
CHAPTER 5

RISK EVALUATIONS AFTER THE FEASIBILITY STUDY

EPA risk assessor involvement in risk evaluations, after completion of the FS, should be conducted as necessary to support the EPA RPM in ensuring that the remedy is protective. While these risk evaluations may not always require a significant level of quantitation, continuous involvement of EPA risk assessors is essential to ensure consistency in risk evaluation and risk communication. Post-FS activities benefitting from EPA risk assessor involvement typically include the Proposed Plan, the Record of Decision (ROD), the Remedial Design/Remedial Action, and Five-Year Reviews.

5.1 RISK EVALUATION FOR THE PROPOSED PLAN

The Proposed Plan should include sufficient risk assessment information to support the basis for the proposed remedial action. EPA risk assessor support is recommended during the preparation of the Proposed Plan to ensure the consistency of risk information with the Baseline Risk Assessment Report and the FS Report. The level of detail in the Proposed Plan should be appropriate to the needs of the community. Additional EPA risk assessor support required at this time may be qualitative or quantitative, typically focusing on refinement of previous analyses, based on newly developed information.

5.2 DOCUMENTATION OF RISKS IN THE RECORD OF DECISION

To support the preparation of the Record of Decision, the EPA risk assessor should prepare or review a summary of the Baseline Risk Assessment Report which supports the basis for the remedial action. The primary focus should be

on those exposure pathways and chemicals of concern found to pose actual or potential threats to human health or the environment. Chemicals included in the risk assessment but determined not to contribute significantly to an unacceptable risk need not be included in the Risk Assessment Summary in the ROD (e.g., chemicals with risk levels less than 1×10^{-6} or HQ less than 0.1) unless they are needed to justify a No Action ROD.

The Risk Assessment Summary prepared for the ROD should include, at a minimum, a summary table completed for those exposure scenarios and chemicals that trigger the need for cleanup. Other risk information may also be included in the ROD depending upon the level of detail preferred. Information related to values used for intake calculations and non-cancer and cancer toxicity data and exposure point concentrations are summarized on Standard Tables 4, 5, 6, 7, and 8, which could be placed in appendices to the ROD. In addition, the risk assessor should prepare/review the following information related to the selected alternative:

- Document short-term risks that may occur during remedy implementation.
- Document risks that may remain after completion of the remedy (including residual risk from untreated waste remaining at the site).
- Determine the need for five-year reviews.

Refer to *Interim Final Guidance on Preparing Superfund Decision Documents* (EPA 1989b) for a recommended format for summarizing human health risk assessment information in the ROD. Also refer to the upcoming *Guidance on Preparing Superfund Decision Documents*, which will be available by the end of fiscal year 1998.

5.3 RISK EVALUATION DURING REMEDIAL DESIGN AND REMEDIAL ACTION

The EPA risk assessor's role during remedial design and remedial action may be qualitative or quantitative depending on the site and phase of the project. During the remedial design, short-term and long-term risks may be assessed through refinement of previous analyses and identification of the need for engineering controls or other measures to mitigate risk.

During the remedial action, the EPA risk assessor is more likely to provide quantitative risk evaluation support. Short-term risk evaluation may address impacts to remediation workers and neighboring communities. Long-term risk evaluations typically focus on the following:

- Whether remediation levels specified in the ROD have been attained
- Whether residual risk after completion of the remedy ensures protectiveness.

5.4 RISK EVALUATION ASSOCIATED WITH EXPLANATIONS OF SIGNIFICANT DIFFERENCES (ESDs) AND AMENDED RODs

When conditions relevant to a site change following the signing of a ROD, it is sometimes necessary to prepare an ESD or amended ROD. Examples of conditions causing this situation may include, but are not limited to, the following:

- Toxicity values change.

- Additional technology performance information becomes available.
- ARARs change (e.g., Land Disposal Restrictions).

EPA risk assessor involvement with RPM evaluations of ESDs and Amended RODs focuses on evaluating whether clean-up standards are still protective when considering new ARARs, new parameters for risk and hazard calculations, new technology information, and other new information. Any new information and revised risk evaluations should be thoroughly documented.

5.5 RISK EVALUATION DURING FIVE-YEAR REVIEWS

CERCLA provides for reviews of certain remedies at least every five years to assure that human health and the environment are being protected by the remedial alternative implemented. EPA risk assessor involvement with RPM evaluations during Five-Year Reviews are generally quantitative and focus on the following two goals:

- Confirm that the remedy remains protective (including any engineering or institutional controls).
- Evaluate whether clean-up standards are still protective by considering new ARARs, new parameters for risk and hazard calculations, and other new information.