



United States
Environmental Protection
Agency

Office of
Solid Waste and
Emergency Response

Publication 9200.5-2161

July 1991

RECEIVED

AUG 20 1991

ENVIRONMENTAL PROTECTION AGENCY
LIBRARY, REGION V

Superfund Records of Decision Update

Office of Emergency and Remedial Response
Hazardous Site Control Division OS - 220W

Intermittent Bulletin
Volume 6 Number 3

This issue of the ROD Update summarizes recent policy concerning the baseline risk assessment and the delisting process. A current list of Regional Coordinators for both Fund Lead and Enforcement Lead sites is also provided.

ROLE OF THE BASELINE RISK ASSESSMENT IN SUPERFUND REMEDY SELECTION DECISIONS

The Office of Solid Waste and Emergency Response (OSWER) recently issued a policy directive titled *Role of the Baseline Risk Assessment in Superfund Remedy Selection Decisions* (OSWER Directive 9355.0-30, April 22, 1991). The directive provides clarification concerning the role of the baseline risk assessment in the development of Superfund remedial alternatives and supporting risk management decisions. The memorandum discusses how to use the baseline risk assessment in determining whether remedial action under CERCLA Section 104 or Section 106 is warranted and clarifies the use of the baseline risk assessment in selecting appropriate remedies under CERCLA Section 121. The directive also discusses technical factors and information about consistency in preparing site-specific risk assessments, and provides guidance for presenting appropriate documentation from the baseline risk assessment in Superfund remedy selection documents.

The primary purpose of the baseline risk assessment is to provide a quantitative and qualitative understanding of the actual and potential risks to human health and the environment posed by the site and the uncertainties associated with the assessment.

Risks Warranting Remedial Action

EPA generally uses the results of the baseline risk assessment to establish the basis for taking a remedial action using either Section 104 or Section 106 authority. EPA may use the results of the baseline risk

assessment to determine whether a release or threatened release poses a risk to human health or the environment that warrants remedial action and to determine if a site presents an imminent and substantial endangerment.

Generally, where the baseline risk assessment indicates that a cumulative site risk to an individual using reasonable maximum exposure assumptions for either current or future land use exceeds the 10^{-4} lifetime excess cancer risk end of the risk range, action under CERCLA is generally warranted at the site. For sites where the cumulative site risk to an individual based on reasonable maximum exposure for both current and future land use is less than 10^{-4} , action generally is not warranted, but may be warranted if a chemical-specific standard that defines acceptable risk is violated or unless there are non-carcinogenic effects or an adverse environmental impact that warrant action. A risk manager may also decide that a lower level of risk to human health is unacceptable and that remedial action is warranted where, for example, there are uncertainties in the risk assessment results.

The cumulative site baseline risk should include all media that the reasonable maximum exposure scenario indicates are appropriate to combine and should not assume that institutional controls or fences will account for risk reduction. For non-carcinogenic effects of toxicants, unacceptable risk occurs when exposures exceed levels which represent concentrations to which the human population, including sensitive subgroups, may be exposed without adverse effect during a lifetime or part of a lifetime, as appropriate to address teratogenic and developmental effects.

Chemical-specific standards which define acceptable risk levels, e.g., non-zero MCLGs, MCLs, also may be used to determine whether an exposure is associated with an unacceptable risk to human health or the environment, and thus whether remedial action is supported under Section 104 or Section 106. MCLs and non-zero MCLGs are generally used in ground water actions to determine whether remedial action is triggered.

Unacceptable environmental risks also may prompt remedial action and may occur where there is no significant risk to human health. Threats or potential threats to sensitive habitats, such as wetlands, and critical habitats of species protected under the Endangered Species Act are especially important to consider when determining whether to take an action under CERCLA Section 104 or 106. Ambient Water Quality Criteria for aquatic organisms are chemical-specific standards that will generally be considered when determining whether to take an action based on the environmental risk of releases to surface waters.

Where current conditions have not resulted in a release posing risks that require action but there is a significant possibility that a release will occur that is likely to result in an unacceptable risk, remedial action also may be taken. The significance of the potential future release may be evaluated, in part, based on the quantities of material at the site and the environmental setting.

Once a decision has been made to take an action, the Agency has expressed a preference for cleanups achieving the more protective end of the range (i.e., 10^{-6}), although waste management strategies achieving reductions in site risks anywhere within the risk range may be deemed acceptable. The remedial action must attain applicable or relevant and appropriate requirements (ARARs) unless a waiver is invoked.

No-Action Decision

If the baseline risk assessment and the comparison of exposure concentrations to chemical-specific standards indicates that there is no unacceptable risk to human health or the environment, and that no remedial action is warranted, then the CERCLA Section 121 cleanup standards for selection of a Superfund remedy including the requirement to meet ARARs are not triggered. Sites that do not warrant action under CERCLA Section 104 or Section 106 may warrant action under another State or Federal statute.

Point of Departure When Action is Warranted

Once remedial action is determined to be warranted, the results of the baseline risk assessment are used in establishing remediation goals.

Documentation of Baseline Risk Assessment Results in the Record of Decision

Records of Decision (RODs) for remedial actions taken at sites posing risks within the 10^{-4} to 10^{-6} risk range must explain why remedial action is warranted. The justification for taking action in the risk range 10^{-4} to 10^{-6} should be included in the discussion of the selected remedy section of the ROD "Decision Summary," where cleanup levels are given. A decision not to take action at a National Priorities List (NPL) site under Section 104 and Section 106 also should be documented in the ROD.

The chemical-specific remediation level and corresponding chemical-specific risk level(s) to be attained at the conclusion of the response action and the points (or area) of compliance for the media being addressed, and the basis for the remediation levels including the risk calculation and ARARs, should be provided in the discussion of the selected remedy in the "Decision Summary" section of the ROD.

A discussion of the risks associated with current and future land use should be included in the "Summary of Site Risks" section of the ROD, and should include a table presenting these risk levels for each exposure medium. When risks from exposure via more than one medium will affect the same potentially exposed individual, the risks should be combined to indicate the total risk posed by the site to that individual.

The "Comparative Analysis of Alternatives" section of the ROD should include a discussion of each of the nine criteria; consideration of risk is part of the discussion of several of the criteria. The discussion of overall protection of human health and the environment should include a discussion of how the remedy will eliminate, reduce, or control risks identified in the baseline risk assessment posed through each pathway and whether exposure levels will be reduced to acceptable levels. The discussion of long-term effectiveness and permanence should include, where appropriate, an assessment of the residual risk from untreated residual waste remaining at the site. The short-term effectiveness discussion should address risks during remedial action to those on-site and nearby.

Documentation of Risk for Interim Action RODs

Interim action RODs do not require a completed baseline risk assessment although enough information must be available to demonstrate the potential for risk and justify taking an action. Data sufficient to support the interim action decision can be extracted from the ongoing RI/FS for the site and set out in a focused feasibility study or other appropriate document that includes a short analysis of a limited number of alternatives. These data should include a summary of contaminants of concern, concentrations and relevant exposure information. A discussion should accompany these data explaining the need for immediate remedial action based on the presence of contamination that, if left unaddressed in the short-term, either contributes immediate risk or is likely to contribute to increased site risk or degradation of the environment/natural resources.

The interim action should demonstrate qualitatively, and quantitatively if possible, that there is a risk or potential for risk and explain how the temporary measures selected will address a portion of this risk. Also, the interim action ROD should indicate where appropriate that some exposure pathways at the site may not be addressed by the action.

An interim action ROD must be followed by a subsequent ROD for that operable unit based on the complete RI/FS, that includes the baseline risk assessment, in order to document long-term protection of human health and the environment for that portion of the site.

Requests for additional guidance on the interaction between the baseline risk assessment and remedy selection should be directed to David Cooper (703-308-8361 or FTS 398-8361) in the Hazardous Site Control Division, OERR. For guidance specific to enforcement-lead sites contact Stephen Ells (202-475-9803 or FTS 475-9803) in the CERCLA Enforcement Division, OWPE.

DELISTING

Superfund Publication; 9347.3-09FS, September 1990, *A Guide to Delisting of RCRA Wastes for Superfund Remedial Responses*, provides guidance concerning when to consider delisting a waste; the basis for delisting; how compliance is demonstrated; and ap-

propriate documentation and sample language for a waste delisting in the RI/FS, the Proposed Plan, and the Record of Decision (ROD).

Background

Delisting applies only to listed wastes, mixtures containing listed wastes, or residuals derived from treatment of a listed waste. Delisting requires a demonstration that a listed RCRA hazardous waste, or a mixture containing listed hazardous wastes, no longer meets any of the criteria under which the waste was listed and no other factors are known that would make the waste hazardous. Characteristic wastes can meet the land disposal restriction (LDR) treatment standards or be rendered "non-characteristic" to be eligible for Subtitle D management.

Only substantive requirements of delisting must be met for on-site CERCLA actions. The delisting may be granted when the Regional Administrator signs the ROD.

Off-site CERCLA actions must comply with both substantive and administrative requirements and must follow the formal delisting petition process when hazardous wastes or waste residuals are to be delisted for management off-site. These administrative requirements include review by the Office of Solid Waste (EPA Headquarters) or State review for those States that have adopted a delisting program at least equivalent to the Federal Program, publication of a proposed notice and final rule in the Federal Register.

When to Consider Delisting

Delisting should be evaluated as a potential option when remedial actions address materials contaminated with RCRA listed waste in low concentrations; it is believed that these materials pose no significant threat to ground water; and management in a Subtitle D solid waste disposal facility would be fully protective of human health and the environment.

The delisting option should be considered as early as the site characterization and the development of the baseline risk assessment if RCRA wastes are at or near delisting levels. Delisting evaluations should be made early in the RI/FS process so that requirements and disposal options related to delisting may be included in the detailed analysis of remedial alternatives. When results from treatability studies conducted during the RI/FS indicate that treatment will attain delisting

levels, these data may serve as the basis for approving a delisting demonstration. When site-specific treatability study data are not available, data from the application of technologies to similar wastes may be used to assess the probable effectiveness of the treatment processes and to demonstrate that a particular waste would be rendered non-hazardous and justify a delisting. If site managers believe that technically sound reasons exist that delisting levels can be attained, the option to delist wastes can be pursued, but another option should be specified for disposal of the waste in case delisting levels cannot be attained.

Basis for Delisting

OERR recommends that for delisting at CERCLA sites, the same analytical tests and models as those recommended by the Office of Solid Waste be used. Regardless of which model is used to analyze and predict the potential fate and transport of waste constituents and to substantiate a delisting request, documentation should be made of why a particular model is used.

Demonstrating Compliance

Verification testing may be required following treatment of the wastes to confirm that delisting levels are attained. These tests may require collecting samples generated from treatment systems; analysis of samples for total and TCLP leachate concentrations of inorganic and organic constituents and other RCRA characteristics; and analysis of other information relevant to the delisting that may not have been anticipated or considered at the time the original decision document was signed. All data from verification testing must be collected using the appropriate QA/QC procedures such as those contained in the site's Quality Assurance Project Plan (QAPP) prepared during the RI/FS scoping or remedial design process.

Documenting a Waste Delisting

Although compliance with the RCRA administrative delisting requirements are not required as part of an on-site CERCLA remedial response, compliance with the substantive requirements of delisting must be documented in the appropriate CERCLA documents. Since off-site CERCLA responses must comply with both substantive and administrative requirements, the formal delisting petition process (40 CFR 260.20 and 260.22) must be followed when hazardous wastes

or waste residuals are to be delisted for management off-site.

RI/FS. The substantive requirements for delisting a RCRA hazardous waste should be documented in the RI/FS. A general discussion of why delisting is warranted should be included in the "Detailed Analysis of Alternatives" chapter of the FS Report as a part of the description of each alternative for which a delisting is contemplated. Where treatment is expected to produce a delistable residual, the discussion should specify the concentrations of each waste constituent expected to remain after treatment. Wastes or waste residuals to be delisted and managed under Subtitle D instead of Subtitle C should be identified in the "Compliance with ARARs" criterion of the "Description of Alternatives" section of the RI/FS.

Proposed Plan. The intent to delist wastes should be stated in the "Description of Alternatives" section of the Proposed Plan. The intent to delist wastes for both on-site and off-site wastes should be identified for all alternatives for which delisting is an option. The opportunity for public comment on the Proposed Plan fulfills the requirements for public notice and comment on delisting petitions.

Record of Decision. A synopsis of the documentation provided in the FS Report should be included in the ROD. A statement that explains why delisting is justified should be included as part of the discussion of major ARARs for each remedial alternative in the "Description of Alternatives" section, along with a statement that the waste is being delisted under CERCLA and that RCRA's substantive requirements have been met. A statement that waste(s) is being delisted should be included in the "Compliance with ARARs" finding in the "Statutory Determinations" section of the ROD.

The ROD should also address how to handle wastes that do not achieve delistable levels unless treatability studies conducted in the RI/FS indicate that a technology's performance is reasonably certain. In other words, the ROD should include a contingency plan. A discussion in the "Selected Remedy" section of the ROD should establish the parameters of both the selected and contingent remedies and provide the criteria by which the contingency remedy would be implemented. The "Statutory Determinations" section should demonstrate how either remedy would fulfill CERCLA Section 121 requirements.

SUPERFUND REGIONAL COORDINATORS

Fund Lead: RI/FS and ROD

Region	Name	FTS No.*	Region	Name	FTS No.*
I	Jennifer Sutter	398-8363	V	Andrea McLaughlin	398-8365
II	Loren Henning (New Jersey)	398-8392	VI	Robin Anderson	398-8371
II	Shahid Mahmud (New York)	398-8372	VII	Tish Zimmerman	398-8370
III	Sharon Frey	398-8367	VIII	Nancy Briscoe	398-8362
IV	Tish Zimmerman	398-8370	IX	David Cooper	398-8361
			X	Susan Cange	398-8360

Fund and Enforcement Lead: Design and Construction

Region	Name	FTS No.*	Region	Name	FTS No.*
I	JoAnn Griffith	398-8353	VI	Ed Hanlon	398-8352
II	Joe Cocalis	398-8356	VII	Ken Skahn	398-8355
III	Florence Blair	398-8327	VIII	Barbara McDonough	398-8347
IV	Ken Skahn	398-8355	IX	Steve Chang	398-8348
V	Tracy Loy	398-8349	X	Steve Chang	398-8348

Enforcement Lead: Removals, RI/FS, ROD, RD/RA Negotiations

Region	Name	FTS No.*	Region	Name	FTS No.*
I	Amy Legare	398-8626	V	Trish Gowland (Illinois, Indiana)	398-8622
II	Lance Elson (New York, New Jersey)	398-8621		Ernie Watkins (Michigan, Wisconsin)	398-8633
III	Kathryn Boyle (Virginia, West Virginia)	398-8614		Leslie Jones (Minnesota, Ohio)	398-8631
	Wendy Thomi (Pennsylvania)	398-8627	VI	Filomena Chau	398-8619
	Elisabeth Freed (Delaware, Maryland, District of Columbia, Pennsylvania)	398-8608	VII	Jack Schad	398-8629
			VIII	Lori Boughton	398-8613
			IX	Rick Popino (Site-Specific)	398-8628
IV	Neilima Senjalia (Florida, Alabama, Georgia, Mississippi)	398-8630		Kurt Lamber (Site-Specific)	398-8624
	Darlene Boerlage (Kentucky, Tennessee, North Carolina, South Carolina)	398-8646	X	Joe Teiger	398-8632

*Note: Commercial No. 703-308-xxxx

For ideas, submissions, or questions concerning the *ROD Update*, please contact Carol Bass 202/475-9752. Members of the public may obtain copies by contacting the EPA Superfund Document Center (OS-240), 401 M. St., S.W., Washington, DC 20460. Please use fax number 202/245-4386 or E-mail Box 5248 OERR/PUBS or send a written request to ensure that your order is expedited.



United States
Environmental Protection
Agency (OS-120)
Washington, DC 20460

Official Business
Penalty for Private Use
\$300