

NCRP is Proposing Cleanup Levels Hundreds of Thousands of Times Less Protective Than EPA's Preliminary Remediation Goals for the Nation's Most Contaminated Sites

NCRP is proposing that cleanup standards for radioactive contamination be dramatically weakened compared to longstanding EPA cleanup standards (Preliminary Remediation Goals, or PRGs) used for the nation's most contaminated sites. Under the NCRP recommendation, people would be sent back to their homes, farms, and offices to live and work in contaminated settings with radioactive concentrations that could be as high as tens of millions of times higher than EPA's PRGs.

EPA requires cleanup to aim for the PRG, tied to a one in a million risk of cancer from the remaining contamination. In some circumstances, it will allow contamination to remain up to a one in ten thousand risk but no higher. Its acceptable risk range therefore is one in a million to one in ten thousand.

NCRP by contrast is recommending an acceptable range of 1 mSv/year of radiation to 20 mSv/yr. To put that in perspective, 20 mSv/year is the equivalent of 1000 chest Xrays a year, every year of your life, or 3 Xrays a day from birth to death. According to the National Academy of Sciences and EPA, 2 mSv/year over a lifetime would result in a cancer in every sixth person exposed. That is thus a thousand to a hundred thousand higher risk than EPA's longstanding acceptable risk range.

We have here compared the upper and lower ends of NCRP recommended cleanup range, 1 and 20 mSv/year, against EPA's PRGs for the same exposure scenarios—farmers and urban residents. The ratio of NCRP cleanup value to EPA's tells you how many times more contamination NCRP would allow to remain in place to expose people compared to EPA's goals for the nation's most contaminated sites.

Because EPA's PRGs are based on one in a million risk, one can readily estimate how much cancer risk EPA says each of those NCRP recommended contamination levels would produce. For example, strontium-90 at NCRP's 20 mSv/yr level and 95% confidence level would be 225,220 times as high as EPA's Preliminary Remediation Goal, and thus carry with it a cancer risk of 2 cancers per 10 people exposed—orders of magnitude higher risk than anything EPA has ever tolerated before.

**Comparison of NCRP Proposed Cleanup Values and EPA's Longstanding Preliminary Remediation Goals (PRGs)
Farmer Scenario**

Radionuclide	NCRP Farmer @ 95% in Bq/g at 1 mSv/y	NCRP Farmer 50% in Bq/g at 1 mSv/y	EPA Farmer PRG in pCi/g	EPA Farmer PRG in Bq/g	Ratio NCRP Farmer @ 95% at 1 mSv / EPA PRG	Ratio NCRP Farmer @ 50% at 1 mSv / EPA PRG	Ratio NCRP Farmer at 95% @20mSv / EPA PRG	Ratio NCRP Farmer at 50% @20mSv / EPA PRG
Am-241	36	92	0.0137	0.0005069	71,020	181,495	1,420,400	3,629,900
Cf-252	1.9	3.2	0.101	0.003737	508	856	10,160	17,120
Cm-244	90	300	0.316	0.011692	7,698	25,659	153,960	513,180
Co-60	0.34	57	0.000918	0.000033966	10,010	1,678,149	200,200	33,562,980
Cs-137	1.4	2.3	0.00119	0.00004403	31,797	52,237	635,940	1,044,740
Ir-192	3.7	6.3	1.62	0.05994	62	105	1,240	2,100
Po-210	6.9	20	19.9	0.7363	9	27	180	540
Pu-238	41	160	0.00762	0.00028194	145,421	567,497	2,908,420	11,349,940
Pu-239	37	140	0.00635	0.00023495	157,480	595,871	3,149,600	11,917,420
Ra-226	0.06	0.099	0.000611	0.000022607	2,654	4,379	53,080	87,580
Sr-90	1.1	9.3	0.00136	0.00005032	21,860	184,817	437,200	3,696,340

**Comparison of NCRP Proposed Cleanup Values and EPA's Longstanding Preliminary Remediation Goals (PRGs)
Residential Scenario**

Radionuclide	NCRP Resident 95% in Bq/g at 1 mSv/y	NCRP Resident 50% in Bq/g at 1 mSv/y	EPA Resident PRG pCi/g	EPA Resident PRG Bq/g	Ratio NCRP @ 95%/EPA PRG	Ratio NCRP @ 50%/EPA PRG	Ratio NCRP @ 95% @20mSv / EPA PRG	Ratio NCRP @ 50% @20mSv/EPA PRG
Am-241	73	120	1.8	0.0666	1,096	1,802	21,920	36,040
Cf-252	1.9	3.2	0.197	0.007289	261	439	5,220	8,780
Cm-244	250	570	6.65	0.24605	1,016	2,317	20,320	46,340
Co-60	0.34	0.58	0.0389	0.0014393	236	403	4,720	8,060
Cs-137	1.5	2.5	0.0615	0.0022755	659	1,099	13,180	21,980
Ir-192	3.7	6.3	3.15	0.11655	32	54	640	1,080
Po-210	70	170	38.2	1.4134	50	120	1,000	2,400
Pu-238	130	290	2.95	0.10915	1,191	2,657	23,820	53,140
Pu-239	120	270	2.58	0.09546	1,257	2,828	25,140	56,560
Ra-226	0.061	0.1	0.0121	0.0004477	136	223	2,720	4,460
Sr-90	100	170	0.24	0.00888	11,261	19,144	225,220	382,880