COMPARISON OF ESTIMATED CANCER RISKS AND VARIOUS RADIATION MEASUREMENTS

Residential Exposure Scenario[1]

	Estimated Cancer Risks				
	10^{-6}	10^{-5}	10^{-4}	10^{-3}	10^{-2}
mRem/yr (Dose)	0.05	0.5	5	50	500
pCi/g (Soil Conc.)	0.0124	0.124	1.24	12.4	124
µR/hr (emission rate)	0.008	0.08	0.8	8	80

1 – 18 hrs/day; 350 days/yr

Commercial/Industrial Scenario

	Estimated Cancer Risks				
	10^{-6}	10^{-5}	10^{-4}	10^{-3}	10^{-2}
mRem/yr (Dose)	0.05	0.5	5	50	500
pCi/g (Soil Conc.)	0.025	0.25	2.58	25.8	258
µR/hr (emission rate)	0.02	0.25	2.5	25	250

1 – 8 hrs/day; 250 days/yr

FL Recreational Exposure Scenario[1]

	Estimated Cancer Risks				
	10^{-6}	10^{-5}	10^{-4}	10^{-3}	10^{-2}
mRem/yr (Dose)	0.05	0.5	5	50	500
pCi/g (Soil Conc.)	0.097	0.97	9.7	97	970
µR/hr (emission rate)	0.06	0.6	6.3	63	630

1 – 4 hrs/day, 200 days/yr

Additional Criteria:

1) 15 mRem/yr ($3x10^{-4}$) identified by OSWER guidance as "approximately equivalent" to upper limit of risk range.
2) Florida background levels: 6 µR/hr; ~1 pCi/g Ra^{226} in soil; and 300 mRem/yr [all pathways not just ground].
3) 5 pCi/g (+ bkgd [1 pCi/g in FL) ARAR from Uranium Mill Tailings Radiation Control Act. {~ 6pCi/g = ~ 24.2 mrem/yr & 5E-4 risk for residential exposure scenario
   = ~ 11.6 mrem/yr & 2.3E-4 risk for commercial/industrial
   = ~ 3.1 mrem/yr & 0.6 E-5 risk for FL recreational scenario}

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