

Table F-18. Predicted Maximum Concentrations of Various Constituents at R-Reactor Seepage Basins

Constituent	Applicable standard ^b	Measured concentration	PATHRAE-modeled maximum concentration without remedial action ^a					
			No action		No waste removal and closure		Waste removal and closure	
			1-m well	100-m well	1-m well	100-m well	1-m well	100-m well
Gross beta	40-60	1.5 x 10 ⁴ (c) (well RSE 6)	(d)	(d)	(d)	(d)	(d)	(d)
Cesium-137	1.1 x 10 ²	(e)	3.3 x 10 ³ (1965)	1.7 x 10 ³ (1970)	3.3 x 10 ³ (1965)	1.7 x 10 ³ (1970)	3.3 x 10 ³ (1965)	1.7 x 10 ³ (1970)
Tritium	8.7 x 10 ⁴	(e)	1.5 x 10 ⁸ (1963)	6.5 x 10 ⁷ (1969)	1.5 x 10 ⁸ (1963)	6.5 x 10 ⁷ (1969)	1.5 x 10 ⁸ (1963)	6.5 x 10 ⁷ (1969)
Strontium-90 ^f	4.2 x 10 ¹	(e)	4.3 x 10 ⁴ (2094)	(g)	9.3 x 10 ³ (2111)	(g)	9.3 x 10 ¹ (2111)	(g)
Yttrium-90 ^f	5.5 x 10 ²	(e)	4.3 x 10 ⁴ (2094)	(g)	9.3 x 10 ³ (2111)	(g)	(g)	(g)

^aSource: Pekkala, Jewell, Holmes, and Marine, 1987b. Number in parentheses represents year in which concentration was reached or is expected to be reached.

^bEPA, 1985b. ICRP Publication 30 (ICRP, 1979) methodology was used to calculate radionuclide concentrations that yield annual effective whole-body dose of 4 millirem.

^cGross beta value is a 3-year mean (1982 through 1984).

^dNot modeled.

^eNot reported.

^fAbsolute peaks for facilitated transport fraction occurred at the 1-m well in 1965 and at the 100-m well in 1970. The peak concentrations were 7.2 x 10² and 3.7 x 10² pCi/L, respectively. These peaks are not affected by the closure option.

^gBelow applicable standard.