

RISK ASSESSMENT SCOPE OF WORK - Example

A risk assessment is intended to estimate potential human health and environmental risks posed by current and potential future conditions assuming no further remediation of the Facility. The risk assessment work plan describes the approach to the risk assessment and facilitates discussions as to the appropriate ways to evaluate current and future risks for the Facility. It is intended that most of the components of the risk assessment will be provided in the risk assessment work plan so that any discrepancies or discussion may be addressed before the risks are calculated and the report is prepared. For questions regarding risk assessment/analysis and fate and transport analysis, please see:

<http://deq.mt.gov/StateSuperfund/FrequentlyAskedQuestions.mcp#5>.

All documents must be submitted in hard copy and modifiable electronic formats. In addition, a schedule for submittal of all required work must be included for DEQ approval.

A. Components of the Risk Assessment Work Plan

The risk assessment work plan addresses both human health and ecological impacts and the fate and transport of contaminants through soils to groundwater. The risk assessment work plan includes the following information:

1. History and setting of the Facility, including demographic information
2. Data evaluation and selection of chemicals of potential concern (COPC)
 - a. Data summary
 - b. Data evaluation
 - c. Selection of COPC(s) for each media
3. Human health risk assessment
 - a. Exposure assessment
 - i. Site conceptual exposure model
 - ii. Potential receptors and exposure pathways
 - iii. Exposure assumptions
 - iv. Definitions of exposure areas and calculations of exposure point concentrations
 - v. Calculation of chronic daily intakes
 - b. Toxicity assessment
 - i. Definitions of carcinogenic and non-carcinogenic risks
 - ii. Carcinogenic slope factors and inhalation unit risks
 - iii. Non-carcinogenic reference doses and reference concentrations
 - iv. Uncertainties associated with toxicity assessment
 - c. Risk Characterization
 - i. A description of how cancer risk estimates will be derived
 - ii. A description of how non-carcinogenic hazard estimates will be derived
 - iii. Evaluation of uncertainties
 - d. Ecological risk assessment, including a description of how site-specific cleanup levels based upon protection of ecological receptors will be calculated, if appropriate (for some sites this may only be a qualitative evaluation)

4. Fate and Transport Analysis
5. Description of how site-specific cleanup levels will be developed
 - a. Human health-based site-specific cleanup levels
 - b. Site-specific cleanup levels based on fate and transport analysis
 - c. Ecological risk-based site-specific cleanup levels (for some sites this may only be a qualitative evaluation)
6. Completed tables 1, 2, 3, 4, 5, and 6 of EPA's Risk Assessment Guidance for Superfund (RAGS) Part D.
7. The provision for submittal of a draft risk assessment work plan for DEQ review and a final risk assessment work plan that incorporates all DEQ comments.

B. Components of the Risk Assessment Report

The risk assessment report provides data sufficient in quantity and quality to identify potential human health and environmental risks associated with current and future conditions at the Facility. The data represents potential exposures at the Facility. The risk assessment report includes the components developed in the risk assessment work plan and includes the following information:

1. DEQ approved history and setting of the Facility, data evaluation, exposure assessment, and toxicity assessment sections and tables from the risk assessment work plan
2. Calculation and discussion of the carcinogenic and non-carcinogenic risks for the receptors and pathways
3. Discussion of uncertainties
4. Ecological risk assessment
5. Fate and transport analysis (Calculation of site-specific cleanup levels based on protection of human health via direct contact (i.e., ingestion, dermal, inhalation, etc.)
6. Calculation of site-specific cleanup levels based on protection of groundwater
7. Calculation of site-specific cleanup levels based on protection of ecological receptors, if appropriate (for some sites this may only be a qualitative evaluation)
8. Completed Tables 1-10 of RAGS Part D.
9. The provision for submittal of a draft risk assessment report for DEQ review and a final risk assessment report that incorporates all DEQ comments on the draft risk assessment report.