



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

Signed by Timothy Fields on August 22, 1997

OFFICE OF
SOLID WASTE AND EMERGENCY
RESPONSE

OSWER No. 9200.4-23

MEMORANDUM

SUBJECT: Clarification of the Role of Applicable, or Relevant and Appropriate Requirements in Establishing Preliminary Remediation Goals under CERCLA

FROM: Timothy J. Fields, Jr., Acting *s/Timothy Fields, Jr.*
Assistant Administrator

TO: Addressees

PURPOSE

This memorandum clarifies the relationship between the two key remedy selection mandates of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA): 1) the requirement to protect human health and the environment; and 2) the requirement to attain, or waive if justified based on site-specific circumstances, applicable or relevant and appropriate requirements (ARARs). Specifically, this memorandum clarifies that, in rare instances, the Agency may establish preliminary remediation goals (PRGs) at levels more protective than required by ARARs, even at sites that do not involve multiple contaminants or pathways of exposure.

This document provides guidance to Regional staff, in dealing with the public and the regulated community, regarding how EPA intends to implement the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). It describes national policy. This document is not a substitute for EPA's statutes or regulations, nor is it a regulation itself. Thus, it cannot impose legally-binding requirements on EPA, States, or the regulated community, and may not apply to a particular situation based upon the circumstances.

BACKGROUND

In administering the CERCLA program since the promulgation of the 1990 revisions to the NCP, questions have periodically arisen over the relationship between the statutory mandates to: 1) protect human health and the environment; and, 2) attain, or waive if justified based on site-specific circumstances, ARARs. Specifically, questions have arisen over the circumstances under which it is appropriate to establish PRGs that are more protective than ARARs. It has been EPA's policy that "compliance with a chemical-specific ARAR generally will be considered protective even if it is outside the [cancer] risk range (unless there are extenuating circumstances such as exposures to multiple contaminants or pathways of exposure)." ¹

FURTHER EXPLANATION OF POLICY

It remains EPA's policy that ARARs will generally be considered protective absent multiple contaminants or pathways of exposure. However, this Directive clarifies that, in rare situations, EPA Regional offices should establish PRGs at levels more protective than required by a given ARAR, even absent multiple pathways or contaminants, where application of the ARAR would not be protective of human health or the environment. This judgment should be made based on a review of the level of risk associated with application of the ARAR; the soundness of the technical basis for the ARAR; and other factors relating to the ARAR or to its application at an individual site.

This balanced approach most fully implements the requirements of the NCP and the CERCLA. On one hand, it was clearly EPA's intention in promulgating the NCP that PRGs would generally be based on ARARs in the absence of multiple contaminants or pathways. (See 40 CFR 300.430(e)(2)(I)(D); 55 Fed. Reg. at 8712.) This approach is sound; the protectiveness of health-based regulatory levels should not routinely be re-evaluated in individual CERCLA remedy selection decisions.

On the other hand, ARARs cannot be an absolute upper bound on cleanup levels in every case in the absence of multiple pathways or contaminants. CERCLA and the NCP establish separate requirements to be protective and meet ARARs. (CERCLA § 121(d)(1), (2); 40 CFR § 300.430(f)(1)(I)(A).) Indeed, protecting human health and the environment is the paramount objective of the Superfund program. (See 55 Fed. Reg.

¹OSWER Directive 9355.0-30, "Role of the Baseline Risk Assessment in Superfund Remedy Selection Decisions" (April 22, 1991). This policy is consistent with the NCP. (See 40 CFR 300.430(e)(2)(I)(D) (authorizing consideration of the cancer risk range where attainment of ARARs will result in cumulative cancer risk of greater than 10 due to multiple pathways or contaminants). See also 1990 NCP Preamble, 55 Fed. Reg. at 8712 ("[w]hen health-based ARARs are not available or are not sufficiently protective due to multiple exposures or multiple contaminants, EPA sets remediation goals" based on site-specific risk-based factors, such as the cancer risk range).)

8700 (the NCP remedy selection process “is founded on CERCLA’s overarching mandate to protect human health and the environment”).) Furthermore, CERCLA requires that remedial actions attain ARARs “at a minimum,” clearly contemplating that remedial actions may be more protective than required by ARARs when circumstances so require. (CERCLA § 121(d)(2)(A).)

EPA’s policy of generally establishing PRGs based on ARARs, in the absence of multiple pathways or contaminants, is based on the assumption that individual ARARs will be protective. For example, the NCP expressly authorizes consideration of the cancer risk range in setting PRGs where attainment of ARARs would result in a cumulative risk in excess of 10^{-4} due to multiple contaminants or pathways. (40 CFR 300.430(e)(2)(I)(D).) The assumption underlying this provision is plainly that individual ARARs would achieve a risk of 10^{-4} or less. Similarly, the NCP preamble explains that EPA will modify PRGs to be protective where cumulative risks “make ARARs nonprotective” (55 Fed. Reg. at 8713); again, the assumption is that individual ARARs would be protective absent these cumulative risks. In cases where, based on available information, this assumption is not accurate, PRGs should be set at levels more protective than required by the ARAR in order to ensure protection of human health and the environment.

IMPLEMENTATION

In the rare circumstances where, based on available information, application of an ARAR would not be protective of human health or the environment, EPA should establish PRGs at levels that are more protective than required by the ARAR even absent multiple pathways or contaminants. As noted above, in deciding whether a PRG should be established at a level more protective than required by an ARAR, consideration should be given to the level of risk associated with application of the ARAR; the soundness of the technical basis for the ARAR; and other factors relating to the ARAR or to its application at an individual site.

Before making a site-specific determination that an ARAR at a given site is not protective of human health and the environment and should not be used as the basis for establishing PRGs, the site decision maker should consult with Headquarters, unless a prior determination has been made by Headquarters that a particular ARAR should not generally be used to establish PRGs at CERCLA sites.² The subject matter specialist for this guidance is Robin Anderson of OERR and Brian Grant of OGC. General questions about this guidance should be directed to 1-800-424-9346.

Addressees

National Superfund Policy Managers

²For an example of a Headquarters determination that the numerical limits established by a particular ARAR should not generally be used as the basis to establish PRGs at CERCLA sites, see the memorandum from Stephen D. Luftig titled: “Establishment of cleanup levels for CERCLA sites with radioactive contamination” (OSWER Directive 9200.4-18), August 1997, p. 3.

Superfund Branch Chiefs (Regions I-X)
Superfund Branch Chiefs, Office of Regional Counsel (Regions I-X)
Radiation Program Managers (Regions I, IV, V, VI, VII, X)
Radiation Branch Chief (Region II)
Residential Domain Section Chief (Region III)
Radiation and Indoor Air Program Branch Chief (Region VIII)
Radiation and Indoor Office Director (Region IX)
Federal Facilities Leadership Council
OERR Center Directors

**OSWER Directive 9200.4-18
Attachment A**

**Likely Federal Radiation Applicable or Relevant and Appropriate Requirements
(ARARs)**

The attached draft table of Federal standards is a listing of Federal radiation regulations that may be “Applicable or Relevant and Appropriate Requirements” (ARARs) for Superfund response actions. This list is not a comprehensive list of Federal radiation standards. It must also be cautioned that the selection of ARARs is site-specific and those site-specific determinations may differ from the attached analysis for some of the following ARARs.

Likely Federal Radiation (AEA, UMTRCA, CAA, CWA, SDWA) ARARs			
Standard	Citation	When is standard Applicable (Conduct/Operation or Level of Cleanup ¹)	When is standard potentially a Relevant and Appropriate Requirement
Maximum contaminant levels (MCLs). Drinking water regulations designed to protect human health from the potential adverse effects of drinking water contaminants.	40 CFR 141	<i>Rarely:</i> At the tap where water will be provided directly to 25 or more people or will be supplied to 15 or more service connections.	Where ground or surface water is considered a potential or current source of drinking water
Concentration limits for liquid effluents from facilities that extract and process uranium, radium, and vanadium ores.	40 CFR 440 Subpart C	<i>Very Unlikely:</i> Applies to surface water discharges from certain kinds of mines and mills	Discharges to surface waters of some kinds of radioactive waste.

Likely Federal Radiation (AEA, UMTRCA, CAA, CWA, SDWA) ARARs			
Standard	Citation	When is standard Applicable (Conduct/Operation or Level of Cleanup¹)	When is standard potentially a Relevant and Appropriate Requirement
Federal Water Quality Criteria (FWQC) and State Water Quality Standards (WQS). Criteria/standards for protection of aquatic life and/or human health depending upon the designated water use.	Water Quality Criteria; Report of the National Technical Advisory Committee to the Secretary of the Interior; April 1, 1968.	Discharge from a CERCLA site to surface water. (C/O)	Restoration of contaminated surface water. (LC)
Concentration limits for cleanup of radium-226, radium-228, and thorium in soil at inactive uranium processing sites designated for remedial action. ²	40 CFR 192.12(a), 192.32(b)(2), and 192.41	<i>Never</i> : Standards are applicable only to UMTRCA sites that are exempt from CERCLA	Sites with soil contaminated with radium-226, radium-228, and/or thorium

²For further information, see OSWER directive entitled "Use of Soil Cleanup Criteria in Subpart B of 40 CFR Part 192 as Remediation Goals for CERCLA sites."

Likely Federal Radiation (AEA, UMTRCA, CAA, CWA, SDWA) ARARs			
Standard	Citation	When is standard Applicable (Conduct/Operation or Level of Cleanup ¹)	When is standard potentially a Relevant and Appropriate Requirement
Combined exposure limits for cleanup of radon decay products in buildings at inactive uranium processing sites designated for remedial action	40 CFR 192.12(b)(1) and 192.41(b)	<i>Never:</i> Standards are applicable only to UMTRCA sites that are exempt from CERCLA	Sites with radioactive contamination that is currently, or may potentially, result in radon that is caused by site related contamination migrating from the soil into buildings
Concentration limits for cleanup of gamma radiation in buildings at inactive uranium processing sites designated for remedial action	40 CFR 192.12(b)(2)	<i>Never:</i> Standards are applicable only to UMTRCA sites that are exempt from CERCLA	Sites with radioactive contamination that is currently, or may potentially, emit gamma radiation
Design requirements for remedial actions that involve disposal for controlling combined releases of radon-220 and radon-222 to the atmosphere at inactive uranium processing sites designated for remedial action	40 CFR 192.02	<i>Never:</i> Standards are applicable only to UMTRCA sites that are exempt from CERCLA	Sites with radon-220 or radon-222 as contaminants which will be disposed of on-site.

Likely Federal Radiation (AEA, UMTRCA, CAA, CWA, SDWA) ARARs			
Standard	Citation	When is standard Applicable (Conduct/Operation or Level of Cleanup ¹)	When is standard potentially a Relevant and Appropriate Requirement
Performance objectives for the land disposal of low level radioactive waste (LLW).	10 CFR 61.41	<i>Unlikely:</i> Existing licensed LLW disposal sites at the time of license renewal. (LC) <i>Unlikely that this would occur.</i>	Previously closed sites containing LLW if the waste will be permanently left on site.
National Emission Standards for Hazardous Air Pollutants (NESHAPs) under the Clean Air Act, that apply to radionuclides.	40 CFR 61 Subparts H and I	Airborne emissions during the cleanup of Federal Facilities and licensed NRC facilities. (CO)	Cleanup of other sites with radioactive contamination.
Radiological criteria for license termination.	10 CFR 20 Subpart E	Existing licensed sites at the time of license termination. (LC)	Previously closed sites.

1. Conduct/operation (C/O) refers to those standards which are typically ARARs for the conduct or operation of the remedial action. Level of Cleanup (L/C) refers to those standards which are typically ARARs for determining the final level of cleanup.