

PWR Representative Plant in NUREG/CR6451

April 14, 1999

Parameter	Value	
reactor power	1155 MWe	
assemblies in reactor	193	
spent fuel rack geometry	high density	
cell-to-cell pitch of spent fuel rack	10.40 inches	
orifice at bottom of each cell	5 inches	
capacity of spent fuel rack	1460 assemblies	
fraction of capacity used	1.0	
burnup in each refueling discharge	first discharge - 20 GWd/t last discharge (entire core) - 60 GWd/t intermediate discharges increased linearly in burnup from 20 to 60 GWd/t	
Exclusion Area Boundary	.4 miles	
beginning of release	12 days following final shutdown	
representative meteorology (mean weather attributes, mean wind rose, mean mixing height)	developed based on NUREG/CR-2239 (SNL siting study) and NUREG/CR-6295 (BNL siting study)	
population distribution	0 - 30 miles	1000 persons/mile ²
	30 - 50 miles	a city of 10 million and a uniform population of 280 persons/mile ² for the remaining land in this region
	50 - 500 miles	200 persons/mile ²
nuclide inventory	developed based on DOE Spent Fuel Database and default reactor core inventories in MACCS	
MACCS version used	1.5.11.1	

set of nuclides used	default list in MACCS
release fractions	NUREG/CR-4982 values, except Ce and La which were increased from 1×10^{-6} to 6×10^{-6} to reflect the release of fuel fines from high burnup fuel
short-term emergency response	no planned evacuation, followed by relocation at one day if projected doses are unacceptable (default values in MACCS)
long-term emergency response	permanent relocation, crop interdiction, and land decontamination or condemnation (default values in MACCS)
value of farmland	\$2094/hectare
non-farm wealth	\$73,750/person
agricultural data block	Omaha, Nebraska, region