CHAPTER 8—ELECTRIC POWER
TABLE OF CONTENTS

8.0 ELECTRIC POWER 8.1-1

8.1 Introduction 8.1-1

8.1.1 Offsite Power Description 8.1-1

8.1.2 Onsite Power System Description 8.1-1

8.1.3 Safety-Related Loads 8.1-3

8.1.4 Design Bases 8.1-3

8.1.4.1 Offsite Power System 8.1-3

8.1.4.2 Onsite Power System 8.1-4

8.1.4.3 Criteria, Regulatory Guides, Standards, and Technical Positions 8.1-5

8.1.4.4 NRC Generic Letters 8.1-10

8.1.5 References 8.1-10

8.2 Offsite Power System 8.2-1

8.2.1 Description 8.2-1

8.2.1.1 Offsite Power 8.2-1

8.2.1.2 Station Switchyard 8.2-3

8.2.1.3 Transformer Area 8.2-3

8.2.2 Analysis 8.2-4

8.2.2.1 Compliance with GDC 2 ..... 8.2-4

8.2.2.2 Compliance with GDC 4 ..... 8.2-5

8.2.2.3 Compliance with GDC 5 ..... 8.2-5

8.2.2.4 Compliance with GDC 17 ..... 8.2-5

8.2.2.5 Compliance with GDC 18 ..... 8.2-6

8.2.2.6 Compliance with GDC 33, GDC 34, GDC 35, GDC 38, GDC 41, and GDC 44 ..... 8.2-7

8.2.2.7 Compliance with 10 CFR 50.63 ..... 8.2-7

8.2.2.8 Compliance with 10 CFR 50.65(a)(4) 8.2-7

8.2.2.9 Conformance with Branch Technical Position 8-3 ..... 8.2-7

8.2.2.10 Conformance with Branch Technical Position 8-6 ..... 8.2-7

8.2.3 References 8.2-7

8.3 Onsite Power System 8.3-1
8.3.1 Alternating Current Power Systems 8.3-1
8.3.1.1 Description 8.3-1
8.3.1.2 Analysis 8.3-25
8.3.1.3 Electrical Power System Calculations and Distribution System Studies for AC Systems 8.3-33
8.3.2 DC Power Systems 8.3-39
8.3.2.1 Description 8.3-39
8.3.2.2 Analysis 8.3-47
8.3.2.3 Electrical Power System Calculations and Distribution System Studies for DC Systems 8.3-51
8.3.2.4 Inspection and Testing 8.3-54
8.3.3 References 8.3-56
8.4 Station Blackout 8.4-1
8.4.1 Description 8.4-1
8.4.1.1 Station Blackout Diesel Generators 8.4-1
8.4.1.2 Generator 8.4-4
8.4.1.3 Alternate AC Power System Performance 8.4-5
8.4.1.4 Periodic Testing 8.4-6
8.4.2 Analysis 8.4-6
8.4.2.1 10 CFR 50.2 – Definitions and Introduction 8.4-6
8.4.2.2 10 CFR 50.63 – Loss of All Alternating Current Power 8.4-7
8.4.2.3 10 CFR 50.65 – Requirements for Monitoring the Effectiveness of Maintenance of Nuclear Power Plants 8.4-8
8.4.2.4 Appendix A to 10 CFR 50, GDC for Nuclear Power Plants 8.4-8
8.4.2.5 RG 1.9 – Application Testing of Safety-Related Diesel Generators in Nuclear Power Plants – Revision 4 ..... 8.4-8
8.4.2.6 RG 1.155 – Station Blackout 8.4-9
8.4.2.7 Quality Assurance 8.4-15
8.4.3 References 8.4-15

Next File