

TABLE 12.1-1

SHIELDING DESIGN ZONE CLASSIFICATIONS

<u>Zone</u>	<u>Condition of Occupancy</u>	<u>Maximum Dose Rate (1% failed fuel mrem/hr)</u>
I	Unlimited Occupancy	Less than 0.25
II	Normal Continuous Occupancy	0.25 - 2.5
III	Periodic Occupancy	2.5 - 15.0
IV	Controlled Occupancy	15.0 - 100
V	Controlled Access	Greater than 100

TABLE 12.1-2

SECONDARY SHIELD DESIGN PARAMETERS

Core power density, w/cc	109
Reactor coolant liquid volume, ft ³	12,612
Reactor coolant transit times:	
Core, sec	0.796
Core exit to steam generator inlet, sec	2.111
Steam generator inlet channel, sec	0.700
Steam generator tubes to vessel inlet, sec	6.075
Vessel inlet to core, sec	2.560
Total out of core, sec	12.242
Full power dose rate outside secondary shield, mR/hr	1.0

TABLE 12.1-3

ACCIDENT SHIELD DESIGN PARAMETERS

Core thermal power	3632 MWt
Minimum full power operating time	1000 days
Equivalent fraction of core failed	1.0
Fission product fractional releases:	
Noble gases	1.0
Halogens	0.4
Alkali Metals	0.3
Containment air cleanup rate by CFCU Filtration following accident	0.0
Maximum 30-day accident dose Through containment shielding (due to containment shine) in Control Room, rem TEDE	< 1.0

TABLE 12.1-4

REFUELING SHIELD DESIGN PARAMETERS

Total number of fuel assemblies	193
Minimum full power exposure	1000 days
Minimum time between shutdown and fuel handling	56 hours
Minimum dose rate adjacent to spent fuel pool	1.0 mR/hr
Maximum dose rate at water surface	2.5 mR/hr

TABLE 12.1-5

PRINCIPAL AUXILIARY SHIELDING

<u>Component</u>	<u>Concrete Shield Thickness, ft-in.</u>
CVCS demineralizers	3 - 0 to 4 - 6
Other demineralizers	1 - 0 to 4 - 0
Charging pumps	1 - 6 to 2 - 6
Liquid holdup tanks	2 - 0 to 3 - 9
Volume control tank	3 - 6
Reactor coolant filter	3 - 6
Boric acid evaporator package	2 - 0
Gas decay tanks	2 - 6 to 3 - 9
Gas compressor	2 - 6 to 3 - 9
Waste evaporator	2 - 0
Liquid waste holdup tank	2 - 0
Spent resin storage tank	3 - 6 to 4 - 0

Design parameters for the auxiliary shielding include:

Core thermal power	3558 MWt
Fraction of fuel rods containing small clad defects	0.01
Reactor coolant liquid volume	12,612 ft ³
Letdown flow (normal purification)	75 gpm
Effective Cesium purification flow (intermittent)	7.5 gpm
Dose rate outside auxiliary building	< 2.5 mR/hr
Dose rate in the building outside shielded compartments	< 2.5 mR/hr