

REACTOR COOLANT SYSTEM

TABLE OF CONTENTS

4.0	Reactor Coolant System.....	4.1-1
4.1	Summary Description	4.1-1
4.2	Reactor Vessel And Appurtenances Mechanical Design.....	4.2-1
4.2.1	Power Generation Objective	4.2-1
4.2.2	Power Generation Design Basis	4.2-1
4.2.3	Safety Design Basis.....	4.2-1
4.2.4	Description	4.2-2
4.2.5	Safety Evaluation	4.2-10
4.2.6	Inspection and Testing	4.2-15
4.3	Reactor Recirculation System	4.3-1
4.3.1	Power Generation Objective	4.3-1
4.3.2	Power Generation Design Basis	4.3-1
4.3.3	Safety Design Basis.....	4.3-1
4.3.4	Description	4.3-1
4.3.5	Safety Evaluation	4.3-7
4.3.6	Inspection and Testing	4.3-8
4.4	Nuclear System Pressure Relief System	4.4-1
4.4.1	Safety Objective	4.4-1
4.4.2	Power Generation Objective	4.4-1
4.4.3	Safety Design Basis.....	4.4-1
4.4.4	Power Generation Design Basis	4.4-2
4.4.5	Description	4.4-2
4.4.6	Safety Evaluation	4.4-9
4.4.7	Inspection and Testing	4.4-10
4.5	Main Steam Line Flow Restrictor.....	4.5-1
4.5.1	Safety Objective	4.5-1
4.5.2	Safety Design Basis.....	4.5-1
4.5.3	Description	4.5-1
4.5.4	Safety Evaluation	4.5-2
4.5.5	Inspection and Testing	4.5-3
4.6	Main Steam Isolation Valves	4.6-1
4.6.1	Safety Objectives	4.6-1
4.6.2	Safety Design Basis.....	4.6-1
4.6.3	Description	4.6-2
4.6.4	Safety Evaluation	4.6-5
4.6.5	Inspection and Testing	4.6-8

REACTOR COOLANT SYSTEM

TABLE OF CONTENTS (Cont'd)

4.7	Reactor Core Isolation Cooling System.....	4.7-1
4.7.1	Power Generation Objective	4.7-1
4.7.2	[Deleted].....	4.7-1
4.7.3	Power Generation Design Basis	4.7-1
4.7.4	Safety Design Basis.....	4.7-1
4.7.5	Description.....	4.7-1
4.7.6	Safety Evaluation	4.7-4
4.7.7	Inspection and Testing.....	4.7-4
4.8	Residual Heat Removal System (RHRS)	4.8-1
4.8.1	Safety Objective	4.8-1
4.8.2	Power Generation Objective	4.8-1
4.8.3	Safety Design Basis.....	4.8-1
4.8.4	Power Generation Design Basis	4.8-2
4.8.5	Summary Description.....	4.8-2
4.8.6	Description.....	4.8-4
4.8.7	Safety Evaluation	4.8-8
4.8.8	Inspection and Testing.....	4.8-8
4.9	Reactor Water Cleanup System	4.9-1
4.9.1	Power Generation Objective	4.9-1
4.9.2	Power Generation Design Basis	4.9-1
4.9.3	Description (Figures 4.9-1, 4.9-2, 4.9-3, 4.9-5, 4.9-6, 4.9-7, 4.9-8, 4.9-9, and 4.9-10)	4.9-1
4.9.4	Inspection and Testing.....	4.9-3
4.10	Nuclear System Leakage Rate Limits	4.10-1
4.10.1	Safety Objective	4.10-1
4.10.2	Safety Design Basis.....	4.10-1
4.10.3	Description.....	4.10-1
4.10.4	Safety Evaluation	4.10-7
4.10.5	Inspection and Testing.....	4.10-7
4.11	Main Steam Lines, Feedwater Piping, and Drains.....	4.11-1
4.11.1	Power Generation Objective	4.11-1
4.11.2	Safety Design Basis.....	4.11-1
4.11.3	Power Generation Design Bases	4.11-1
4.11.4	Description.....	4.11-1
4.11.5	Safety Evaluation	4.11-3
4.11.6	Inspection and Testing.....	4.11-3

REACTOR COOLANT SYSTEM

TABLE OF CONTENTS (Cont'd)

4.12	Inservice Inspection And Testing.....	4.12-1
4.12.1	Introduction	4.12-1
4.12.2	Scope.....	4.12-2
4.12.3	Responsibility.....	4.12-2
4.12.4	Area and Extent of Examination.....	4.12-2

REACTOR COOLANT SYSTEM
LIST OF TABLES

<u>Table</u>	<u>Title</u>
4.2-1	Reactor Pressure Vessel Materials
4.2-2	Reactor Vessel Data
4.2-3	Reactor Vessel Attachments
4.3-1	Reactor Recirculation System Design Characteristics (3952 MWt)
4.3-1b	(Deleted)
4.4-1	(Deleted)
4.4-1A	Nuclear System Main Steam Relief Valves (Units 2 and 3)
4.7-1	Reactor Core Isolation Cooling System Turbine - Pump Design Data
4.8-1	Residual Heat Removal System Equipment Design Data
4.9-1	Reactor Water Cleanup System Equipment Design Data

REACTOR COOLANT SYSTEM
LIST OF ILLUSTRATIONS

<u>Figure</u>	<u>Title</u>
4.2-1	Reactor Vessel
4.2-2	Reactor Vessel Nozzles and Penetrations
4.2-3	Reactor Vessel
4.2-4	Reactor Vessel
4.3-1	Recirculation System--Elevation, Isometric
4.3-2a sht 1	Nuclear Boiler Flow Diagram
4.3-2a sht 2	Nuclear Boiler Flow Diagram
4.3-2a sht 3	Nuclear Boiler Flow Diagram
4.3-2b	(Deleted)
4.3-3	Jet Pump--Operating Principle
4.3-4	Recirculation System--Core Flooding Capability
4.4-1	2-Stage Safety/Relief Valve Schematic (Closed Position)
4.4-2	2-Stage Safety/Relief Valve Schematic (Open Position)
4.4-3	Safety Valve Sizing Analysis
4.4-4	Deleted by Amendment 13
4.4-5	Deleted by Amendment 13
4.4-6	T-Quencher for Safety/Relief Discharge
4.4-7	Mechanical Main Steam Relief Valve Vent Piping
4.4-8	Mechanical Main Steam Relief Valve Vent Piping
4.5-1	Primary Steam Piping
4.5-2	Primary Steam Piping
4.5-3	Primary Steam Piping
4.6-1	Main Steam Isolation Valve
4.7-1a	Reactor Core Isolation Cooling System Flow Diagram
4.7-1b	Reactor Core Isolation Cooling System, Mechanical Control Diagram
4.7-1c	Reactor Core Isolation Cooling System - Flow Diagram
4.7-1d	Reactor Core Isolation Cooling System - Mechanical Control Diagram
4.7-1e	Reactor Core Isolation Cooling System - Mechanical Control Diagram
4.7-1f	Reactor Core Isolation Cooling System - Flow Diagram
4.7-2a	(Deleted)
4.7-2b	(Deleted)
4.7-2c	(Deleted)
4.7-2d	(Deleted)
4.7-2e	(Deleted)
4.7-2f	(Deleted)
4.7-2g	(Deleted)
4.7-2h	(Deleted)
4.8-1	Residual Heat Removal System, Unit Cross Connections and Standby Coolant Supply
4.9-1	Reactor Water Cleanup System Flow Diagram
4.9-2	Reactor Water Cleanup Demineralizer Flow Diagram
4.9-3	Reactor Water Cleanup System, Mechanical Control Diagram
4.9-4	(Deleted)

REACTOR COOLANT SYSTEM
LIST OF ILLUSTRATIONS (cont'd)

<u>Figure</u>	<u>Title</u>
4.9-4a	(Deleted)
4.9-4b	(Deleted)
4.9-4c	(Deleted)
4.9-4d	(Deleted)
4.9-5	Reactor Water Cleanup System - Flow Diagram
4.9-6	Reactor Water Cleanup Demineralizer - Flow Diagram
4.9-7	Reactor Water Cleanup System - Mechanical Control Diagram
4.9-8	Reactor Water Cleanup System - Flow Diagram
4.9-9	Reactor Water Cleanup Demineralizer - Flow Diagram
4.9-10	Reactor Water Cleanup System - Mechanical Control Diagram
4.10-1	Drywell Leak Detection System Diagram
4.10-2	Deleted
4.10-3	Axial Through-Wall Crack Data Correlation
4.11-1	Feedwater Piping Arrangement