

12	RADIATION PROTECTION	1
12.1	ENSURING THAT OCCUPATIONAL RADIATION EXPOSURES ARE AS LOW AS IS REASONABLY ACHIEVABLE	2
12.1.1	ALARA PROGRAM	2
12.1.2	ORGANIZATIONAL RESPONSIBILITIES	2
12.1.3	RADIATION PROTECTION PROGRAM	2
12.2	RADIATION SOURCES	3
Table 12.2-1	SHIELDING SOURCE TERMS (T=0) (HISTORICAL)	6
Table 12.2-2	SHIELDING SOURCE ACTIVITY at T=0 hrs - Power Level 1811 MWt	10
12.3	RADIATION PROTECTION DESIGN FEATURES	16
12.3.1	DESIGN CRITERIA	16
12.3.1.1	Conformance to 1967 Design Criteria	16
12.3.1.2	Conformance to 1972 Design Criteria	16
12.3.2	SHIELDING	17
12.3.2.1	Design Basis	17
12.3.2.2	Shielding Design	19
12.3.2.2.1	Primary Shield	19
12.3.2.2.2	Secondary Shield	19
12.3.2.2.3	Containment Structure	20
12.3.2.2.4	Fuel Handling (Water and Pool) Shield	20
12.3.2.2.5	Auxiliary Shielding	21
12.3.2.2.6	Shielding Design Modifications	21
12.3.2.2.7	Containment Accessibility Procedure	22
12.3.3	VENTILATION	22
12.3.3.1	Gas Collection and Decay Tank System	23
12.3.3.2	Plant Ventilation System	23
12.3.3.3	Containment Ventilation System	24
12.3.3.4	Air Ejector and Gland Seal Exhaust System	24
12.3.4	AREA RADIATION AND AIRBORNE RADIOACTIVITY MONITORING INSTRUMENTATION	24
12.3.4.1	Introduction	24

12.3.4.2	Description	25
12.3.4.3	Radiation Monitoring System Detectors	26
12.3.5	EQUIPMENT AND SYSTEM DECONTAMINATION	27
12.3.5.1	Design Basis	27
12.3.5.2	Methods of Decontamination	27
12.3.5.3	Decontamination Facilities	27
Table 12.3-1	PLANT ZONE CLASSIFICATIONS	30
Table 12.3-2a	PRIMARY SHIELD NEUTRON FLUXES AND DESIGN PARAMETERS - CALCULATED NEUTRON FLUXES (HISTORICAL)	31
Table 12.3-2b	PRIMARY SHIELD NEUTRON FLUXES AND DESIGN PARAMETERS - DESIGN PARAMETERS (HISTORICAL)	32
Table 12.3-3	SECONDARY SHIELD DESIGN PARAMETERS (HISTORICAL)	33
Table 12.3-4	CONTAINMENT STRUCTURE DESIGN PARAMETERS (HISTORICAL)	34
Table 12.3-5	REFUELING CANAL AND SPENT FUEL POOL DESIGN PARAMETERS (HISTORICAL)	35
Table 12.3-6	PRINCIPAL AUXILIARY SHIELDING (HISTORICAL)	36
12.4	DOSE ASSESSMENT	37
12.4.1	OPERATION IN MODES 1 AND 2	37
12.4.2	FUEL HANDLING OPERATIONS	37
12.4.3	POSTACCIDENT CONDITIONS	38
12.4.3.1	Summary	38
12.4.3.2	Methodology	39
12.4.3.2.1	Calculation of Dose Rates	39
12.4.3.2.2	Doses to Personnel During Postaccident Access to Vital Areas	39
12.4.3.3	Areas That May Require Access for Postaccident Operations	40
12.4.3.3.1	Hydrogen Recombiner Control Panel (Area A)	40
12.4.3.3.2	Postaccident Containment Air Sample Penetration No. 203 (Area B)	40
12.4.3.3.3	Nuclear Sample Room (Area C)	40
12.4.3.3.4	Primary Chemistry Laboratory (Area D)	41
12.4.3.3.5	Count Room (Area E)	41
12.4.3.3.6	Postaccident Containment Sample Penetration No. 305 (Area F)	41
12.4.3.3.7	Radwaste Control Panel (Area G)	41
12.4.3.3.8	Safeguards Bus 16 (Area H)	41

12.4.3.3.9	Safeguards Bus 14 (Area I)	42
12.4.3.3.10	Postaccident Containment Air Sample Penetration (Area J)	42
12.4.3.3.11	Auxiliary Building Heating, Ventilation, and Air Conditioning (Area K)	43
12.4.3.3.12	Spent Fuel Pool (SFP) and Auxiliary Building Heating, Ventilation, and Air Conditioning Filters (Area L and Area M)	43
12.4.3.3.13	Control Access High Efficiency Particulate Air and Charcoal Filters (Area N)	43
12.4.3.3.14	Control Room	43
12.4.3.3.15	Control Room	43
Table 12.4-1	RADIATION MONITORING SYSTEM READINGS (1983)	45
Table 12.4-2	RADIATION SURVEY READINGS IN PLANT AREAS (1983)	46
Table 12.4-3	Table DELETED	48
Table 12.4-4	EXPOSURE RATES FOR VITAL AREAS AS A FUNCTION OF TIME (R/hr)	49
Table 12.4-5	VITAL AREA RADIATION DOSE SUMMARY	50
12.5	RADIATION PROTECTION PROGRAM ADMINISTRATION	51
12.5.1	ORGANIZATION	51
12.5.2	EXPOSURE CONTROL PROGRAM	51
12.5.2.1	External Exposure	51
12.5.2.2	Internal Exposure	51
12.5.2.3	Respiratory Protection	52
12.5.2.4	Radioactive Sources Control	52
12.5.2.5	Medical Examinations	52
12.5.3	SURVEILLANCE PROGRAM	53
12.5.3.1	Surveys	53
12.5.3.2	Radiation Work Permits	53
12.5.3.3	Access Control, Posting, and Labeling	53
12.5.3.3.1	Restricted Areas	53
12.5.3.3.2	Access Control	53
12.5.3.3.3	Protective Apparel	54
12.5.4	RADIATION PROTECTION FACILITIES AND EQUIPMENT	54
Table 12.5-1	Table DELETED	56
FIGURES		
Figure 12.5-1	Figure DELETED	