.9.4	Recommended Installation Practices for Lightning Arresters	163
5.10	Current Transformers	167
5.10.1	Earthquake Performance of Current Transformers	167
5.10.2	Mitigation and Retrofit of Current Transformers	171
5.10.3	Emergency Response Procedures for Current Transformers	172
5.10.4	Recommended Installation Practices for Current Transformers	173
5.11	Instrumentation Transformers	174
5.11.1	Earthquake Performance of Instrumentation Transformers	174



5.11.2 Mitigation and Retrofit of Instrumentation Transformers . . . . .	178
5.11.3 Emergency Response Procedures for Instrumentation Transformers . . . . .	178
5.11.4 Recommended Installation Practices for Instrumentation Transformers . . . . .	178
5.12 Circuit Breakers . . . . .	178
5.12.1 Earthquake Performance, Mitigation, and Retrofit of Circuit Breakers. . . . .	179
5.12.2 Emergency Response Procedures for Circuit Breakers . . . . .	195
5.12.3 Recommended Installation Practices for Circuit Breakers . . . . .	195
5.13 Disconnect Switches . . . . .	196
5.13.1 Earthquake Performance of Disconnect Switches . . . . .	196
5.13.2 Mitigation and Retrofit of Disconnect Switches . . . . .	200
5.13.3 Emergency Response Procedures for Disconnect Switches. . . . .	200
5.13.4 Recommended Installation Practices for Disconnect Switches . . . . .	200
5.14 Circuit Switchers . . . . .	201
5.14.1 Earthquake Performance of Circuit Switchers . . . . .	202
5.14.2 Mitigation and Retrofit of Circuit Switchers . . . . .	202
5.14.3 Emergency Response Procedure for Circuit Switchers. . . . .	203
5.14.4 Recommended Installation Practices for Circuit Switchers . . . . .	203
5.15 Wave Traps . . . . .	203
5.15.1 Earthquake Performance of Wave Traps . . . . .	204
5.15.2 Mitigation and Retrofit of Wave Traps. . . . .	207
5.15.3 Emergency Response Procedures for Wave Traps. . . . .	207
5.15.4 Recommended Installation Practices for Wave Traps. . . . .	207
5.16 Current-Limiting Reactors, Filters, Shunt Reactors, Voltage Support, and Power Factor Correction Devices. . . . .	209
5.16.1 Mitigation and Retrofit of Voltage Support Devices . . . . .	216
5.16.2 Emergency Response Procedure for Voltage Support Devices. . . . .	216
5.16.3 Recommended Installation Practices for Voltage Support Devices . . . . .	216
5.17 Station Power . . . . .	217
5.17.1 Earthquake Performance of Station Power . . . . .	218
5.17.2 Mitigation and Retrofit of Station Power . . . . .	219
5.17.3 Emergency Response Procedure for Station Power . . . . .	220
5.17.4 Recommended Installation Practices for Station Power . . . . .	220
5.18 Substation Control Structures and Their Contents . . . . .	220
5.18.1 Control House Structures . . . . .	220
5.18.2 Equipment . . . . .	224
5.18.3 Other Substation Equipment . . . . .	224
5.18.4 Recommended Practices for Substation Control Structures and Their Contents. . . . .	224
5.19 Miscellaneous Facilities: Oil Storage Tanks. . . . .	225
5.19.1 Earthquake Performance of Oil Storage Tanks. . . . .	225
5.19.2 Recommended Practices for Oil Storage Tanks . . . . .	225
Endnotes . . . . .	226

<b>6</b>	<b>TRANSMISSION AND DISTRIBUTION LINES AND SUPPORT STRUCTURES.....</b>	<b>227</b>
6.1	Transmission Systems and Their Support Structures.....	227
6.1.1	Earthquake Performance of Transmission Systems and Support Structures.....	228
6.1.2	Mitigation and Retrofit of Transmission Systems and Support Structures.....	228
6.1.3	Emergency Response Procedure for Transmission Systems and Support Structures.....	229
6.1.4	Recommended Installation Practices for Transmission Systems and Support Structures.....	229
6.2	Distribution Systems and Support Structures.....	230
6.2.1	Earthquake Performance of Distribution Systems and Support Structures.....	231
6.2.2	Mitigation and Retrofit of Distribution Systems and Support Structures.....	232
6.2.3	Emergency Response Procedure for Distribution Systems and Support Structures.....	233
6.2.4	Recommended Installation Practices for Distribution Systems and Support Structures.....	234
<b>7</b>	<b>POWER-GENERATING FACILITIES .....</b>	<b>235</b>
7.1	Combustion-Turbine Generating Units.....	237
7.2	Steam-Turbine Generating Units .....	237
7.2.1	Turbines .....	238
7.2.2	Steam Generators and Support Systems .....	240
7.2.3	Commercially Produced Equipment .....	243
7.2.4	Engineered Equipment .....	244
7.2.5	Structural Damage .....	247
<b>8</b>	<b>SYSTEM CONTROL.....</b>	<b>249</b>
8.1	Control Center Structure .....	251
8.1.1	Structural Systems .....	251
8.1.2	Nonstructural Systems .....	252
8.2	Building Service Systems .....	253
8.2.1	HVAC Systems .....	254
8.2.2	Emergency Power Systems.....	255
8.3	Engine-Generator Systems.....	259
8.3.1	Engine-Generator.....	259
8.3.2	Control Console .....	260
8.3.3	Starting Systems .....	261
8.3.4	Day Tank .....	261
8.3.5	Main Fuel Tank .....	262
8.3.6	Piping Systems .....	265
8.3.7	Oil Cooler.....	266
8.3.8	Cooling System .....	266
8.3.9	Exhaust System.....	267
8.3.10	Transfer Switch.....	268