ROCKY FLATS STEWARDSHIP COUNCIL

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How Clean is Clean?

Often one of the most pressing questions people have about Rocky Flats is "Is it safe?" The best way to answer this question is to present objective facts and let each decide whether the risks are reasonable and worth taking.

The cleanup of Rocky Flats was extensive. Cleanup actions included:

1. Demolishing 800+ buildings and facilities
2. Consolidating 21 metric tons of weapons-grade nuclear materials and 100 metric tons of plutonium residues
3. Excavating and/or consolidating 275,000 cubic meters of radioactive wastes
4. Analyzing and remediating as necessary 360 individual hazardous substance sites
5. Shipping these wastes and other materials to off-site locations

Following are a few benchmarks in determining "how clean is clean":

1. Cleanup meets or exceeds federal and state standards.
2. Water leaving the site meets all applicable standards. In the case of plutonium, the standard is 100 times cleaner (more protective) than the federal drinking water standard. This standard has not been broken.
3. The vast majority of the site can support residential and/or industrial use. The reason the DOE lands are not part of the Refuge and not open to the public is to protect the remedies from humans; access is not restricted to protect humans from residual risk.
4. One of the key drivers for designating Rocky Flats as a national wildlife refuge was to protect this important resource from future development.
5. DOE calculates the greatest risk from residual contamination is to a refuge worker with an increased cancer risk estimated to be 2×10^{-6}, or 2 in one million. These levels are also protective of wildlife.
6. A refuge worker's annual dose would be less than 1 mrem/year. The dose visitors to the Refuge would receive would be significantly less. 1 mrem compares to other doses as follows:

    Average dose to US public from all sources: 360 mrem/year
    Average dose to US public from natural sources: 300 mrem/year
    Average dose to US public from medical sources: 53 mrem/year
    Average dose to US public from nuclear power: < 0.1 mrem/year
    Average US terrestrial radiation: 28 mrem/year

Terrestrial background (Atlantic coast): 16 mrem/year
Terrestrial background (Rocky Mountains): 40 mrem/year
Cosmic radiation (Sea level): 26 mrem/year
Cosmic radiation (Denver): 50 mrem/year
Radionuclides in the body (e.g., potassium): 39 mrem/year
Building materials (concrete): 3 mrem/year
Drinking water: 5 mrem/year
Pocket watch (radium dial): 6 mrem/year
Eyeglasses (containing thorium): 6 - 11 mrem/year
Coast-to-coast airplane (roundtrip): 5 mrem
Chest x-ray: 8 mrem
Dental x-ray: 10 mrem
(source: Idaho State University, Radiation Information Network)

For more information about the cleanup and residual contamination, please go to:
http://www.lm.doe.gov/land/sites/co/rocky_flats/rocky.htm

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