SECTION 10

STEAM AND POWER CONVERSION SYSTEM

TABLE OF CONTENTS

Section	<u>Title</u>	Page
10.1	SUMMARY DESCRIPTION	10.1-1
10.2	TURBINE GENERATOR	10.2-1
10.2.1	Design Bases	10.2-1
10.2.2	System Description	10.2-1
10.2.2.1	Turbine Generator	10.2-1
10.2.2.2	Steam Cycle	10.2-2
10.2.2.3	Turbine Electro-Hydraulic Control System	10.2-3
10.2.2.4	Turbine Protection	10.2-4
10.2.2.5	Instrumentation	10.2-7
10.2.3	Turbine Missiles	10.2-8
10.2.4	Evaluation	10.2-8
10.2.5	Turbine Generator Test and Inspection	10.2-8
10.2.5.1	Turbine Generator Monitoring	10.2-8
10.2.5.2	Turbine Generator Inspection and Repair	10.2-9
10.2.5.3	Outline of Typical Procedures for Turbine	
	and Generator Repair and Inspection	10.2-9
10.2.6	Hydrogen Supply	10.2-11
10.2.7	Turbine Auxiliaries Cooling System	10.2-12
10.3	MAIN STEAM SYSTEM	10.3-1
10.3.1	Design Bases	10.3-1
10.3.2	System Description	10.3-2
10.3.2.1	Main Steam System	10.3-2
10.3.2.2	Main Steam Isolation Valves	10.3-5
10.3.2.3	Flow Limiters	10.3-9
10.3.3	Evaluation	10.3-10

TABLE OF CONTENTS (Cont)

Section	<u>Title</u>	<u>Page</u>	
10.3.3.1	Transient Effects	10.3-10	
10.3.3.2	Reliability and Integrity of Safety-		
	Related Equipment	10.3-11	
10.3.3.3	Pressure Relief	10.3-12	
10.3.3.4	Radioactivity	10.3-12	
10.3.3.5	Main Steam Isolation Valve Integrity and		
	Reliability Test	10.3-15	
10.3.3.6	Main Steam Isolation Valve Restraints	10.3-16	
10.3.4	Inspection and Testing Requirements	10.3-17	
10.3.5	Water Chemistry	10.3-18	
10.3.5.1	Chemical Feed System	10.3-18	
10.3.5.2	Secondary Water Chemistry Control Program	10.3-18	
10.4	OTHER FEATURES OF THE STEAM AND POWER		
	CONVERSION SYSTEM	10.4-1	
10.4.1	Main Condensers	10.4-1	
10.4.1.1	Design Basis	10.4-1	
10.4.1.2	System Description	10.4-1	
10.4.2	Main Condenser Evacuation System	10.4-2	
10.4.3	Turbine Gland Sealing System	10.4-4	
10.4.4	Turbine Bypass System	10.4-4	
10.4.4.1	Steam Dump Control System	10.4-4	
10.4.4.2	System Evaluation	10.4-5	
10.4.5	Circulating Water System	10.4-7	
10.4.5.1	System Description	10.4-7	
10.4.5.2	Performance Analysis	10.4-9	
10.4.6	Condensate Polishing System	10.4-10	
10.4.6.1	Design Bases	10.4-10	
10.4.6.2	System Description	10.4-10	
10.4.7	Condensate and Feedwater Systems	10.4-11	
10.4.7.1	Main Condensate and Feedwater System	10.4-11	
10.4.7.1.1	System Description	10.4-11	

TABLE OF CONTENTS (Cont)

Section	<u>Title</u>	
10.4.7.1.2	Feedwater Piping Integrity	10.4-14
10.4.7.2	Auxiliary Feedwater System	10.4-15b
10.4.7.2.1	Design Basis	10.4-15b
10.4.7.2.2	System Description	10.4-16
10.4.7.2.3	System Evaluation	10.4-21
10.4.7.2.4	Potential Effects of Salt Water as a	
	Long-Term Source of Auxiliary Feedwater	10.4-21
10.4.8	Steam Generator Blowdown System	10.4-25
10.4.8.1	Design Basis	10.4-25
10.4.8.2	System Design and Operation	10.4-25
10.4.8.3	Design Evaluation	10.4-26
10.4.9	References for Section 10.4	10.4-27

LIST OF TABLES

<u>Table</u>	<u>Title</u>
10.3-1	Deleted
10.3-2	Deleted
10.4-1	Main Condensate and Feedwater System Components
10.4-2	Total Auxiliary Feedwater Flow
10.4-3	Deleted
10.4-4	Blowdown Transit Times
10.4-5	Postulated Release of Liquid Activity Through Blowdown System
10.4-6	Postulated Release of Gaseous Activity Through Condenser Air Removal System

LIST OF FIGURES

<u>Figure</u>	<u>Title</u>
10.2-1	Deleted: Refer to Plant Drawing 205218
10.2-2A	Deleted: Refer to Plant Drawing 205245
10.2-2B	Deleted: Refer to Plant Drawing 205345
10.2-3	Deleted: Refer to Plant Drawing 205220
10.2-4	Deleted: Refer to Plant Drawing 205210
10.3-1A	Deleted: Refer to Plant Drawing 205203
10.3-1B	Deleted: Refer to Plant Drawing 205303
10.3-2	Main Steam Isolation Valve
10.3-3	Deleted: Refer to Plant Drawing 205214
10.4-1	Deleted: Refer to Plant Drawing 205208
10.4-2	Deleted: Refer to Plant Drawing 205207
10.4-3A	Deleted: Refer to Plant Drawing 205209
10.4-3B	Deleted: Refer to Plant Drawing 205309
10.4-4	Deleted: Refer to Plant Drawing 208997
10.4-5A	Deleted: Refer to Plant Drawing 205202
10.4-5B	Deleted: Refer to Plant Drawing 205302

LIST OF FIGURES (Cont)

<u>Figure</u>	<u>Title</u>				
10.4-6A	Deleted: Refer to Plant Drawing 205205				
10.4-6B	Deleted: Refer to Plant Drawing 205305				
10.4-7	Feedwater Distribution System				
10.4-8	Distribution Tee And J-Tubes (Applicable Unit 2 Only)				
10.4-8A	Typical Feed Ring Configuration Unit 1 Model FSG				
10.4-9	Isometric Diagram - Feedwater Piping - No. 11 Steam Generator				
10.4-10	Isometric Diagram - Feedwater Piping - No. 12 Steam Generator				
10.4-11	Isometric Diagram - Feedwater Piping - No. 13 Steam Generator				
10.4-12	Isometric Diagram - Feedwater Piping - No. 14 Steam Generator				
10.4-13	Isometric Diagram - Feedwater Piping - No. 21 Steam Generator				
10.4-14	Isometric Diagram - Feedwater Piping - No. 22 Steam Generator				
10.4-15	Isometric Diagram - Feedwater Piping - No. 23 Steam Generator				
10.4-16	Isometric Diagram - Feedwater Piping - No. 24 Steam Generator				
10.4-17A	Deleted: Refer to Plant Drawing 205236				

LIST OF FIGURES (Cont)

<u>Figure</u>	<u>Title</u>					
10.4-17B	Deleted:	Refer	to	Plant	Drawing	205336
10.4-18A	Deleted:	Refer	to	Plant	Drawing	205225
10.4-18B	Deleted:	Refer	to	Plant	Drawing	205325
10.4-19	Steam Gene	erator	Blo	owdown	Logic D	iagram