

## TABLE OF CONTENTS

<u>Section</u>	<u>Title</u>	<u>Page</u>
CHAPTER 8	ELECTRIC POWER.....	8.1-1
8.1	Introduction.....	8.1-1
8.1.1	Utility Grid Description.....	8.1-1
8.1.2	Onsite Power System Description.....	8.1-1
8.1.3	Safety-Related Loads.....	8.1-2
8.1.4	Design Basis.....	8.1-2
	8.1.4.1 Offsite Power System.....	8.1-2
	8.1.4.2 Onsite Power System.....	8.1-3
	8.1.4.3 Design Criteria, Regulatory Guides, and IEEE Standards.....	8.1-4
8.1.5	Combined License Information.....	8.1-5
8.2	Offsite Power System.....	8.2-1
8.2.1	System Description.....	8.2-1
	8.2.1.1 Transmission Switchyard.....	8.2-1
	8.2.1.2 Transformer Area.....	8.2-2
8.2.2	Grid Stability.....	8.2-2
8.2.3	Conformance to Criteria.....	8.2-3
8.2.4	Standards and Guides.....	8.2-3
8.2.5	Combined License Information for Offsite Electrical Power.....	8.2-4
8.2.6	References.....	8.2-4
8.3	Onsite Power Systems.....	8.3-1
8.3.1	AC Power Systems.....	8.3-1
	8.3.1.1 Description.....	8.3-1
	8.3.1.2 Analysis.....	8.3-13
	8.3.1.3 Raceway/Cable.....	8.3-13
	8.3.1.4 Inspection and Testing.....	8.3-14
8.3.2	DC Power Systems.....	8.3-15
	8.3.2.1 Description.....	8.3-15
	8.3.2.2 Analysis.....	8.3-20
	8.3.2.3 Physical Identification of Safety-Related Equipment.....	8.3-21
	8.3.2.4 Independence of Redundant Systems.....	8.3-21
	8.3.2.5 Inspection and Testing.....	8.3-24
8.3.3	Combined License Information for Onsite Electrical Power.....	8.3-26
8.3.4	References.....	8.3-26

## LIST OF TABLES

<u>Table No.</u>	<u>Title</u>	<u>Page</u>
8.1-1	Criteria and Guidelines for Electric Power Systems (Sheets 1 – 5).....	8.1-6
8.3.1-1	Onsite Standby Diesel Generator ZOS MG 02A Nominal Loads (Sheets 1 – 5) .....	8.3-28
8.3.1-2	Onsite Standby Diesel Generator ZOS MG 02B Nominal Loads (Sheets 1 – 4).....	8.3-34
8.3.1-3	Component Data - Main AC Power System (Nominal Values) .....	8.3-39
8.3.1-4	Post-72 Hours Nominal Load Requirements.....	8.3-40
8.3.1-5	Indication and Alarm Points Standby Diesel Generators.....	8.3-41
8.3.2-1	250V DC Class 1E Division A Battery Nominal Load Requirements .....	8.3-42
8.3.2-2	250V DC Class 1E Division B Battery Nominal Load Requirements.....	8.3-43
8.3.2-3	250V DC Class 1E Division C Battery Nominal Load Requirements.....	8.3-44
8.3.2-4	250V DC Class 1E Division D Battery Nominal Load Requirements .....	8.3-45
8.3.2-5	Component Data - Class 1E DC System (Nominal Values).....	8.3-46
8.3.2-6	Component Data - Non-Class 1E DC System EDS1 – EDS4 (Nominal Values) (Sheet 1 of 2) .....	8.3-47
8.3.2-6	Component Data - Non-Class 1E DC System EDS5 (Nominal Values) (Sheet 2 of 2) .....	8.3-48
8.3.2-7	Class 1E 250V DC and Class 1E Uninterruptible Power Supplies Failure Modes and Effects Analysis (Sheets 1 – 4) .....	8.3-49

**LIST OF FIGURES**

<b><u>Figure No.</u></b>	<b><u>Title</u></b>	<b><u>Page</u></b>
8.3.1-1	AC Power Station One Line Diagram .....	8.3-53
8.3.1-2	Onsite Standby Diesel Generator Initiating Circuit Logic Diagram .....	8.3-55
8.3.1-3	Post-72-Hour Temporary Electric Power One Line Diagram.....	8.3-57
8.3.1-4	Diesel Generator System Piping and Instrumentation Diagram (Sheets 1 – 2) .....	8.3-59
8.3.1-5	Diesel Engine Skid Mounted System (Sheets 1 – 2) .....	8.3-63
8.3.2-1	Class 1E DC System One Line Diagram (Sheets 1 – 2).....	8.3-67
8.3.2-2	Class 1E 208y/120V UPS One Line Diagram.....	8.3-71
8.3.2-3	Non-Class 1E DC & UPS System One Line Diagram (Sheets 1 – 3) .....	8.3-73