



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

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OFFICE OF
SOLID WASTE AND EMERGENCY RESPONSE

Ms. Sandy Horrocks
Rocky Mountain Chapter
Sierra Club
777 Grant Street, Suite 606
Denver, CO 80203

Dear Ms. Horrocks:

Thank you for your letter dated September 15, 1993, regarding the U.S. Environmental Protection Agency's (EPA) policy under the Superfund program on acceptable cancer risks as it relates to the Rocky Mountain Arsenal.

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) is the regulation which provides Superfund's overall remedy selection framework and policies. The NCP indicates that, in general, EPA tries to reduce cancer risk levels to between 10^{-4} and 10^{-6} (which translates to a 1 in 10,000 to 1 in 1 million excess chance of contracting cancer due to exposure to the Superfund site) through remedial action. The EPA issued an additional policy entitled "Role of the Baseline Risk Assessment in Superfund Remedy Selection Decisions" (OSWER Directive 9355.0-30) which helps to clarify the NCP regarding how to use risk assessment information to make risk management decisions related to remedial decisionmaking.

Both the NCP and the Superfund policy cited above indicate that the point of departure for actions under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) is a cancer risk level of 10^{-6} . It is not a correct statement of EPA's policy to say that it is acceptable for one person in 2,000 to develop cancer while living on or by a Superfund site. At the Rocky Mountain Arsenal, the decision on whether to take action at various portions of the Off Post ground water is based on exceedances of maximum contaminant levels in ground water, which is another basis for taking an action as indicated by the "Role of the Baseline Risk Assessment in Superfund Remedy Selection Decisions" memo, rather than a specific risk level.



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Briefly, some of the major points of "Role of the Baseline Risk Assessment in Superfund Remedy Selection Decisions" are as follows:

- Where the baseline cumulative carcinogenic site risk to an individual based on reasonable maximum exposure for both current and future land use for any part of a site or the site as a whole is less than 10^{-6} , and the non-carcinogenic hazard quotient is less than 1, a response action generally is not warranted unless there are adverse environmental impacts. However, if Maximum Contaminant Levels or non-zero Maximum Contaminant Level Goals are exceeded in potential drinking water supplies, action generally is warranted.
- Chemical-specific standards that define acceptable risk levels (e.g., non-zero Maximum Contaminant Level Goals, (MCLGs), Maximum Contaminant Levels (MCLs)) also may be used to determine whether an exposure is associated with an unacceptable risk to human health or the environment and whether remedial action under Section 104 or 106 is warranted. For ground water actions, MCLs and non-zero MCLGs will generally be used to gauge whether remedial action is warranted.
- A risk manager may also decide, due to site-specific reasons, that a baseline risk level less than 10^{-6} (e.g., 10^{-5}) warrants remedial action.
- Once remedial action has been determined to be warranted, the results of the baseline risk assessment may be used to modify preliminary remediation goals. These preliminary goals are developed at scoping, based on ARARs and the 10^{-6} cancer risk point of departure pursuant to NCP section 300.430(e)(2)(i).

As noted above, the NCP states that EPA uses a risk range of 10^{-4} to 10^{-6} . The "Role of the Baseline Risk Assessment in Superfund Remedy Selection Decisions" clarifies the NCP concerning the upper boundary of the risk range. This policy states that:

... the upper boundary of the risk range is not a discrete line at 1×10^{-4} , although EPA generally uses 1×10^{-4} in making risk management decisions. A specific risk estimate around 10^{-4} may be considered acceptable if justified based on site-specific conditions, including any remaining uncertainties on the nature and extent of contamination and associated risks. Therefore, in certain cases EPA may consider risk estimates slightly greater than 1×10^{-4} to be protective.

The "Role of the Baseline Risk Assessment in Superfund Remedy Selection Decisions" indicates that risk alone is not the only grounds for taking an action. Exceedances of requirements (i.e. applicable or relevant and appropriate standards of other Federal and State environmental laws (ARARs)) alone could also indicate the need to take action. It should be noted that the baseline risk assessment provides an estimate of cumulative risks, but does not provide contaminant cleanup levels. Final cleanup levels are established as part of the Record of Decision process when the final remedy is selected.

At the Rocky Mountain Arsenal, a variety of areas at the site both On Post and Off Post indicate that action at the site is warranted, consistent with the "Role of the Baseline Risk Assessment in Superfund Remedy Selection Decisions." Risk assessments, among other tools, are used to determine what portions of the site will require action. The very large Off Post area was divided into separate areas in order to conduct a realistic assessment of risks. If the Off Post area were not subdivided, the results of the risk assessment might have inaccurately indicated a protective scenario due to the averaging of the risks associated with hot spots and those associated with safe areas. The Remedial Investigation/ Feasibility Study (RI/FS) for the Off Post area revealed that most of the risk to human health comes from the contaminated ground water which flows from the Arsenal.

Action is warranted for the ground water because ARARs are exceeded. Currently, the contaminated ground water is being addressed by a pump and treatment system in order to reduce the spread of the plume and attain Safe Drinking Water Act cleanup levels. This is being performed to accelerate cleanup. The final remedy for the Off Post will be decided upon by EPA in 1994.

You state that families are being affected on a daily basis by EPA's risk-based decisions and are using bottled water purchased by the State of Colorado. The State's decision to provide bottled water was not based on any EPA policy, but was solely its decision, which was made before the baseline risk assessment was performed. The buyouts of residents referred to in your letter were the result of a separate lawsuit settlement between certain residents and Shell, not the result of Superfund activity or any activity by EPA.

There is not yet a specific, detailed final remedy selected for the Off Post area, nor has there been a final remedy selected for the On Post area. Proposals are being presented to obtain input and comments from the public, and the parties conducting the cleanup (Colorado, EPA, Army, the Department of the Interior, and Shell). The biota are being considered fully in the On Post

studies that should result in a decision next year. It is EPA's intent that the area of ground-water contamination will be cleaned up to CERCLA remediation requirements (i.e., ARARs or appropriate risk levels to the extent ARARs are not available).

In conclusion, a site-wide cumulative excess cancer risk level of 5×10^{-4} conceivably could be used to define a level above which action must be taken consistent with the NCP. However, the remedial action being performed on the ground water of the Off Post area at the Rocky Mountain Arsenal is warranted also due to exceedances of chemical-specific ARARs. Finally, EPA is planning no change to its NCP interpretation of the upper boundary of the risk range as stated in "Role of the Baseline Risk Assessment in Superfund Remedy Selection Decisions." For further information on activities at the Rocky Mountain Arsenal site, you may contact Connally Mears of EPA Region VIII at 303-293-1528

Sincerely,

Stephen Luftig

for

Henry L. Longest II
Director
Office of Emergency and Remedial Response