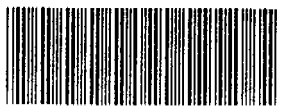

SCOPE OF WORK

FOR

903 PAD RISK ASSESSMENT AND NEPA DOCUMENTATION

Rockwell International
Aerospace Operations
Rocky Flats Plant

Prepared by

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903 PAD RISK ASSESSMENT AND NEPA DOCUMENTATION

1. Objective

Prepare a Feasibility Study (FS) Risk Assessment (RA) and NEPA Documentation for remedial action proposed for the 903 Pad, Mound and East Trenches Areas. The FS/RA is to be prepared in compliance with all appropriate requirements of CERCLA and subsequent regulations, policies, and guidance. The Action Description Memorandum (ADM) and Environmental Assessment (EA) are to be prepared in compliance with all appropriate requirements of NEPA and subsequent regulations, policies and guidance.

2. Background

As part of the Comprehensive Environmental Assessment and Response Program (CEARP) of the (Albuquerque Operations Office) of the U.S. Department of Energy (DOE/AL), certain Solid Waste Management Units (SWMUs) at the 903 Pad, Mound and East Trenches areas have been identified as priority remedial action sites. As part of Phase 3, a Feasibility Study (FS) and Risk Assessment (RA) will be prepared to assess alternative plans for remedial action at the 903 Pad, Mound and East Trenches area and to select the most appropriate alternative.

It has been determined that in order to comply with the requirements of NEPA, an Action Description Memorandum (ADM) and subsequent EA for these sites is needed to document the environmental impact of the proposed action and other considered alternatives.

3. Technical

3.1 Specific FS and RA tasks shall include the public health analysis (risk assessment) and institutional analysis (subtasks of Task 5 Attachment 1).

3.2 Participation by Dr. M. A. Anderson in meetings pertaining to other tasks (see Attachment 1) and peer review of sections of the FS prepared by Rockwell or Rockwell subcontractors.

3.3 Clerical support (i.e. compatible word processing) for entire FS, EA, RA and ADM.

3.4 Review existing documentation to determine suitability for incorporation into the stand-alone documents with the content and format to meet NEPA requirements for an ADM and an EA (Attachments 2 and 3).

3.5 Support the resolution of NEPA required information not available in current documents. It is expected that Rockwell will provide the input required to address plantwide regulatory requirements related to wetlands, endangered species, raptors, and cultural resources.

3.6 For each alternative remedial action, identify and describe exposure pathways for workers and non-workers to chemical and radiological hazards.

3.7 Estimate potential occupational and non-occupational exposures and associated risks for each alternative during both routine operations and emergency condition.

3.8 Prepare the draft ADM and EA by local personnel for review by Rockwell personnel.

4. Deliverables

4.1 Draft Feasibility Study and Risk Assessment in accordance with the content of Attachment 1.

4.2 Draft ADM and EA in accordance with Attachments 2 and 3.

4.3 Address RI and DOE comments.

4.4 Progress/status reports or meetings as required.

4.5 Incorporation of EPA, CDH and public comments when received.

5. Schedule

5.1 Draft ADM - One week from Award of Contract.

5.2 Final ADM - Three weeks from Award of Contract.

5.3 Draft Risk Assessment for No Action Alternative - 6 weeks from Award of Contract.

5.4 Draft Risk Assessment for All Alternatives - 8 weeks from draft Analysis of Alternatives.

5.5 Analysis of Applicable, or Relevant and Appropriate Requirements - 4 weeks from Award of Contract.

5.6 First Draft of EA - 8 weeks from Authorization.

5.7 Revised Draft of EA - 3 weeks from First Draft.

5.8 Final Draft of EA - Dependent on DOE Comments.

5.9 Final Drafts of Feasibility Study and Risk Assessment 4 months from completion of Phase II Remedial Investigation.

Attachment 1

903 PAD, MOUND AND EAST TRENCHES NEPA DOCUMENTATION

1.0 Summary
2.0 Statement of Purpose and Need
    2.1 Purpose
    2.2 Scope
3.0 Description of Proposed Action and Alternatives
    3.1 Alternatives Evaluated in Feasibility Study
    3.2 Alternatives Retained for Environmental Assessment Evaluation
    3.3 Proposed Action
4.0 Affected Environment
    4.1 Description
    4.2 Regulatory Compliance
        4.2.1 Wetlands
        4.2.2 Endangered Species
        4.2.3 Raptors
        4.2.4 Archaeology
5.0 Environmental Effects of the Proposed Action
    5.1 Air Quality
    5.2 Water Quality
    5.3 Terrestrial
    5.4 Short-and Long-term Land Productivity
    5.5 Cumulative Impacts
    5.6 Personnel Exposures - Routine Operation
        5.6.1 Radiological
            5.6.1.1 Occupational
            5.6.1.2 On-site Non-occupational
            5.6.1.3 Public (collective)
            5.6.1.4 Individual
        5.6.2 Non-Radiological
            5.6.2.1 Occupational
            5.6.2.2 On-site non-occupational
            5.6.2.3 Off-site
                5.6.2.3.1 Acute
                5.6.2.3.2 Chronic
    5.7 Personnel Exposures - Accident Conditions
        5.7.1 Radiological
            5.7.1.1 Occupational
            5.7.1.2 On-site Non-occupational
            5.7.1.3 Public (collective)
            5.7.1.4 Individual
        5.7.2 Non-Radiological
            5.7.2.1 Occupational
            5.7.2.2 On-site non-occupational
            5.7.2.3 Off-site
                5.7.2.3.1 Acute
                5.7.2.3.2 Chronic
    5.8 Commitment of Resources
    5.9 Transportation Impacts

6.0 Environmental Effects of Alternatives
- 6.1 Environmental Effects of No Action
  - 6.1.1 Environmental Quality
  - 6.1.2 Personnel Exposure
  - 6.1.3 Transportation
- 6.2 Environmental Effects of Treating Current Sources
  - 6.2.1 Environmental Quality
  - 6.2.2 Personnel Exposure
  - 6.2.3 Transportation
- 6.3 Environmental Effects of Total Encapsulation
  - 6.3.1 Environmental Quality
  - 6.3.2 Personnel Exposure
  - 6.3.3 Transportation

Appendix A. References
Appendix B. List of Preparers and Reviewers

Attachment 1

COMPREHENSIVE ENVIRONMENTAL ASSESSMENT AND RESPONSE PROGRAM
PHASE III: FEASIBILITY STUDIES
(MEDIUM PRIORITY SITES)

SCOPE

This project is part of a comprehensive phased program of remedial investigations, feasibility studies and remedial/corrective action projects to be performed at Rocky Flats. The program is designed to determine the extent and characteristics of contaminated ground water; to assess the potential for contaminant migration; and to identify, evaluate and implement feasible remedial actions. Completion of Phase I resulted in the characterization of site geology, hydrology and water quality. Phase II is focused on characterization of contamination sources and delineation of contaminated ground water plumes. Phase III encompasses risk assessments and feasibility studies of remedial alternatives. Phase IV will involve design and implementation of remedial action(s), and Phase V will involve monitoring and assessment of the effectiveness of implemented remedial action(s).

The scope of work for this project includes planning and engineering services in support of CEARP Feasibility Studies of the medium priority areas (903 Pad Area, Mound Area, East Trenches Area). The Scope Of Work encompasses all regulatory requirements of CERCLA/SARA and RCRA. Several tasks are required to accomplish the scope of work. All work will be planned and performed as part of an integrated team directed by Rockwell's project manager. The project team will be composed of personnel from Rockwell International, consulting firms and contractors. Close cooperation between team members working on related tasks is essential to the achievement of program goals.

TASKS

Task 1. Definition of Scope and Performance Standards for Remedial Action

As a member of the feasibility study project team, assist in defining the scope of the remedial actions, based on the extent of problems found during the ongoing remedial investigation. The goals of the response actions will be established for each of the 17 sites at the 903 Pad, Mound and East Trenches Areas, as warranted by the results of the remedial investigation. The goals will probably consist of meeting performance standards at the sources of contamination and/or in downgradient ground water at a "point of compliance."

Task 2. Identification of Potential Remedial Technologies

Develop a master list of potentially feasible technologies based on the problems to be solved and the performance standards defined in the previous task. These technologies will include both source and plume control options and will be based on the EPA's listing of remedial technologies presented in EPA (1985).

The technologies will most likely involve improved closure in-place, source removal and disposal off-site, plume control (pumping or injection wells, french drains, and water treatment), and no-action. This work is intended to be performed concurrently with the remedial investigation so that the remedial investigation can be modified to collect any additional data needed to evaluate the identified alternatives.

The methodology used to develop the list must be documented.

Task 3. Development of Preliminary Remedial Alternatives

A limited number of alternative actions will be selected from those identified in the previous task, based on the results of the remedial investigation currently in progress. Specific remedial response objectives will be developed for each of the sites, together with a suite of remedial alternatives that meet the following requirements:

- o Alternatives for off-site treatment or disposal,
- o Alternatives which attain applicable or relevant Federal public health or environmental standards,
- o Alternatives which exceed Federal health or environmental standards,
- o Alternatives which do not attain Federal health or environmental standards but that reduce the likelihood of present or future threat (must include an alternative which closely approaches the level of protection provided by the standards), and
- o The no-action alternative.

This suite of alternatives will be developed for each site, or for logical groupings of sites. The rationale for exclusion of technologies selected in the previous task must be documented.

Task 4. Initial Screening of Alternatives

The alternatives developed in the previous task will be screened to eliminate those that are clearly infeasible or inappropriate, prior to undertaking a detailed analyses of them. The alternatives will be screened on the basis of the following:

- o Environmental Protection - the alternative must satisfy the response objectives and contribute to the protection of public health and the environment,
- o Environmental Effects - alternatives must not themselves cause additional environmental problems,

- o Technical Feasibility - technologies that are difficult to implement, require an excessive amount of time to achieve the desired results, or rely on unproven technology will be eliminated, and

- o Cost - an alternative whose cost far exceeds that of other alternatives achieving the same objectives will be eliminated.

As required by the EPA feasibility study guidance document, the cost screening will be performed after the environmental screening.

Documentation of the screening process and justification for elimination of alternatives must be provided.

Task 5. Evaluation of the Alternatives

The suite of alternatives that pass the preliminary screening will be fully developed at the conceptual level and then evaluated as described below.

- o Technical Analysis - Each alternative will be described in detail, including methods of implementation and health and safety needs during construction and operation.

- o Environmental Analysis - An environmental assessment will be performed for each alternative (including no-action). The NEPA EA should satisfy this requirement. Analyses of plume(s) extent and potential mitigation using computer modeling may be required to show the effectiveness of the alternative.

- o Public Health Analysis - An evaluation of the hazard (risk assessment) of the predicted concentrations to the public will be performed for each alternative including no action. The Risk Assessment must include review of existing data, identify major contaminants, selection indicator chemicals, identify exposed populations, estimate exposure concentrations (doses) and compare to ARARS, estimate human intakes, assess toxicity and characterize risk(s) associated with exposures.

- o Institutional Analysis - ARARS and permitting requirements of each alternative will be evaluated.

- o Cost Analysis - Costs will be estimated for each alternative, including costs for design, construction, operation, maintenance, and decommissioning. The cost estimates will be of conceptual level accuracy, i.e., ranging from -50 to +100 percent.

Upon completion of the analyses, the alternatives for each of the sites will be compared by the project team in order to select the preferred alternative and document the selection. Each alternative will be ranked using the following factors:

1) present worth of total cost,
2) health risks,
3) environmental effects,
4) technical feasibility,
5) extent to which alternative meets health and environmental standards,
6) disruption of community activities, and
7) institutional and other factors.

Each site or logical grouping of sites will be analyzed separately. Numerical rankings of each of the factors will be developed so that the alternatives can be scored and the best alternative selected.

Task 6 Feasibility Study Report

A Feasibility Study Draft Report will be prepared presenting and integrating the results of the previous tasks. Documentation reports will have been previously prepared for all tasks. The previously prepared reports will be included or revised as necessary for incorporation in the report. The Feasibility Study Report will be prepared by the entire Feasibility Study Project Team. The EA/NEPA will serve as the EA section of the Feasibility Study, therefore these efforts will not be duplicated. It is anticipated that two preliminary drafts plus a final draft will be required.

Task 7 Revisions To The Draft Feasibility Study For Medium Priority Sites, 903 Pad, Mound and East Trenches Areas)

Revisions to the Draft Feasibility Study for Medium Priority Sites submitted to the regulatory agencies. This task includes review and response to comments on the draft report preparation for and attending meetings with Rockwell and regulatory agencies, and preparation of written revisions up to and including a Final Report.

Applicable Documents:

CEARP Phase II: Rocky Flats Plant Installation Generic Monitoring Plan (Comprehensive Source and Plume Characterization Plan), U.S. Department of Energy, February 1987.

CEARP Phase II: Rocky Flats Plant Site Specific Monitoring Plan/High Priority Sites, (Remedial Investigations and Feasibility Studies Work Plan), U.S. Department of Energy, February 1987.

EPA, 1988, Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA, OSWER Directive 9335.3-01, Draft, March 1988.

Superfund Amendments and Reauthorization Act of 1986 (SARA).

EPA, 1986, "Interim Guidance on Superfund Selection of Remedy," December 24, 1986.

Reference: Superfund Public Health Evaluation Manual EPA/540/1-86/060, October 1986.

EPA, 1987, CERCLA Compliance with Other Laws Manual, OSWER Directive 9234.1-01, Draft, June 1987.