



DOE, RFO Environmental Restoration Program

Monthly Report for January 1994



February 20, 1994

ADMIN RECORD

DOCUMENT CLASSIFICATION
REVIEW WAIVER PER
CLASSIFICATION OFFICE

Page 2 of 84

A-SW-001441

TABLE OF CONTENTS

Executive Summary1

Significant Activities and Achievements for January 19941

IAG Performance Indicators for ER Monthly Report3

Problems and Programmatic Issues5

Near-Term IAG Table Six Milestones7

1.0 Introduction.....9

2.0 Project Status11

2.1 OU 1 - 881 Hillside Area11

2.1.1 OU 1 Assessment.....11

2.1.2 OU 1 Remediation13

2.2 OU 2 - 903 Pad, Mound, and East Trenches15

2.2.1 OU 2 Assessment15

2.2.2 OU 2 Remediation18

2.3 OU 3 - Offsite Areas21

2.4 OU 4 - Solar Evaporation Ponds.....25

2.4.1 OU 4 Assessment26

2.4.2 OU 4 Remediation29

2.5 OU 5 - Woman Creek33

2.6 OU 6 - Walnut Creek.....37

2.7 OU 7 - Present Landfill41

2.8 OU 8 - 700 Area.....45

2.9 OU 9 - Original Process Waste Lines47

2.10 OU 10 - Other Outside Closures.....51

2.11 OU 11 - West Spray Field55

2.12 OU 12 - 400/800 Area57

2.13 OU 13 - 100 Area59

2.14 OU 14 - Radioactive Sites63

2.15 OU 15 - Inside Building Closures65

2.16 OU 16 - Low Priority Sites67

2.17 Sitewide (SW) Activities69

3.0 Routine Environmental Monitoring73

4.0 Contractor/Subcontractor Identification75

Appendix - Acronyms79

EXECUTIVE SUMMARY

SIGNIFICANT ACTIVITIES AND ACHIEVEMENTS FOR JANUARY 1994

The regulatory agencies completed their review of the OU 1 Final Phase III Resource Conservation and Recovery Act (RCRA) Facilities Investigation/ Remedial Investigation (RFI/RI) Report and submitted their comments on January 20, 1994.

DOE completed the final review of the OU 2 Surface Water Interim Measure/Interim Remedial Action (IM/IRA) Treatability Study Report (TSR); the report was delivered to the regulatory agencies on January 26, 1994.

The modification to the OU 2 Surface Water Field Treatment Unit (FTU) implemented in December 1993, continues to reduce the waste that is generated as sludge. While additional time and monitoring will be required to accurately evaluate the amount of sludge reduction, early estimates indicate that a reduction of approximately 50 percent is being achieved.

The subcontract for the installation of the OU 3, Offsite Area, Ultra High Volume Air Samplers was awarded on January 26, 1994. The subcontractor will develop a construction schedule. Meetings were held in January 1994 with the United States Fish and Wildlife Service (USFWS) to discuss the impact that the installation of the air monitors will have on the bald eagles nesting near Standley Lake.

Deliveries of high-density polyethylene tanks for storage of sludge from the Solar Ponds continue in OU 4. To date, forty-six tank sets were received and installed in Tents Three, Four, and Six. Tank deliveries are scheduled to continue at a rate of eight tank sets per week. A total of seventy tank sets are on order. Nineteen primary tanks were tested onsite with water; seventeen have passed. On January 28, 1994, CDH certified the first six sludge storage tanks for use.

In OU 4, all major engineering and construction activities necessary to begin vacuum trucking operations to transfer pond sludge to the storage tanks are complete. Initial construction of the tank vent system is complete in Tent Three, 75 percent complete for Tent Four, and 15 percent complete for Tent Six. All floor repairs are complete. The new procedures for startup and nuclear safety screens are complete and workers are in final training.

DOE completed their National Environmental Policy Act (NEPA) determination for the OU 4 pond closure. An Environmental Assessment is required. This determination confirms the planning baseline. NEPA process activities are on schedule.

EPA has specified new milestones for the Pond Water Management IM/IRA in a letter dated January 10, 1994. A meeting was held on January 13, 1994, among the regulatory agencies and DOE to begin a question resolution process for nonlegal and nonpolicy issues of the Pond Water IM/IRA. On January 20, 1994, DOE directed EG&G to prepare new scope and schedule assumptions, as well as a new schedule for the completion of the Pond Water Management IM/IRA Decision Document (DD). This task was completed.

Work is on schedule for the Interim Measure/Interim Remedial Action Plan (IM/IRAP) for the Industrial Area (IA). On January 21, 1994, a comment resolution meeting was held among EPA, CDH, and DOE to discuss comments on the preliminary draft sections of the IM/IRAP. The regulatory agencies provided reinforcing comments that the "team approach" to this project seemed to be effective, and that they are pleased with the progress-to-date.

The Statement of Work (SOW) for the modification to the Industrial Areas Integrated Operable Units (8, 9, 10, 12, 13, and 14) (IA/OUs) subcontract is being prepared and will be submitted to RFP Procurement by February 9, 1994.

Work on the IA OUs Environmental Evaluation (EE) continued. Response to comments DOE made on the IA OUs EE will be incorporated into the document by early February, 1994. Following the delivery of the revised document, a meeting will be scheduled among the regulatory agencies, DOE, and EG&G to establish and review the current format presentation for the IA EE Reports.

IAG Performance Indicators for Monthly Report

<u>Number of IAG Table Six Milestones to Date</u>	<u>Current FY94 (10/1/93 - 9/30/94)</u>	<u>Since IAG Inception</u>
Scheduled (including approved extensions)	7	105
Met	0	88
Extensions Granted	2	29
Extensions Denied	0	2
Remaining this FY94 (to 9/30/94)	36	n/a
Added	0	5
Deleted	1	5

<u>Deliverables in Review by Regulators</u>	<u>Project</u>	<u>Date Submitted</u>
	OU 1 Final Phase III RFI/RI Report	15 Nov 93
	OU 2 Draft Phase II RFI/RI Report	16 Dec 93

<u>Field Work Currently Under Way</u>	<u>Project</u>	<u>Scheduled Complete</u>
Please note: these dates reflect scheduled field work and completed field work.	OU 2	08 Oct 93
	OU 3	13 Jul 93
	OU 4	Jun 95 ^a
Please note: these dates reflect scheduled field work and completed field work.	OU 7	30 Apr 93
	OU 8	16 Sep 94
	OU 9	18 Aug 94
	OU 10	15 Aug 94
	OU 12	05 Sep 94
	OU 13	17 Feb 95
	OU 14	11 May 95
	OU 15	12 Nov 93

^a for field work Phases I and II

<u>IM/IRA Status</u>	<u>Gallons Treated</u>
OU 1 881 Hillside Treatment	1,907,817 gallons
OU 2 903 Pad Water Treatment	20,327,585 gallons
OU 4 Water Management Tasks (ITS and Pond Water)	3,008,964 gallons

<u>IAG Document Deliverables Due Next 6 months</u>	<u>Due Date</u>	<u>Expected Date</u>
OU 1 Draft CMS/FS Report	11 Feb 94	31 Mar 94*
OU 1 Draft Responsiveness Summary	06 May 94	02 Nov 95
OU 1 Final Proposed Plan	04 Jan 94	17 May 95*
OU 1 Draft Responsiveness Summary	06 May 94	02 Nov 95
OU 1 Final Phase III RFI/RI Report	30 Mar 94	30 Mar 94
OU 2 Draft Proposed Plan	10 May 94	26 Jun 97
OU 3 Final CMS/FS Report	10 May 94	26 Jun 97
OU 3 Draft Phase I RFI/RI Report	14 Feb 94	02 Nov 93*
OU 4 Draft Phase I Proposed IM/IRA Decision Document (DD)	14 Apr 94	13 Apr 94
OU 4 Draft Phase II RFI/RI Work Plan	22 Apr 94	13 Apr 94
OU 5 Final Phase I RFI/RI Report	03 May 94	18 Oct 95
OU 6 Draft Phase I RFI/RI Report	10 Jun 94	21 Oct 94
OU 7 Final Phase I RFI/RI Report	16 Mar 94	02 Sep 94*
OU 8 Draft Phase I RFI/RI Report	14 Feb 94	12 Nov 15
OU 9 Draft Phase I RFI/RI Report	11 Apr 94	04 Jan 01
OU 12 Draft Phase I RFI/RI Report	20 Apr 94	11 Mar 99

DOE, Rocky Flats Plant

<u>Overdue Deliverables</u>	<u>Due Date</u>	<u>Expected Date</u>
OU 1 Draft Proposed Plan	27 Sep 93	30 Sep 94*
OU 1 Final Phase III RFI/RI Report	15 Nov 93	04 Mar 94*
OU 2 Draft Phase II RFI/RI Report a	12 Mar 93	16 Dec 93*
OU 2 Final Phase II RFI/RI Report	09 Aug 93	23 May 94*
OU 2 Draft CMS/FS Report	04 Nov 93	17 Oct 96*
OU 5 Draft Phase I RFI/RI Report	30 Nov 93	09 Feb 95*
OU 7 Draft Phase I RFI/RI Report	12 Oct 93	21 Jun 94*

- * Completion date to be rescheduled because of HHRA issues work stoppage.
- a Partial delivery, because of the HHRA issues work stoppage.

PROBLEMS AND PROGRAMMATIC ISSUES

Installation of permanent plant power continues to be an urgent item for the OU 2 Field Treatability Unity (FTU). Without permanent power, the FTU will continue to experience shutdowns caused from generator failure. The engineering package for construction is complete and field work is anticipated to begin by March 15, 1994.

The first OU 4, Solar Ponds, vacuum truck arrived on plantsite on January 17, 1994, and failed its safety inspection and was returned to the vendor's shop for repairs. It subsequently passed the safety inspection; however, after returning to the site, the truck was run through a cold run with water and several other problems occurred. Repairs are underway.

On January 31, 1994, DOE requested an extension from the regulatory agencies for the OU 8 Draft Phase I RFI/RI Report due on February 14, 1994, and the Final Phase I RFI/RI Report due on July 12, 1994.

Characterization and assessment of Individual Hazardous Substance Sites (IHSSs) in Operable Units (OUs) 9, 10, and 15 represent significant problems until materials stored in the IHSSs are removed and the IHSSs can be assessed. New guidance from DOE has directed EG&G to delay Phase I RFI/RI assessment on active units. Therefore, no work will be conducted on IHSSs 213 and 214, the 750 and 904 pads, until direction to proceed has been received from DOE.

An approved data aggregation and comparisons of site specific data to background values methodology has not been finalized for the Human Health Risk Assessment (HHRA) stop work order that continues to affect OUs 2, 3, 5, 6, and 7. Draft DOE proposals for data aggregation indicate potential cost and schedule impacts exist because of multiple risk assessments. The total number of risk assessments required for each OU will be negotiated with the regulatory agencies and could be based upon data aggregation criteria that may not be supported by current agency approved Work Plans.

NEAR-TERM IAG TABLE SIX MILESTONES

<u>OU#</u>	<u>IAG Milestone Description</u>	<u>Date Scheduled to EPA/CDH</u>	<u>Status</u>
2 ^a	Submit Draft Phase II RFI/RI Report	12 Mar 93	Extension denied (delinquent)
2 ^a	Submit Final Phase II RFI/RI Report	9 Aug 93	Extension denied (delinquent)
1	Submit Draft Proposed Plan	27 Sep 93	Extension request submitted
7 ^a	Submit Draft Phase I RFI/RI Report	12 Oct 93	.
2a	Submit Draft CMS/FS Report	04 Nov 93	.
1	Submit Final Phase III RFI/RI Report	30 Mar 94	Extended from 04 Jan 93
5 ^a	Submit Draft Phase I RFI/RI Report	30 Nov 93	.
1	Submit Final Proposed Plan	04 Jan 94	Extension request submitted
1	Submit Draft CMS/FS Report	11 Feb 94	Extended from 31 Mar 93
3 ^a	Submit Draft Phase I RFI/RI Report	14 Feb 94	Extended from 16 Jul 93
8	Submit Draft Phase I RFI/RI Report	14 Feb 94	Extension request submitted
7 ^a	Submit Final Phase I RFI/RI Report	16 Mar 94	.
9	Submit Draft Phase I RFI/RI Report	11 Apr 94	Extension request submitted
4	Submit Draft Phase I Proposed IM/IRA Decision Document	14 Apr 94	On schedule
12	Submit Draft Phase I RFI/RI Report	20 Apr 94	.
4	Submit Draft Phase II Work Plan	22 Apr 94	On schedule
5 ^a	Submit Final Phase I RFI/RI Report	03 May 94	Extension request submitted
1	Submit Draft Responsiveness Summary	06 May 94	.
2 ^a	Submit Final CMS/FS Report	10 May 94	.
2 ^a	Submit Draft Proposed Plan	10 May 94	.
6 ^a	Submit Draft Phase I RFI/RI Report	10 Jun 94	Extended from 4 Aug 93
4	Submit Final Phase I Proposed IM/IRA Decision Document	24 Jun 94	On schedule
8	Submit Final Phase I RFI/RI Report	12 Jul 94	Extension request submitted
15	Submit Draft Phase I RFI/RI Report	01 Aug 94	On schedule
1	Submit Final CMS/FS Report	03 Aug 94	.
1	Submit Final Responsiveness Summary	03 Aug 94	.
1	Submit Draft CAD/ROD	03 Aug 94	.
13	Submit Draft Phase I RFI/RI Report	08 Aug 94	.
2 ^a	Submit Final Proposed Plan	09 Aug 94	.
10	Submit Draft Phase I RFI/RI Report	25 Aug 94	Extension request submitted
9	Submit Final Phase I RFI/RI Report	06 Sep 94	Extension request submitted
7 ^a	Submit Draft Phase II RFI/RI Work Plan	13 Sep 94	.
12	Submit Final Phase I RFI/RI Report	15 Sep 94	.
4	Submit Final Phase II RFI/RI Work Plan	19 Sep 94	On schedule
11	Submit Draft Phase I RFI/RI Report	20 Sep 94	.
3 ^a	Submit Final Phase I RFI/RI Report	21 Oct 94	Extended from 13 Dec 93
1	Submit Final CAD/ROD	01 Nov 94	.
1	Submit CD/RD Work Plan	01 Nov 94	.
7 ^a	Submit Draft Phase I Proposed IM/IRA DD	01 Nov 94	.
6 ^a	Submit Final Phase I RFI/RI Report	18 Nov 94	Extended from 07 Jan 94
2 ^a	Submit Responsiveness Summary	13 Dec 94	.
14	Submit Draft Phase I RFI/RI Report	20 Dec 94	.

* Behind original IAG schedule; extension required.

^a OU 2 through OU 7 may require additional extensions because of HHRA issues work stoppage.

SECTION 1. INTRODUCTION

This monthly status report presents the current status and technical achievements of the Rocky Flats Environmental Restoration Program for January 1994. This program implements the Interagency Agreement (IAG) among the U.S. Department of Energy (DOE), the U.S. Environmental Protection Agency (EPA), and the State of Colorado to investigate, assess, and remediate, where necessary, contaminated areas at or adjacent to DOE's Rocky Flats Plant in Golden, Colorado. This agreement was signed on January 22, 1991. The work is being performed for DOE by EG&G Rocky Flats, Inc.

The Executive Summary of the report highlights significant achievements, summarizes milestone information, and presents any major unresolved issues of the program. Technical progress, schedule status, and milestone status for each Operable Unit (OU) as well as other program activities are presented in Section 2. Section 3. contains the schedules for routine environmental sampling as required by Paragraph 210 of the Interagency Agreement. Section 4. contains a list that identifies the contractors and subcontractors performing work on the program as required by Paragraph 13 of the IAG.

SECTION 2. PROJECT STATUS

2.1 OU 1 - 881 HILLSIDE AREA

The alluvial ground water at the 881 Hillside Area, located north of Woman Creek in the southeast section of Rocky Flats Plant (RFP), was contaminated in the 1960s and 1970s with solvents and radionuclides. The area is approximately 2 miles from the eastern, outer edge of the plant's buffer zone at Indiana Street. The various Individual Hazardous Substance Sites (IHSS) that make up OU 1 were being investigated and treated as high-priority sites because of potentially elevated concentrations of organic compounds in the near-surface ground water and the proximity of the contamination to a drainage system leading to an offsite drinking water supply. The selected Interim Remedial Action (IRA) at OU 1 involved construction of an underground drainage system called a French drain that intercepts and contains near-surface ground water flowing from the OU 1 area. The near-surface water is treated at the 891 treatment facility, designed for this purpose, and released onsite into the South Interceptor Ditch (SID) along Woman Creek. Water collected from this ditch undergoes a secondary analysis prior to release. IRA construction was completed in April 1992. The Remedial Investigation and Feasibility Study (RI/FS) to determine the final remedial action are continuing in parallel with operation of the IRA.

2.1.1 OU 1 ASSESSMENT

Scope of Work Changes This Period None

Technical Approach Changes This Period None

IAG Milestone Accomplishments	Submit Draft Phase III RFI/RI Work Plan	06 Feb 90
	Submit Final Phase III RFI/RI Work Plan	31 Oct 90
	Submit Draft Phase III RFI/RI Report	28 Oct 92

Future IAG Milestones Through FY95

<u>Milestone Name</u>	<u>IAG Date Scheduled</u>	<u>Extension Status</u>	<u>Planned Accomplishment Date</u>
Submit Final Phase III RFI/RI Report	04 Jan 93	15 Nov 93	30 Mar 94
Submit Draft CMS/FS Report	31 Mar 93	11 Feb 94	06 Aug 94
Submit Final CMS/FS Report	27 Sep 93	03 Aug 94	02 Feb 94
Submit Draft PP	27 Sep 93	Pending	02 Feb 95
Submit Final PP	04 Jan 94		12 May 95
Submit Draft Responsiveness Summary	06 May 94		11 Sep 95
Submit Final Responsiveness Summary	03 Aug 94		09 Dec 95
Submit Draft CAD/ROD	03 Aug 94		09 Dec 95
Submit Final CAD/ROD	01 Nov 94		08 Mar 96
Submit Draft Title II Design	05 Jul 95		09 Nov 96

DOE, Rocky Flats Plant

January Work Activity Status

Remedial Investigation (RI) - The regulatory agencies have completed their review of the OU 1 Final Phase III Resource Conservation and Recovery Act (RCRA) Facilities Investigation/Remedial Investigation (RFI/RI) Report. Comments from the regulatory agencies were received on January 20, 1994. On January 24, 1994, a meeting was held with the regulatory agencies to discuss their comments; these comments are being addressed.

Feasibility Study/Corrective Measures Study (FS/CMS) - A meeting was held on January 6, 1994, with EPA, CDH, and DOE to discuss the scope of activities in the CMS/FS, and explore ways to accelerate the program. Many portions of the CMS/FS are contingent upon the final results of the Phase III RFI/RI and were placed on hold.

Modifications to Technical Memorandum (TM) #10, *Preliminary Remediation Goals*, were made in accordance with EPA and DOE/HQ comments. Further modifications may be necessary after comments are received from CDH.

Technical Memoranda

Project

OU 1 881 Hillside

TM #10
TM Title
TM Status

Preliminary Remediation Goals
Submitted Draft TM to DOE: Feb 93
EPA has submitted comments on TM #10. CDH comments are expected in January 1994.
When preparation was concluded or is estimated to be concluded:
Projected date of submittal to EPA/CDH: Upon receipt of CDH comments.
Actual date of submittal: N/A
Date when comments were received: N/A

TM #11
TM Title
TM Status

Alternative Array
Submitted Draft TM to DOE: 21 Oct 93 - Delayed by stop work order.
When preparation is concluded or is estimated to be concluded:
Projected date of submittal to EPA/CDH: TBD
Actual date of submittal: N/A
Date when comments were received: N/A

- | | |
|----------------------------------|---|
| Planned Work for February | <ul style="list-style-type: none"> • Continue work on the FS; complete alternatives array and begin nine criteria analysis. • Continue response to agency comments in preparation of the Final Phase III RFI/RI Report. |
|----------------------------------|---|

Problems	None
-----------------	------

Open Items	Many portions of the FS/CMS, such as TM #10, <i>Preliminary Remediation Goals (PRG)</i> , and TM #11, <i>Alternatives Array</i> , are contingent upon the final results of the Final Phase III RFI/RI Report.
-------------------	---

2.1.2 OU 1 REMEDIATION

Scope of Work Changes This Period	None
--	------

Technical Approach Changes This Period	None
---	------

IAG Milestone Accomplishments	Submit Draft Proposed IM/IRA Decision Document	18 Sep 89
	Submit Proposed IM/IRA Decision Document	06 Oct 89
	Submit Final IM/IRA Decision Document	05 Jan 90
	Begin Phase I-A IM/IRA Construction	15 Jan 90
	Restart Phase I-A IM/IRA Construction (after shutdown)	20 Jun 90
	Begin Phase I-B IM/IRA Construction (ahead of schedule)	28 Sep 90
	Submit IM/IRA Implementation Document	22 Feb 91
	Begin Phase II-A IM/IRA Construction	01 Apr 91
	Begin IM/IRA Testing	05 Aug 91
	Begin Phase II-B IM/IRA Construction	03 Sep 91
	Complete IM/IRA Construction (891 treatment building)	02 Mar 92
	Complete IM/IRA Construction (French drain)	13 Apr 92

Future IAG Milestones Through FY95	None
---	------

DOE, Rocky Flats Plant

January Work Activity Status

A meeting was held on January 19, 1994, with CDH to address the issue of excess chemicals on plantsite and the method to be used in the treatment of these chemicals. It was agreed that the OU 1 IM/IRA system was not the best treatment system to process the chemicals.

DOE sent approval to EG&G to discharge effluent Tank T-206. Written approval was required because low-level xylene was detected in Tank T-206, and no treatment standard exists for xylene at the OU 1 treatment facility.

Problems with the reproducibility in the gas chromatograph were resolved and the vendor installed the glass part that was needed to complete the assembly of the system. However, additional testing will be necessary to ensure that the system has acceptable levels of reproducibility. The vendor estimates that the unit will be delivered in February 1994.

Treated ground water this month: 25,308 gallons
Total treated to date: 1,907,817 gallons

Planned Work for February

- Complete installation of gas chromatograph.

Problems

- Need to resolve issues regarding location of gas cylinders for gas chromatograph.

Open Items

None.

2.2 OU 2 - 903 PAD, MOUND, AND EAST TRENCHES

The contamination at the 903 Pad and Mound areas is largely attributed to the storage in the 1950s and 1960s of waste drums that corroded over time, allowing hazardous and radioactive material to leak into the surrounding soil. Additional contamination may have resulted from wind dispersion during drum removal and soil movement activities. The East Trenches Area was used for disposal of plutonium- and uranium-contaminated waste and sanitary sewage sludge from 1954 to 1968. Two areas adjacent to the trenches were used for spray irrigation of sewage treatment plant effluent; some may have contaminants that were not removed by the treatment system.

An Interim Measure/Interim Remedial Action (IM/IRA) provides for surface water in source areas of contamination to be collected, treated, and discharged to the surface water drainage. Operation of a field-scale treatability unit for the South Walnut Creek drainage began in May 1991. The effectiveness of the treatment process is evaluated at three locations: the entrance to the treatment facility, several points within the facility, and the discharge point. After completion of the field-scale treatability tests, the unit is anticipated to remain in service until the final remedial action is operational. The RI and FS are continuing in parallel with the IRA.

A second IM/IRA was established in late-1991. This Subsurface Investigation Interim Measure/Interim Remedial Action Plan/Environmental Assessment (IM/IRA/EA) is north of Woman Creek and encompasses the 903 Pad, the Mound Area, and the East Trenches Area of OU 2. This IM/IRA evaluates a remedial technology actions for removal of residual free-phase Volatile Organic Compound (VOC) contamination from three distinct subsurface environments at OU 2. Each of the VOC-removal actions involve in situ vacuum-enhanced vapor extraction technology. The interim remedial actions for the collection of information will aid in the selection and design of final remedial actions that address subsurface, residual free-phase VOC contamination at OU 2.

2.2.1 OU 2 ASSESSMENT

Scope of Work Changes This Period None

Technical Approach Changes This Period None

IAG Milestone Accomplishments	Submit Draft Phase II RFI/RI Work Plan (Alluvial)	21 Dec 89
	Submit Final Phase II RFI/RI Work Plan (Alluvial)	12 Apr 90
	Submit Draft Phase II RFI/RI Work Plan (Bedrock)	05 Feb 91
	Submit Final Phase II RFI/RI Work Plan (Bedrock)	02 Jul 91

Future IAG Milestones
Through FY95

<u>Milestone Name</u>	<u>IAG Date Scheduled</u>	<u>Extension Status</u>	<u>Planned Accomplishment Date</u>
Submit Draft Phase II RFI/RI Report	12 Mar 93	Denied	16 Dec 93*
Submit Final Phase II RFI/RI Report	09 Aug 93	Denied	23 May 94*
Submit Draft CMS/FS Report	04 Nov 93		17 Oct 96*
Submit Final CMS/FS Report	10 May 94		26 Jun 97*
Submit Draft PP	10 May 94		26 Jun 97*
Submit Final PP	09 Aug 94		13 Jan 98*
Submit Responsiveness Summary	13 Dec 94		30 Jun 98*
Submit Draft CAD/ROD	16 Mar 95		02 Dec 98*
Submit Final Responsive Summary	16 Mar 95		02 Dec 98*
Submit Final CAD/ROD	15 Jun 95		10 Aug 99*

*TBD due to Human Health Risk Assessment (HHRA) issues work stoppage.

January Work Activity Status

A meeting was held on January 19 through 21, 1994, with DOE/HQ to discuss the Draft Phase II RFI/RI Report.

The draft final contaminants of Concern (COC) TM was delivered to the agencies in December 1994. Comments were received from the regulatory agencies on January 14, 1994. The regulatory agencies have not resolved their differences on the data aggregation for the Baseline Risk Assessment.

Comments on TM #9, *Chemicals of Concern*, were received from CDH and DOE/Headquarters (HQ). To date, comments have not been received from EPA.

Treatability Study/Feasibility Study (TS/FS) -
Applicable or relevant and appropriate requirements (ARARs) evaluations are underway, beginning with the regulatory agencies' review. The TS/FS for OUs 2, 3, and 6 will be consolidated, thus reducing cost.

The Evaluation of the Data Sufficiency Report is complete and is being reviewed. Work continues on the Comprehensive List of Technologies.

Technical Memoranda

Project

OU 2-903 Pad, Mound, and East Trenches

TM #5
TM Title
TM Status

Exposure Scenarios
When preparation is concluded or is estimated to be concluded: 15 Jan 93

Projected date of submittal to EPA/CDH: 15 Jan 93
Actual date of submittal: 15 Jan 93
Date when comments were received: 11 Feb 93 EPA,
12 Mar 93 CDH

TM #6
TM Title
TM Status

Modeling
When preparation is concluded or is estimated to be
concluded: 15 Jan 93
Projected date of submittal to EPA/CDH: 15 Jan 93
Actual date of submittal: 15 Jan 93
Date when comments were received: 01 Apr 93 EPA,
31 Mar 93 CDH

TM #7
TM Title
TM Status

Surficial Soils
When preparation is concluded or is estimated to be
concluded: 07 Jan 93
Projected date of submittal to EPA/CDH: 07 Jan 93
Actual date of submittal: 12 Jan 93
Date when comments were received: 21 Jan 93
TM Approved

TM #8
TM Title
TM Status

Bedrock
When preparation is concluded or is estimated to be
concluded: 15 Mar 93
Projected date of submittal to EPA/CDH: 01 Mar 93
Actual date of submittal: 15 Mar 93
Date when comments were received: 14 Apr 93 EPA,
14 Apr 93 CDH

TM #9
TM Title
TM Status

Chemicals of Concern
When preparation is concluded or is estimated to be
concluded: 24 Aug 93
Projected date of submittal to EPA/CDH: Unknown due
to work stoppage
Actual date of submittal: TBD
Date when comments received: January 14, 1994

TM #10
TM Title
TM Status

Toxicity Assessment
When preparation is concluded or is estimated to be
concluded: 24 Aug 93
Projected date of submittal to EPA/CDH: Unknown due
to work stoppage
Actual date of submittal:
Date when comments are received:

DOE, Rocky Flats Plant

Planned Work for February

- Continue Soil Vapor Extraction.
- Continue FS.
- Continue RI Report.

Problems

None

Open Items

The regulatory agencies are working to arrive at a compromise approach to the HHRA work stop order issue of data aggregation.

2.2.2 OU 2 REMEDIATION

Scope of Work Changes This Period

None

Technical Approach Changes This Period

None

IAG Milestone Accomplishments

Submit Draft Proposed IM/IRA Decision Document	19 Jun 90
Submit Proposed Plan IM/IRA Decision Document	18 Sep 90
Submit Draft Responsiveness Summary	13 Dec 90
Submit Final Responsiveness Summary and Final IM/IRA Decision Document	11 Jan 91
Field Treatability Test System Installation Complete	10 May 91
Begin Field Treatability Testing (Carbon System)	03 May 91
Submit Draft Treatability Test Report (Phase I GAC)	01 Apr 92
Complete IM/IRA Construction (radionuclides removal system)	24 Apr 92
Begin Field Treatability Testing (radionuclides removal system)	27 Apr 92
Submit Final Treatability Test Report (Phase I GAC)	02 Jun 92
Submit Subsurface Site 1 Draft Test Plan	29 Oct 92
Submit Subsurface Site 1 Final Test Plan	12 Jan 93
Submit Subsurface Site 2 Draft Test Report	24 Jun 93
Submit Draft Surface Water Field Treatability Report	13 Jul 93

**Future IAG Milestones
Through FY95**

<u>Milestone Name</u>	<u>IAG Date Scheduled</u>	<u>Extension Status</u>	<u>Planned Accomplishment Date</u>
Submit Final Phase II Treatability Study Report	13 Jul 93	08 Sep 93	08 Sep 93*

**January Work Activity
Status**

Subsurface Interim Measure/Interim Remedial Action (IM/IRA) - DOE will receive the Draft Soil Vapor Survey Report by February 14, 1994. Additional sampling was performed in conjunction with OU 1 activities. The results of the sampling will be included in the final report. The Final Soil Vapor Survey Report is scheduled to be submitted to EPA and CDH by June 7, 1994.

DOE made comments on TM #1, *Subsurface IM/IRA Soil Vapor Extraction Pilot Test*. These comments are being incorporated into the document and it will be finalized.

Field Treatment Unit (FTU) Surface Water Treatment Facility - The Final Draft Surface Water IM/IRA Treatability Study Report (TSR) was delivered to the regulatory agencies.

Five 55-gallon drums of sludge from the FTU were packaged in January 1994.

The modification to the FTU implemented in December 1993 continues to reduce the waste that is generated as sludge. While additional time and monitoring will be required to accurately evaluate the amount of sludge reduction, early estimates indicate that a reduction of approximately 50 percent is being achieved.

Modifications to the Sampling and Analysis Plan for the OU 2 FTU continues. The changes to the Sampling Analysis Plan will allow the sampling at the FTU to be more characteristic of the treatment facility's effectiveness, as well as more cost effective.

Treated surface water this month: 460,770 gallons
Total treated to date: 20,327,585 gallons

20 / 81

DOE, Rocky Flats Plant

Planned Work for February

Subsurface IRA Program

- Continue normal operations.

Surface IRA Program

- Continue Sludge Reduction Plan.
- Replace Influent Line.

Problems

The FTU continues to operate intermittently.

Installation of permanent plant power continues to be an urgent item for the FTU. Without permanent power, the FTU will continue to experience shutdowns caused from generator failure. The engineering package for construction is complete and field work is anticipated to begin by March 15, 1994.

Open Items

None.

2.3 OU 3 OFFSITE AREAS

OU 3 can be divided into two categories based on two main activities. The IAG directs activities according to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This involves assessment of contamination in offsite areas also referred to as Contamination of the Land Surface (IHSS 199), Great Western Reservoir (IHSS 200), Standley Lake (IHSS 201), and Mower Reservoir (IHSS 202). The second category responds to a 1985 out-of-court lawsuit settlement, McKay vs. U.S., which directed that the surface soil contamination be remediated. Remedial activities in compliance with the Settlement Agreement (deep disc plowing) began in 1985. The disturbance resulting from remediation is being revegetated with mediocre success. The overall schedule for this activity is determined by the year-to-year success of the revegetation effort and requirements of the landowners.

Scope of Work Changes This Period None

Technical Approach Changes This Period None

IAG Milestone Accomplishments	Submit Draft Past Remedy Report	26 Oct 90
	Submit Draft Historical Information/ Preliminary Health Risk Assessment Report	09 Nov 90
	Submit Final Past Remedy Report	02 Apr 91
	Submit Final Historical Information/ Preliminary Health Risk Assessment Report	16 Apr 91
	Submit Draft Phase I RFI/RI Work Plan	10 Jul 91
	Submit Final Phase I RFI/RI Work Plan	06 Dec 91

Future IAG Milestones Through FY95

<u>Milestone Name</u>	<u>IAG Date Scheduled</u>	<u>Extension Status</u>	<u>Planned Accomplishment Date</u>
Submit Draft Phase I RFI/RI Report	16 Jul 93	14 Feb 94	14 Feb 94*
Submit Final Phase I RFI/RI Report	13 Dec 93	21 Oct 94	21 Oct 94*

*TBD due to HHRA issue work stoppage.

January Work Activity Status

DOE received the Semi-Annual Jefferson County Remedy Lands Report on January 30, 1994.

The contract for installation of the ultra high volume air samplers was awarded on January 26, 1994. The subcontractor will develop a construction schedule.

This schedule will determine how much data will be available for the Draft Phase I RFI/RI Report. Based on this information, negotiations with the regulatory agencies will begin.

The eagles continue to be an issue affecting the ultra high volume air samplers. A request is being prepared to propose that RFP proceed with the construction of these units. This proposal will be sent to the United States Fish and Wildlife Service (USFWS) for its concurrence. A meeting was held on January 28, 1994, with the USFWS to discuss the impact that the installation of the air monitors will have on the bald eagles nesting near Standley Lake.

On February 15, 1994, a presentation of the wind tunnel modeling results will be made to the regulatory agencies. This presentation will fulfill the obligations of this task, and the final wind tunnel study will be included as an appendix in the Draft Phase I RFI/RI Report.

Technical Memoranda

Project

OU 3-Offsite Areas

TM #1

TM Title

TM Status

Field Changes to RFI/RI Work Plan

When preparation is concluded or is estimated to be concluded: 10 May 93

Projected date of submittal to EPA/CDH: 10 May 93

Actual date of submittal: 23 Apr 93

TM #2

TM Title

TM Status

Exposure Scenarios for the HHRA

When preparation is concluded or is estimated to be concluded: 12 May 93

Projected date of submittal to EPA/CDH: 12 May 93

Actual date of submittal: 03 May 93

Date when comments were received: 15 Jul 93

TM #3

TM Title

TM Status

Modeling

When preparation is concluded or is estimated to be concluded: 29 Sep 93

Projected date of submittal to EPA/CDH: TBD

Actual date of submittal: N/A

Date when comments were received: N/A

2.4 OU 4 - SOLAR EVAPORATION PONDS

OU 4 is comprised of five solar evaporation ponds: 207A, 207B series (north, center, south), and 207C which were constructed for treatment and storage of process water from industrial operations. The process water contained treated acidic wastes, industrial liquid wastes (e.g., metal plating solutions), and low-level radioactive wastes.

As technology improved through the early 1960s and 1970s, the ponds were relined with various upgraded materials. However, leakage from the ponds into the soil and ground water was detected. Interceptor trenches were installed in 1971 to collect and recycle contaminated ground water to the ponds and to minimize natural seepage and pond leakage from entering North Walnut Creek. In 1981, these trenches were replaced by the current, larger interceptor trench system (ITS), which returned approximately 4 million gallons of ground water back into the solar evaporation ponds each year.

No additional process water has been pumped into the ponds since 1986. However, the ITS collected and returned ground water into the solar evaporation ponds until new storage tanks were completed and placed in operation in April 1993. The tanks allowed the RFP to stop placement of contaminated ground water into the ponds. This placement of water into the ponds had been occurring without meeting Land Disposal Restrictions and Minimum Technology Requirements of Resource Conservation and Recovery Act (RCRA). A new, dedicated Building 910 evaporation-treatment facility became operational in July 1993. This building supplements the plant's waste treatment facility in Building 374 to process the water stored in the modular tanks. As various upgrades are installed in Building 374 and as other plant waste streams decrease in volume, ITS water will be preferentially treated in Building 374 rather than Building 910.

The Solar Evaporation Ponds Subproject has been comprised of four technical areas: (1) pond sludge processing by means of the Agreement in Principle between DOE and CDH; (2) a water management/treatment by means of the IM/IRA DD signed by EPA, CDH and DOE; (3) the OU 4 assessment and remedial action, per the IAG which identified the ponds as one of the sixteen OUs to be remediated at the RFP and superseded the 1988 Ponds-Closure Plan submitted by DOE to the regulators; and (4) pad operations and storage activities that are necessary to meet the plant's RCRA interim status and permit requirements with regards to storage of pond wastes. The water management and pond sludge clean-out are necessary precursors to OU 4 assessment and remediation, and pad operations are necessary support activities at least until the pond sludge waste is disposed. Revisions to scope in these areas are being implemented in accordance with the recent dispute resolution for OU 4.

Work in these four areas was planned to close the ponds and remediate OU 4. The work was scoped to (1) remove water from the ponds, (2) provide a treatment facility to replace the ponds as evaporation-treatment and storage units for pond-related contaminated ground water, (3) remove and dispose of pond sludge in compliance with all regulations such as the Land Disposal Restrictions of RCRA, (4) assess the nature and extent of contamination at the ponds; (5) complete a RCRA closure of the impoundments; and (6) remediate the ponds as needed.

2.4.1 OU 4 ASSESSMENT

**Scope of Work Changes
This Period**

Project Work Plans have been revised to incorporate the results of the OU 4 dispute resolution, as outlined in the future milestone section. Budget changes to implement the revised scope were submitted to DOE/HQ. While awaiting DOE/HQ's approval, DOE/RFO is proceeding with the scope funded under these changes.

**Technical Approach
Changes This Period**

None

**IAG Milestone
Accomplishments**

Submit Draft Phase I RFI/RI Work Plan	08 Jun 90
Submit Final Phase I RFI/RI Work Plan	26 Nov 90

**Future IAG Milestones
Through FY95**

<u>Milestone Name</u>	<u>IAG Date Scheduled</u>	<u>Extension Status*</u>	<u>Planned Accomplishment Date</u>
Submit Draft Phase I RFI/RI Report	21 May 93	Deleted	Deleted
Submit Final Phase I RFI/RI Report	18 Oct 93	Deleted	Deleted
Submit Draft Phase II RFI/RI Work Plan	22 Apr 94		13 Apr 94
Submit Final Phase II RFI/RI Work Plan	19 Sep 94		02 Jun 94

* Established revised dates in dispute resolution

**January Work Activity
Status**

Phase I Interim Measures/Interim Remedial Action Plan (IM/IRA) Program - At a meeting held on January 4, 1994, among the regulatory agencies and DOE, an annotated outline was distributed for the Phase II RFI/RI Work Plan. Work continues on development of the Draft Phase I RFI/RI Report and the Phase II RFI/RI Work Plan which includes data evaluation, data objectives/needs, and a field sampling plan (FSP). Both drafts will be included as part of the Draft IM/IRA Decision Document (DD) and are scheduled for review and comment beginning February 14, 1994. Work also continues on the development of the Draft IM/IRA DD and is currently on schedule.

Concerns were raised over potential excursion of ground water up to or above the current level of the liners of Pond 207B-South and the impact such occurrences would have on the ability of the site to protect human health and the environment for 1,000-years, as required

by the hazardous waste landfill siting criteria. To address this issue, a solution was proposed to have the liners from Pond 207B South excavated, along with the liners from the other B-Series ponds and Pond 207C, and consolidated in the southern portion of Pond 207A. This part of Pond 207A would then be capped with an engineered barrier designed for a 1,000-year performance. This action would result in a situation where no portion of the liners will be within 4 feet of the highest recorded elevation of the alluvial ground water, and all liner material would be under the 1,000-year barrier. Further, a subsurface lateral drainage system within the 1,000-year Area of Concern (AOC) will be incorporated as a mechanism for ensuring ground water does not migrate "upwards" into the waste zone in the event that climactic changes over the next millennium should raise the water table.

Current planning calls for clean-closing as much of the Solar Ponds site as possible; however, clean-closure of Pond 207C may not be economically feasible. An assessment of this feasibility cannot be made until the pond is empty and sampled, but waiting for that event will result in unacceptable delays in the conceptual and Title II designs. Therefore, the design subcontractor has been directed to design an area of 1,000-year protection to cover the consolidated liners and an area of RCRA-compliant protection for Pond 207C. This approach will allow the final design to be changed without significant schedule impact as information concerning subsurface contamination is developed.

The size of the 1,000-year protected area was increased to approximately eight acres to accommodate soil material from the buffer zone, the north hillside, and the other areas slated for clean closure. A decision was made that even the liner material in the area of Pond 207A, slated for 1,000-year protection, must be excavated, size reduced, and replaced under the 1,000-year barrier to provide acceptable structural stability for the cap.

The OU 4 Phase I remedy is being planned assuming a Corrective Action Management Unit (CAMU) permit will be obtained for this project. CDH is holding hearings on the State CAMU rule in February 1994, and finalization is pending. If the CDH's promulgation is delayed, the remediation schedule will be impacted.

The technical evaluation for the Phase II Assessment and Remediation Proposal was completed, and the subcontractor is presently working in accordance with a Letter Task Order issued in December 1993.

Preparation of the Post Closure Monitoring and Maintenance Plan continues and is on schedule. An annotated outline was developed for the Post Closure Monitoring and Maintenance Plan and various criteria for monitoring the engineering barrier, vadose zone, and ground water.

Technical Memoranda

Project

OU 4-Solar Evaporation Ponds

TM #1

TM Title

TM Status

Vadose Zone Investigation

Draft submitted to EPA/CDH: 16 Nov 92

Comments received: 30 Nov 92

Conditional Approval: 30 Nov 92

Projected submittal of Final to EPA/CDH: 15 Dec 92

Actual submittal date of Final: 15 Dec 92

Submittal of TM #1 Vadose Zone Schedule: 19 May 93

EPA/CDH Final Approval of TM #1: 17 Jun 93

TM #2

TM Title

TM Status

Modification to Field Activities

Draft submitted to EPA/CDH: 18 Mar 93

Comments received: 07 May 93

Projected submittal of Final to EPA/CDH: 07 Jun 93

Actual submittal date of Final: 09 Jun 93

EPA/CDH Final Approval of TM #2: 30 Jun 93

TM #3

TM Title

TM Status

Environmental Evaluation

Draft submitted to EPA/CDH: 19 Mar 93

Comments received: EPA 21 Apr 93, CDH 02 Jun 93

Projected submittal of Final to EPA/CDH: 30 Apr 93

Actual submittal date of Final: 02 Jul 93

EPA/CDH Final Approval of TM #3: 30 Jul 93

TM #4

TM Title

TM Status

Human Health Risk Assessment Exposure Scenarios

Draft submitted to EPA/CDH: 19 Mar 93

Comments received: EPA 21 Apr 93, CDH 23 Apr 93

Projected submittal of Final to EPA/CDH: 11 Jun 93

Actual submittal date of Final: 11 Jun 93

EPA/CDH Final Approval of TM #4: 25 Jun 93

TM #5
TM Title Exposure Models
TM Status Projected submittal of Draft to EPA/CDH: 01 Aug 93
Actual submittal of Draft: 24 Jun 93
Projected submittal of Final to EPA/CDH: 15 Oct 93
Received stop work order: 24 Aug 93

TM #6
TM Title Contaminants of Concern
TM Status Projected submittal of Draft to EPA/CDH: 09 Nov 93
Projected submittal of Final to EPA/CDH: 22 Dec 93
Received stop work order: 24 Aug 93

TM #7
TM Title Toxicity Assessment
TM Status Projected submittal of Draft to EPA/CDH: 04 Nov 93
Projected submittal of Final to EPA/CDH: 22 Dec 93
Received stop work order: 24 Aug 93

Planned Work for February

- Continue validation of data from drilling samples and vadose zone samples.
- Initiate roundtable review cycle for IM/IRA DD, which is the final working group before the next IAG deliverable.

Problems None

Open Items Investigation of the floors of Ponds 207 C and 207 B South remains to be completed. The field work will be performed in April and May 1994.

2.4.2 OU 4 REMEDIATION

Scope of Work Changes This Period None

Technical Approach Changes This Period None

IAG Milestone Accomplishments None. The first IAG remediation milestone for this OU is the Draft Phase I Proposed IM/IRA DD scheduled for April 14, 1994.

Future IAG Milestones
Through FY95

<u>Milestone Name</u>	<u>IAG Date Scheduled</u>	<u>Extension Status *</u>	<u>Planned Accomplishment Date</u>
Submit Draft Phase I Proposed IM/IRA Decision Document	14 Apr 94	No Change	13 Apr 94
Submit Final Phase I Proposed IM/IRA Decision Document	12 Sep 94	24 June 94	02 Jun 94
All Solar Ponds Emptied of Water and Sludge	new	20 Jan 95	15 Apr 94

* Established revised dates in dispute resolution; schedule accelerated

January Work Activity Status

Regulatory - A change to interim status for the 750 storage pad was requested. This change is a necessary precursor to transferring pond sludge from the Solar Ponds to the new tank farm. The CDH provided their approval of the change in December 1993 with several conditions. While some of the conditions were anticipated and were already planned, the following two conditions were evaluated for potential cost impacts: (1) additional characterization sampling, and (2) creation of a coupon program to measure tank integrity over a 15 year period. DOE delayed mobilizing the sludge-transfer subcontractor while the conditions were evaluated. Worst case costs were estimated, but informal discussions with CDH indicated that a much less costly program is likely to be acceptable. RCRA permitting for the sludge removal project is nearly complete; authorization to mobilize the sludge-transfer subcontractor has since been given. On January 28, 1994, CDH certified the first six sludge storage tanks for use.

DOE completed their NEPA determination for the OU 4 pond closure. An Environmental Assessment is required. This determination confirms the planning baseline, and NEPA process activities are on schedule.

Pondsludge Status and Issues - Deliveries of high-density polyethylene tanks continue. To date, forty-six tank sets (a set includes an inner tank and a secondary containment tank) were received and installed in Tents Three, Four, and Six. Tank deliveries are scheduled to continue at a rate of eight tank sets per week. A total of seventy tank sets are on order. Nineteen primary tanks were tested onsite with water and seventeen have passed.

The first vacuum truck arrived on plant on January 17, 1994, failed its safety inspection, and was returned to the

vendor's shop for repairs. It subsequently passed the safety inspection; however, after returning to the site, the truck was run through a cold run with water and several other problems occurred. Repairs are underway.

All major engineering and construction activities necessary to begin vacuum trucking operations are complete. Initial construction of the tank vent system is complete in Tent Three, 75 percent complete for Tent Four, and 15 percent complete for Tent Six. All floor repairs are complete. The new procedures for startup and nuclear safety screens are complete, and workers are in final training.

The Special Assessment Checklist was completed on January 17, 1994, and a close-out meeting for the Readiness Team was held on January 24, 1994. Additional documentation on the tanks and their installation was provided to CDH.

Water Management Status and Issues - A Process Improvement Team (PIT) was formed to determine the most efficient way to utilize Building 910. Recommendations from this team will be reported in February 1994. Operations were halted to complete maintenance and Preventative Maintenance Orders on the evaporators. All three evaporator units in Building 910 were repaired and maintained but have not yet been tested. Following testing, the units will be placed in long-term shutdown. The requirement for weekly sampling of the Building 910 evaporator product water is set forth in the IM/IRA; however, relief from this requirement is going to be requested on the basis it provides redundant data. The plan is to collect analytical data for a period of several months to provide objective backup for this position. The current problem is the backlog in the Building 881 analytical laboratory where the samples are processed. To date, no data has been received on these samples.

The air compressor in Building 910 is not working and parts were ordered. A repair date has not been determined. This compressor is necessary for testing the evaporators. Operators performed the freeze protection procedures for Building 910 and the Temporary Modular Storage Tanks (TMSTs).

Planned Work for February

- Sludge from Pond 207B will be transferred to storage on 750 Pad.

DOE, Rocky Flats Plant

- DOE's NEPA determination for the pond closure will be received.
- The conceptual design and other IM/IRA DD components for pond closure will continue.

Problems

None

Open Items

None

2.5 OU 5 - WOMAN CREEK

This activity encompasses assessment and remediation of 10 IHSSs in the Woman Creek drainage: Original Landfill (IHSS 115); Ash Pits (IHSS 133.1 - 133.4); Incinerator (IHSS 133.5); Concrete Wash Pad (IHSS 133.6); Detention Ponds C-1 and C-2 (IHSS 142.10 and 142.11); Surface Disturbance (IHSS 209), southeast of Building 881. Two additional surface disturbances have been identified and are located, one south of the Ash Pits and a second west of IHSS 209. These last two sites have been included in the OU 5 Work Plan. Possible contamination in this operable unit was caused by landfill operations, storm-water runoff into holding ponds, and ash-pit operations. Constituents in OU 5 are believed to include nitrates, depleted uranium, metals, beryllium, solvents, pesticides, oils, paints, and cleaners. Media affected include soils, sediments, surface water, ground water, and air resuspension.

Scope of Work Changes This Period None

Technical Approach Changes This Period None

IAG Milestone Accomplishments	Submit Draft Phase I RFI/RI Work Plan	05 Apr 91
	Submit Final Phase I RFI/RI Work Plan	30 Aug 91

Future IAG Milestones Through FY95

<u>Milestone Name</u>	<u>IAG Date Scheduled</u>	<u>Extension Status</u>	<u>Planned Accomplishment Date</u>
Submit Draft Phase I RFI/RI Report	30 Nov 93		09 Feb 95*
Submit Final Phase I RFI/RI Report	03 May 94		18 Oct 95*

* Completion date to be rescheduled due to HHRA issues work stoppage.

January Work Activity Status

The comment/response sheets responding to the EPA and CDH comments on draft TM #12, *Exposure Scenarios*, are being reviewed and will be held until the stop work order is rescinded.

The draft TM #13, *Modeling*, is currently being reviewed by the regulatory agencies.

January 3, 1994, was the final pull date from the Rocky Flats Environmental Database System for use in the draft TM #15, *Addendum to the Field Sampling Plan*.

The Environmental Management (EM) 61 Time Domain Electromagnetic survey began on January 10, 1994, and

re-established the grid used in prior surveys. Work on the survey continued throughout January 1994.

Work continues on the geology and hydrology, as well as the nature and extent section of the draft RFI/RI Report.

The Activity Data Sheet (ADS) for OU 5 is being rebaselined. The 6-month delay because of the HHRA stop work order is the primary reason this activity is taking place. The stop work order affected two of the four work packages in the ADS. Background comparison activities will begin this week; however, the issue with data aggregation was not resolved.

Technical Memoranda

Project

OU 5-Woman Creek Priority Drainage Remedial Investigation

TM #1

TM Title

TM Status

Surface Water and Sediments

When preparation is concluded or is estimated to be concluded: 30 Nov 92

Projected date of submittal to EPA/CDH: 30 Nov 92

Actual date of submittal: 13 Oct 92

TM #2

TM Title

TM Status

Surface Geophysics

When preparation is concluded or is estimated to be concluded: 30 Nov 92

Projected date of submittal to EPA/CDH: 30 Nov 92

Actual date of submittal: 13 Oct 92

TM #3

TM Title

TM Status

Soil Sampling at IHSS 115

When preparation is concluded or is estimated to be concluded: 07 May 93

Projected date of submittal to EPA/CDH: 07 May 93

Actual date of submittal: 26 Jan 93

TM #4

TM Title

TM Status

Soil Sampling at IHSS 133

When preparation is concluded or is estimated to be concluded: 07 Jun 93

Projected date of submittal to EPA/CDH: 07 Jun 93

Actual date of submittal: 12 Apr 93

TM #5
TM Title Soil Gas Sampling at IHSS 115
TM Status When preparation is concluded or is estimated to be concluded: 07 May 93
Projected date of submittal to EPA/CDH: 07 May 93
Actual date of submittal: 25 Mar 93

TM #6
TM Title Cone Penetrometer at IHSS 115
TM Status When preparation is concluded or is estimated to be concluded: 14 Apr 93
Projected date of submittal to EPA/CDH: 14 Apr 93
Actual date of submittal: 25 Mar 93

TM #7
TM Title Soil Borings at IHSS 133
TM Status When preparation is concluded or is estimated to be concluded: 07 May 93
Projected date of submittal to EPA/CDH: 07 May 93
Actual date of submittal: 19 Feb 93

TM #8
TM Title Monitoring Wells at IHSS 115
TM Status TM #8 has been canceled, and has been replaced by a letter outlining the justification behind the location of the wells in IHSS 115

TM #9
TM Title Monitoring Wells at IHSS 133, Ash Pits, Incinerator and Concrete Wash Pad
TM Status When preparation is concluded or is estimated to be concluded: 14 May 93
Projected date of submittal to EPA/CDH: 06 May 93
Actual date of submittal: 06 May 93
EPA/CDH comments scheduled: 11 Jun 93
Actual date of submittal: 28 Jun 93

TM #10
TM Title Soil Borings at IHSS 209
TM Status When preparation is concluded or is estimated to be concluded: 06 Mar 93
Projected date of submittal to EPA/CDH: 06 Mar 93
Actual date of submittal: 06 Mar 93

TM #11
TM Title Contaminants of Concern
TM Status To be scheduled in FY94

DOE, Rocky Flats Plant

TM #12
TM Title
TM Status

Exposure Scenarios
When preparation is concluded or is estimated to be concluded: 24 Nov 93
Projected date of submittal to EPA/CDH: 24 Nov 93
Actual date of submittal: N/A

TM #13
TM Title
TM Status

Modeling
When preparation is concluded or is estimated to be concluded: 12 Jan 94
Projected date of submittal to EPA/CDH: 12 Jan 94
Actual date of submittal: N/A

TM #14
TM Title
TM Status

Toxicity Assessment
To be scheduled in FY94

Planned Work for February

- Respond to the agencies' comments on the draft TM #13, *Modeling*.
- Respond to the regulatory agencies' comments on TM #12, *Exposure Scenarios*., assuming the HHRA stop work order is rescinded.
- Continue work on sections of the Draft Phase I RFI/RI Report.
- Finalize rebaselining activities if the HHRA stop work order is rescinded on February 1, 1994.
- Continue to organize, clean up, and manage the OU 5 unvalidated analytical database.

Problems

The HHRA stop work order has resulted in a 50 percent reduction in the work being completed and continues to have a major impact on the project schedule.

Open Items

The regulatory agencies are working to arrive at a compromise approach to the HHRA work stop order issue of data aggregation.

2.6 OU 6 - WALNUT CREEK

This activity encompasses assessment and remediation in the Walnut Creek Drainage of 21 IHSSs: A-series Detention Ponds, Ponds A-1 through A-4 (IHSS 142.1 through 142.4 and 142.12); the B-series Detention Ponds, Ponds B-1 through B-5 (IHSS 142.5 through 142.9); the North, Pond, and South Area Spray Fields (IHSS 167.1, 167.2 and 167.3); the East Area Spray Field (IHSS 216.1), the Trenches A, B and C (IHSS 166.1, 166.2 and 166.3); the Sludge Dispersal Area (IHSS 141); the Triangle Area (IHSS 165); the Old Outfall Area (IHSS 143). and the Soil Dump Area (IHSS 156.2).

Completion of field operations resulted in obtaining the following samples from the IHSSs in OU 6: stream sediment, pond sediment, surface soil, subsurface soil, surface and ground water.

Eleven new ground water monitoring wells, installed in OU 6 to supplement five existing wells, are being sampled each quarter for a minimum of 1 year. Geophysical surveys and radiation surveys were performed in selected areas to supplement the sampling activities.

The regulatory agencies have proposed a new IM/IRA on the operation of the RFP Ponds. If approved, this IM/IRA would affect the RFP pond water management, including OU 6, placing the water under CERCLA rather than the National Pollution Discharge Elimination System (NPDES).

Scope of Work Changes This Period None

Technical Approach Changes This Period None

IAG Milestone Accomplishments	Submit Draft Phase I RFI/RI Work Plan	19 Apr 91
	Submit Final Phase I RFI/RI Work Plan	16 Sep 91

Future IAG Milestones Through FY95

<u>Milestone Name</u>	<u>IAG Date Scheduled</u>	<u>Extension Status</u>	<u>Planned Accomplishment Date</u>
Submit Draft Phase I RFI/RI Report	04 Aug 94	10 Jun 94	21 Oct 94*
Submit Final Phase I RFI/RI Report	07 Jan 94	18 Nov 94	10 Jul 95*

* Completion date to be rescheduled due to HHRA issues work stoppage.

January Work Activity Status DOE received the final TM #3, *Modeling Surface and Ground Water*, on January 17, 1994.

Work continues on the geology and hydrology, as well as the nature and extent section of the draft RFI/RI Report. DOE will receive the draft of Chapter 2, "Field Operations and Investigation Summary" on February 1, 1994.

The ADS is being rebaselined; the 6-month delay because of the HHRA stop work order is the primary reason this activity is taking place. Background comparison activities will begin this week; however, the issue with data aggregation has not been resolved.

Pond Water Management IM/IRA - DOE was informed by EPA of their decision to specify new milestones for the Pond Water Management IM/IRA on January 10, 1994. A meeting was held on January 13, 1994, among the regulatory agencies and DOE to begin a question resolution process for nonlegal and nonpolicy issues of the Pond Water IM/IRA. On January 20, 1994, DOE directed EG&G to prepare new scope and schedule assumptions, as well as a new schedule for the completion of the Pond Water Management IM/IRA DD. This task was completed.

Technical Memoranda

Project

OU 6-Walnut Creek

TM #1
TM Title
TM Status

Work Plan Modifications
Approved by EPA: 08 Jan 93

TM #2
TM Title
TM Status

Exposure Scenarios
When preparation is concluded or estimated to be concluded: 01 Feb 94
Projected date of submittal to EPA/CDH: 15 Feb 94
Actual date of submittal: TBD
Date when EPA/CDH comments received: N/A

TM #3
TM Title
TM Status

Modeling Surface and Ground Water
When preparation is concluded or is estimated to be concluded: 21 Jan 94
Projected date of submittal to EPA/CDH: 26 Jan 94
Actual date of submittal: TBD
Date when EPA/CDH comments received: N/A

TM #4
TM Title Contaminants of Concern
TM Status When preparation is concluded or is estimated to be concluded: 15 Mar 94
Projected date of submittal to EPA/CDH: 30 Mar 94
Actual date of submittal: N/A
Date when EPA/CDH comments received: N/A

TM #5
TM Title Toxicity Factors
TM Status When preparation is concluded or is estimated to be concluded: 15 Mar 94
Projected date of submittal to EPA/CDH: 30 Mar 94
Actual date of submittal: N/A
Date when EPA/CDH comments received: N/A

Planned Work for February

- Continue work on the EE, modifying the Sampling Analytical Plan for Polychlorinated biphenyl (PCB) sampling.
- Continue work on the FS.
- Continue to validate analytical data.
- Continue work on Draft RFI/RI Report
- Modify the subcontract to collect additional PCB samples (biota and sediment) at the A and B Series of ponds.
- Continue finalization of TMs #2 and #3.

Problems Stop work order has prevented continued work to be accomplished on the TM #4, COC, and delayed TM #2, *Exposure Scenarios*, and TM #3, *Modeling*.

Open Items The regulatory agencies are working to arrive at a compromise approach to the HHRA work stop order issue of data aggregation.

2.7 OU 7 - PRESENT LANDFILL

The Present Landfill - OU 7 is located north of the plant complex on the western edge of an unnamed tributary of North Walnut Creek and is comprised of two IHSSs. IHSS 114 includes landfill waste and leachate at the Present Landfill, soils beneath the landfill potentially contaminated with leachate, and sediments and water in the East Landfill Pond. IHSS 203 contains potentially contaminated soils at the Inactive Hazardous Waste Storage Area. A section of the Present Landfill located in the southwest corner was used between 1986 and 1987 as a temporary storage area for hazardous waste. The Present Landfill began operation in August of 1968 and was originally constructed to provide for disposal of RFP's nonradioactive and nonhazardous wastes. In September 1973, tritium was detected in leachate from the landfill. During the mid-1980s, extensive investigations were conducted on the waste streams (types) placed into the landfill; consequently, hazardous wastes/hazardous constituents were identified. Although currently operating as a nonhazardous sanitary landfill, the facility is considered an inactive hazardous waste disposal unit undergoing RCRA closure.

Scope of Work Changes This Period None

Technical Approach Changes This Period None

IAG Milestone Accomplishments	Submit Draft Phase I RFI/RI Work Plan	08 Jun 90
	Submit Final Phase I RFI/RI Work Plan	28 Aug 91

Future IAG Milestones Through FY95

<u>Milestone Name</u>	<u>IAG Date Scheduled</u>	<u>Extension Status</u>	<u>Planned Accomplishment Date</u>
Submit Draft Phase I RFI/RI Report	12 Oct 93		20 Dec 93*
Submit Final Phase I RFI/RI Report	16 Mar 94		02 Sep 94*
Submit Draft Phase II RFI/RI Work Plan	13 Sep 94		07 Aug 95*
Submit Draft Phase I Proposed IM/IRA DD	01 Nov 94		14 Feb 97*
Submit Final Phase II RFI/RI Work Plan	15 Feb 95		15 Apr 96*
Submit Final Phase I Proposed IM/IRA DD	06 Apr 95		16 Oct 97*
Submit IM/IRA Responsiveness Summary	14 Aug 95		14 May 98*

* Completion date to be rescheduled due to HHRA issues work stoppage.

January Work Activity Status

A draft Data Quality Objectives (DQO) document was developed incorporating the new EPA guidance on DQOs through Step Five and was received by DOE for review. On January 28, 1994, the DQO team, including EPA and CDH, met to review the baseline DQO draft and finalize Steps Six and Seven.

Work was completed on a technical evaluation of the subcontract modification proposal for implementing the proposed integration of Phase I and II field activities, as well as commencement of the IM/IRA process. The new scope was officially incorporated into the existing subcontract.

All drums containing Investigative Derived Material (IDM) from RFI/RI borings for OU 7 were correlated with a sample number or identified as not needing sampling per FO.23. Significant effort was made supporting the overall drum/sample correlation effort. This included coordinating the entire RFP RCRA/non-RCRA disposition of all drums per FO.23. Many issues surfaced regarding the appropriateness of some of the guidance in FO.23 with respect to CDH guidelines for IDM.

Preliminary runs of the East Landfill Pond soils data, using the Gehan test for background comparisons, identified only strontium and calcium as potential COC.

Technical Memoranda

Project

OU 7 - Present Landfill

TM #1
TM Title
TM Status

Exposure Scenarios
Initial reviews completed by DOE/HQ and DOE. Review completed by EPA and CDH. Response summary developed and submitted to all parties for review. Reviews complete. Revised response summary completed 25 May 93, with a final review under way prior to transmittal to the agencies.

TM #2
TM Title
TM Status

Model Description.
Transmitted to EPA and CDH for review: 08 Jan 93
Initial review by EPA, CDH, and DOE completed: 30 April 93
Draft response summary complete: 25 May 93

TM #3
TM Title
TM Status

Addendum to Final Phase I RFI/RI Work Plan. Surface Soil and Asbestos Pit Disposal Area Characterization Plan.
Transmitted to DOE for review: 05 Feb 93
Transmitted to the EPA and CDH for review: 08 Feb 93
Comments received: 26 Apr 93

Conditional approval by the EPA and CDH received:
22 Feb 93
Clarification of outstanding comments from EPA and
CDH received: 03 May 93

TM #4
TM Title
TM Status

Contaminants of Concern
Under development

**Planned Work for
February**

- Continue to work with the regulators to streamline the current IAG scope and schedule for OU 7.
- Continue work on the draft DQO document.
- Begin revising the FSP to integrate full pathways assessment.
- Begin chemical and location specific ARARs development.

Problems

An approved data aggregation methodology has not been finalized. The Draft DOE proposals for data aggregation indicate potential cost and schedule impacts exist because of multiple risks assessments. The total number of risk assessments required for each OU will be negotiated with the regulatory agencies and based upon data aggregation criteria that may not be supported by current agency approved Work Plans.

Open Items

The regulatory agencies are working to arrive at a compromise approach to the HHRA work stop order issue of data aggregation and a methodology for comparisons of site specific data to background values.

2.8 OU 8 - 700 AREA

The 24 IHSSs that constitute OU 8 encompass separate sites inside and around the production area of the Rocky Flats Plant. Contamination sources within the various IHSSs include above ground and underground tanks, equipment washing areas, and releases inside buildings which potentially affected areas outside the buildings. Contaminants from these sources may have been introduced into the environment through spills on the ground surface, underground leakage and infiltration, and in some cases through precipitation runoff. The chemical composition of the contaminants also varies widely between the IHSSs, ranging from low-level radioactive mixed wastes to nonradioactive organic and inorganic compounds.

OU 8 is within the Industrial Area (IA) at the Rocky Flats Plant and is being managed collectively with the other OUs that are within the IA. The IA OUs consist of OUs 8, 9, 10, 12, 13, and 14. All of these IA OUs are being investigated together because of similar field investigation techniques: e.g., surface soil sampling, radiation survey, etc. The main benefit from managing the IA OUs is improved oversight, coordination, and reduced costs.

Scope of Work Changes This Period None

Technical Approach Changes This Period None

IAG Milestone Accomplishments

Submit Draft Phase I RFI/RI Work Plan	01 May 92
Submit Final Phase I RFI/RI Work Plan	01 Dec 92

Future IAG Milestones Through FY95

<u>Milestone Name</u>	<u>IAG Date Scheduled</u>	<u>Extension Status</u>	<u>Planned Accomplishment Date</u>
Submit Draft Phase I RFI/RI Report	14 Feb 94	31 Jan 94	02 Nov 15
Submit Final Phase I RFI/RI Report	12 Jul 94	31 Jan 94	19 Jul 16

January Work Activity Status

The OU 8 Draft Phase I RFI/RI Report due on February 14, 1994, and the Final Phase I RFI/RI Report due on July 12, 1994, are IAG milestone dates. It is anticipated these dates cannot be met. DOE requested an extension for these milestones from the regulatory agencies on January 31, 1994, for these two OU 8 reports.

Work continues on addressing comments from a meeting held on January 6, 1994, regarding the Industrial Area (IA) Environmental Evaluation (EE) documents. DOE will receive the revised documents by February 1, 1994.

4/8/06/84

Following the delivery of the revised document, a meeting will be scheduled among the regulatory agencies, DOE, and EG&G to establish and review the current format presentation for the IA EE Reports.

Preparation work on TM #1, *Footing/Under Drains Data Compilation and Field Sampling Plan*, has been underway since September 1993. A meeting was held on January 24, 1994, to review the compiled data and a delivery date of March 1994 was set for the draft TM #1.

Technical Memoranda

Project

OU 8-700 Area

TM #1

TM Title

Footing/Under Drains Data Compilation and Field Sampling Plan

TM Status

When preparation is concluded or is estimated to be concluded:

Projected date of submittal to EPA/CDH: March 31, 1994

Actual date of submittal: N/A

Date when EPA/CDH comments received: N/A

Planned Work for February

- Complete the format resolution for the IA EE. Set up meetings with the regulatory agencies, DOE, and EG&G to present the findings of the IA EE field work.
- Complete TM #1.

Problems

DOE requested an extension from the regulatory agencies on January 31, 1994, for the OU 8 Draft Phase I RFI/RI Report due on February 14, 1994, and the Final Phase I RFI/RI Report due on July 12, 1994.

Open Items

None

2.9 OU 9 - ORIGINAL PROCESS WASTE LINES

This activity involves characterizing a series of tanks and associated process waste lines. The original process waste lines (OPWL) consisted of 35,000 feet of buried pipeline that transferred process wastes from production buildings to onsite treatment plants. A system of 60 designated pipe section, 46 storage tank sites, and 3 other areas of suspected process waste leakage are included in OU 9. The system was placed into operation in 1952, and additions were made to the system through 1975. The original system was replaced over the 1975-1983 period by the new process waste system. Some tanks and lines from the original system were incorporated into either the new process waste system or the fire water deluge collection system.

The original system is known to have transported or stored various aqueous process wastes containing low-level radioactive materials, nitrates, caustics, and acids. Small quantities of other liquids were also introduced in the system, including medical decontamination fluids, miscellaneous laboratory liquids, and laundry effluent. The RFI/RI Phase I Work Plan includes inspection and sampling of the OPWL tanks and pipelines that are accessible and soil sampling to determine the extent of contamination in the vadose zone. The soil sampling will be performed by installing test pits and boring where known or suspected releases occurred, near pipe joints and valves, at approximately 200-foot intervals along the pipelines, and by installing borings around the outdoor tanks. Soil characterization studies will determine the need for soil removal and/or treatment. The results of the Phase I RFI/RI will determine the need for interim and/or final remediation action.

OU 9 is within the Industrial Area (IA) at the Rocky Flats Plant and is being managed collectively with the other OUs that are within the IA. The IA OUs consist of OUs 8, 9, 10, 12, 13, and 14. All of these IA OUs are being investigated together because of similar field investigation techniques: e.g., surface soil sampling, radiation survey, etc. The main benefit from managing the IA OUs is improved oversight, coordination, and reduced costs.

**Scope of Work Changes
This Period** None

**Technical Approach
Changes This Period** None

IAG Milestone Accomplishments	Submit Draft Phase I RFI/RI Work Plan	08 Jun 90
	Submit Final Phase I RFI/RI Work Plan	26 Nov 91

Future IAG Milestones
Through FY95

<u>Milestone Name</u>	<u>IAG Date Scheduled</u>	<u>Extension Status</u>	<u>Planned Accomplishment Date</u>
Submit Draft Phase I RFI/RI Report	11 Apr 94		04 Jan 01
Submit Final Phase I RFI/RI Report	06 Sep 94		16 Sep 03
Submit Draft Phase II RFI/RI Work Plan	10 Mar 95		23 Jul 04
Submit Draft Phase I Proposed IM/IRA DD	01 May 95		31 Oct 03
Submit Final Phase II RFI/RI Work Plan	07 Aug 95		01 Apr 05
Submit Final Phase I Proposed IM/IRA DD	27 Sep 95		12 Jul 04

January Work Activity Status

DOE received the Tank Disposition Progress Improvement Team (PIT) Final Report Review Draft on January 7, 1994, after it had been reviewed by the PIT and comments were incorporated.

The preliminary draft Final OU 9 TM #1, *Field Sampling Plan - OPWL - Volume 1 - Tanks*, was received by DOE on December 14, 1993. The issue of how to handle active tanks was resolved. It is DOE's position that active tanks outside buildings should not be included in this field sampling TM. The current TM recognizes that the active tanks are under consideration but defers sampling activity until after the tank is taken out of use. DOE is currently reviewing TM #1 and expects to complete the review and have comments by February 16, 1994.

Additional data compilation site walks began on January 14, 1994, and continued on January 25, 1994. The 500 Area Sites were included on January 25, 1994. The information gathered will be presented as part of TM #2, *Field Sampling Plan, Part II, Outside Pipelines*.

Technical Memoranda

Project

OU 9-Original Process Waste Lines

TM #1
TM Title
TM Status

Field Sampling Plan - OPWL - Volume I - Tanks
When preparation is concluded or is estimated to be concluded: Jan 94
Projected date of submittal to EPA/CDH: March 94
Actual date of submittal: N/A
Date when EPA/CDH comments received: N/A

TM #2
TM Title Field Sampling Plan - Part II - Outside Pipelines
TM Status When preparation is concluded or is estimated to be
 concluded:
 Projected date of submittal to EPA/CDH: April 94
 Actual date of submittal: N/A
 Date when EPA/CDH comments received: N/A

Planned Work for February

- Complete TM #1.
- Continue work on TM #2.

Problems None

Open Items None

2.10 OU 10 - OTHER OUTSIDE CLOSURES

OU 10 is made up of 15 IHSSs scattered throughout the plant, which consist of various hazardous waste units. Six of the IHSSs are located in the PA, two are located in the buffer zone near the present landfill, and the remaining IHSSs are located near various buildings throughout the plant. The types of wastes identified at these sites range from pondcrete/saltcrete storage and drum storage to a utilization yard with waste spills. A Final Phase I RFI/RI Work Plan is currently in preparation. The primary components of the RFI/RI Work Plan for OU 10 will be an FSP, Baseline Risk Assessment Plan (BRAP) and an EE Work Plan.

OU 10 is within the Industrial Area (IA) at the Rocky Flats Plant and is being managed collectively with the other OUs that are within the IA. The IA OUs consist of OUs 8, 9, 10, 12, 13, and 14. All of these IA OUs are being investigated together because of similar field investigation techniques: e.g., surface soil sampling, radiation survey, etc. The main benefit from managing the IA OUs is improved oversight, coordination, and reduced costs.

Scope of Work Changes This Period None

Technical Approach Changes This Period None

IAG Milestone Accomplishments	Submit Draft Phase I RFI/RI Work Plan	27 Nov 91
	Submit Final Phase I RFI/RI Work Plan	01 May 92

Future IAG Milestones Through FY95

<u>Milestone Name</u>	<u>IAG Date Scheduled</u>	<u>Extension Status</u>	<u>Planned Accomplishment Date</u>
Submit Draft Phase I RFI/RI Report	25 Aug 94		02 Nov 15
Submit Final Phase I RFI/RI Report	30 Jan 95		19 Jul 16
Submit Draft Phase I Proposed IM/IRA DD	26 May 95		26 Feb 18
Submit Draft Phase II RFI/RI Work Plan	27 Jun 95		25 May 17

January Work Activity Status Surficial soil sampling in individual hazardous substance sites (IHSS) 170/174 was completed and all samples were shipped to the analytical laboratories.

IHSS 176 is scheduled next for surficial soil sampling for OU 10. The logistics for access to the Protected Area (PA) is being worked out, in order to minimize any delays that may occur while conducting sampling activities in the PA. Soil sampling locations were completed on January 17, 1994. Collection of soil samples in IHSS 176 began on January 31, 1994.

High purity germanium (HPGe) gamma survey data collection continues in the IA. Data still needs to be collected in various IHSSs in the PA for OU 10. It is anticipated that the remaining OU 10 survey locations will take 1 or 2 days to complete. Evaluation of the collected spectral data will continue. Additional data is being collected to characterize background gamma radiation near the windsite, along Indiana Street, and in the southern portion of the buffer zone.

Industrial Area (IA) Individual Hazardous Substance Sites (IHSS) Material Removal - No decision was made regarding FY94 responsibility for materials removal in the IA IHSS. DOE does not want ER to fund RFP Plant Services activities. If material movement can be funded soon, additional recovery can be realized by accelerating the outstanding radiation survey and surficial soil sampling activities. The Phase I RFI/RI assessment on active units has been delayed. Work continued in areas where material storage did not adversely affect data collection activities.

DOE directed that RFI/RI assessment activities on IHSSs 213 (904 pad) and 214 (750 pad) for OU 10 not be initiated, as these are currently active RCRA units that will be used to store wastes generated from the OU 4 (Solar Ponds) IM/IRA.

Technical Memoranda

No TMs have been developed for OU 10. The first TM for OU 10 will be for the nonintrusive field work, tentatively scheduled to be completed in March 1994.

Planned Work for February

- Continue surface soil sampling in IHSS 176.
- Continue spectral analysis of HPGe data.
- Collect additional HPGe data.
- Begin nonintrusive TM for OU 10.

Problems

Characterization and assessment of IHSSs in OUs 9, 10, and 15 represent significant problems until materials stored in the IHSSs are removed and the IHSSs can be assessed. DOE has directed that Phase I RFI/RI assessment on active units be delayed. Therefore, no work will be conducted on IHSSs 213 and 214 and 750 and 904 pads until direction to proceed has been received from DOE.

Open Items

None

56 of 84

2.11**OU 11 - WEST SPRAY FIELD**

The West Spray Field is located within the Rocky Flats Plant buffer zone immediately west of the plant security area. The West Spray Field was in operation from April 1982 to October 1985. During operation, excess liquids from solar evaporation ponds 207-B North and Center (contaminated ground water in the vicinity of the ponds and treated sanitary sewage effluent) were pumped periodically to the West Spray Field for spray application. The spray field boundary covers an area of approximately 105.1 acres, 38.3 of which received direct application of hazardous waste. The RFI/RI process will entail field studies to investigate the presence or absence of hazardous constituents in soil and ground water.

Scope of Work Changes This Period None

Technical Approach Changes This Period None

IAG Milestone Accomplishments	Submit Draft Phase I RFI/RI Work Plan	08 Jun 90
	Submit Final Phase I RFI/RI Work Plan	02 Jan 92

Future IAG Milestones Through FY95

<u>Milestone Name</u>	<u>IAG Date Scheduled</u>	<u>Extension Status</u>	<u>Planned Accomplishment Date</u>
Submit Draft Phase I RFI/RI Report	20 Sep 94		18 Apr 95
Submit Final Phase I RFI/RI Report	22 Feb 95		03 Jan 96
Submit Draft Phase II RFI/RI Work Plan	21 Aug 95		25 Nov 96

January Work Activity Status

Responses to DOE/HQ comments on the TM #1, Revised Field Sampling Plan and Data Quality Objectives, were addressed and delivered to DOE/HQ on January 14, 1994. Once DOE/HQ review of responses to comments is complete on TM #1, Revised Field Sampling Plan and Data Quality Objectives, it will be forwarded to the regulatory agencies for review. The format for the DQOs for TM #1 was revised to reflect new regulatory guidance.

Technical Memoranda

Project

OU 11 - West Spray Field

TM #1

TM Title

Revised Field Sampling Plan and Data Quality Objectives.

TM Status

Under development
HHRA Technical Memoranda is scheduled to begin in FY94

Planned Work for February

- Begin obtaining permits for mobilization into the field.
- Receive final approval from CDH and EPA on the integrated field investigation for OU 11.
- Complete document modification request for sonic drilling.
- Begin TM #1 and #2 for risk assessment.

Problems

None

Open Items

The TM to revise the FSP requires agency review before field work can begin.

2.12 OU 12 - 400/800 AREA

The 400/800 Area involves assessment and remediation of the 10 IHSSs at the 400/800 Area: Multiple Solvent Spills at the West and South Loading Dock Areas (IHSSs 116.1 and 116.2); Fiberglassing Areas North and West of Building 664 (IHSSs 120.1 and 120.2); Cooling Tower Ponds - north, east, south, and west of Building 460 (IHSSs 136.1, and 136.2); Building 881 - Conversion Site(147.2); Radioactive Site - South Area (IHSS 157.2); Acid Leaks (2) (IHSS 187); and Multiple Acid Spills (IHSS 189).

Assessment will consist of preparing a Phase I RFI/RI Work Plan, which will include both an EE and a HHRA. After implementation of this Work Plan, field work and sample analysis will be conducted, data will be analyzed, and the Phase I RI Report will be prepared. A Phase II Investigation may be performed as necessary. An FS to determine the best methods to remediate the area will be conducted as part of the assessment.

Remediation may consist of development and execution of a Remedial Action Plan based on results obtained during the assessment phase of the project. This process includes review and approval by the regulatory agencies, followed by a Record of Decision (ROD), release to the public, and implementation of the plan.

OU 12 is within the Industrial Area (IA) at the Rocky Flats Plant and is being managed collectively with the other OUs that are within the IA. The IA OUs consist of OUs 8, 9, 10, 12, 13, and 14. All of these IA OUs are being investigated together because of similar field investigation techniques: e.g., surface soil sampling, radiation survey, etc. The main benefit from managing the IA OUs is improved oversight, coordination, and reduced costs.

Scope of Work Changes This Period None

Technical Approach Changes This Period None

IAG Milestone Accomplishments	Submit Draft Phase I RFI/RI Work Plan	08 May 92
	Submit Final Phase I RFI/RI Work Plan	05 Oct 92

Future IAG Milestones Through FY95

<u>Milestone Name</u>	<u>IAG Date Scheduled</u>	<u>Extension Status</u>	<u>Planned Accomplishment Date</u>
Submit Draft Phase I RFI/RI Report	20 Apr 94		11 Mar 99
Submit Final Phase I RFI/RI Report	15 Sep 94		17 Nov 99

DOE, Rocky Flats Plant

January Work Activity Status

Initiation of nonintrusive surficial soil sampling is expected during February 1994. Unpaved areas will be sampled first followed by paved areas. Soil gas surveys are expected to begin in March 1994.

Technical Memoranda

The first TM scheduled for OU 12 is the nonintrusive TM due in April 1994.

Planned Work for February

- Begin soil sampling for OU 12.
- Begin nonintrusive TM for OU 12.

Problems

Waste storage may affect certain field activities in OU 12

Open Items

None

2.13 OU 13 - 100 AREA

Cleanup of the 100 Area involves the assessment and remediation of 14 IHSSs: Chemical Storage - North, Middle, and South Sites (IHSSs 117.1, 117.2 and 117.3); Oil Burn Pit #1 (IHSS 128); Lithium Metal Destruction Site (IHSS 134); Waste Spills (IHSS 148); Fuel Oil Tank (IHSS 152); Radioactive Site - North Area (IHSS 157.1); Radioactive Site - Building 551 (IHSS 158); Waste Peroxide Drum Burial (IHSS 169); Solvent Burning Ground (IHSS 171); Valve Vault 12 (IHSS 186); Caustic Leak (IHSS 190); and the Hydrogen Peroxide Spill (IHSS 191), and the Scrap Metal Site (IHSS 197).

Assessment will consist of preparing a Phase I RFI/RI Work plan, which will include both an EE and an HHRA. After implementation of this Work Plan, field work and sample analysis will be conducted, data will be analyzed, and the Phase I RI Report will be prepared. A FS to determine the best methods to remediate the area will be conducted as part of the assessment.

Remediation will consist of development and execution of a Remedial Action Plan based on results obtained during the assessment phase of the project. This process includes review and approval by the regulatory agencies, followed by a ROD, release to the public, and implementation of the plan.

OU 13 is within the Industrial Area (IA) at the Rocky Flats Plant and is being managed collectively with the other OUs that are within the IA. The IA OUs consist of OUs 8, 9, 10, 12, 13, and 14. All of these IA OUs are being investigated together because of similar field investigation techniques: e.g., surface soil sampling, radiation survey, etc. The main benefit from managing the IA OUs is improved oversight, coordination, and reduced costs.

Scope of Work Changes This Period None

Technical Approach Changes This Period None

IAG Milestone Accomplishments	Submit Draft Phase I RFI/RI Work Plan	15 May 92
	Submit Final Phase I RFI/ RI Work Plan	12 Oct 92

Future IAG Milestones Through FY95

<u>Milestone Name</u>	<u>IAG Date Scheduled</u>	<u>Extension Status</u>	<u>Planned Accomplishment Date</u>
Submit Draft Phase I RFI/RI Report	08 Aug 94		24 Mar 99
Submit Final Phase I RFI/RI Report	11 Jan 95		02 Dec 99

January Work Activity Status Work continues on completing tasks necessary for the Operational Readiness Review (ORR). The tasks that are being conducted in preparation for the readiness

review are: preparing an OU 13 project history file and evaluating training needs and requirements

Modification of the OU 13 sampling plan to allow it to take advantage of the construction activities planned for Tent One was approved by the regulatory agencies and DOE. Sampling was completed.

Planning effort underway will include a change of scope by substituting the geostatistical data analysis of all existing data for the entire IA for two TMs that are required for the Draft Phase I RFI/RI Report.

Current plans indicate that two TMs, Human Health Risk Assessment-Exposure Assessment, and Human Health Risk Assessment-Modeling, are scheduled for completion in March 1994. These tasks will require rescheduling because of the integration of OUs 8, 9, 10, 12, 13, and 14. Details of the scope of this effort are being developed. Currently, only nonintrusive/limited RI field work is scheduled for OU 13 in FY94.

The TM #1, *Addendum to the Field Sampling Plan*, is being revised for CDH and EPA approval. This document makes slight changes to the FSP. There is no milestone associated with its delivery; however, surficial soil sampling cannot begin until the regulatory agencies concur with the proposed sample locations. Surficial soil sampling in OU 13 are currently scheduled to begin March 15, 1994.

Technical Memoranda

Project

OU 13-100 Area

TM #1

TM Title

TM Status

Addendum to Field Sampling Plan

When preparation is concluded or is estimated to be concluded:

Projected date of submittal to EPA/CDH:

Actual date of submittal: N/A

Date when EPA/CDH comments received: N/A

A nonintrusive TM will be prepared in FY94 summarizing the nonintrusive field work and recommending Stage II activities for the remedial investigation intrusive field work.

Planned Work for February

- Present proposal for the development of a TM that summarizes all the data collected in the past in the entire IA.
- Continue work on ensuring that all of the Standard Operating Procedures (SOPs) are issued as controlled documents.

Problems

None

Open Items

SOPs need to be issued as controlled documents.

2.14 OU 14 - RADIOACTIVE SITES

Work at the "Radioactive Sites" involves the assessment and remediation of eight IHSSs: Radioactive Site - 700 Area Site #1 and Site #2 (IHSS 131); Radioactive Soil Burial - Building 334 Parking Lot and Soil Dump Area (IHSSs 156.1); Building 444 Parking Lot (IHSS 160) and Building 664 (IHSS 161); and Radioactive Site - 700 Area Site #2 (IHSS 162); and Radioactive Sites - 800 Area which includes the Concrete Slab, Building 886 Spills, and the Building 889 Storage Pad (IHSSs 164.1, 164.2, and 164.3). In 1991, one of two Soil Dump Area IHSSs (156.2) was deleted from OU 14 and added to OU 6.

Assessment will consist of preparing a Phase I RFI/RI Work Plan, which will include both an EE and an HHRA. After implementation of this work plan, field work and sample analysis will be conducted, data will be analyzed, and the Phase I RI Report will be prepared. An FS to determine the best methods to remediate the area will be conducted as a subsequent phase to the assessment phase.

Remediation will consist of development and execution of a Remedial Action Plan based on results obtained during the assessment phase and feasibility study of the project. This process includes review and approval by EPA and CDH, followed by a ROD, release to the public, and implementation of the plan.

OU 14 is within the Industrial Area (IA) at the Rocky Flats Plant and is being managed collectively with the other OUs that are within the IA. The IA OUs consist of OUs 8, 9, 10, 12, 13, and 14. All of these IA OUs are being investigated together because of similar field investigation techniques: e.g., surface soil sampling, radiation survey, etc. The main benefit from managing the IA OUs is improved oversight, coordination, and reduced costs.

Scope of Work Changes This Period None

Technical Approach Changes This Period None

IAG Milestone Accomplishments	Submit Draft Phase I RFI/RI Work Plan	26 Jun 92
	Submit Final Phase I RFI/RI Work Plan	19 Oct 92

Future IAG Milestones Through FY95 None

January Work Activity Status Work continues on the tasks necessary for the OU 14 ORR. The tasks that are being conducted in preparation for the readiness review are: preparing an OU 13 project history file and evaluating training needs and requirements.

Maps of HPGe survey coverage of the OU 14 areas outside the PA were generated.

Preparation for ADS review and rebaselining is underway. Details for the scope of this effort are being developed. Some of the nonintrusive studies for OU 14 may need to be rescheduled for FY95. In order to preserve as much scope as possible, additional sampling crews will be employed in the field, and new equipment may allow the soil gas collection and analysis to proceed faster than originally planned.

Current planning indicates that two TMs, Human Health Risk Assessment-Exposure Assessment, and Human Health Risk Assessment-Modeling, are scheduled for completion in March 1994. These tasks will require rescheduling because of the integration of OUs 8, 9, 10, 12, 13, and 14. Details of the scope of this effort are being developed. Currently, only nonintrusive/limited RI field work is scheduled for OU 13 in FY94.

Technical Memoranda

An Addendum to the Field Sampling Plan (FSP) as required in the OU 14 Phase I RFI/RI Work Plan, which outlines the results of the HPGe and NaI radiation surveys and visual inspection to locate the precise surficial sampling locations, will be prepared and submitted to the regulatory agencies for approval as TM #1 for OU 14.

A nonintrusive TM will be prepared in FY94 summarizing the nonintrusive field work and recommending Stage II activities for the remedial investigation intrusive field work.

Planned Work for February

- Present proposal for the development of a TM that summarizes all the data collected in the past in the entire IA.

Problems

Low-Level (not RCRA regulated) waste is stored in the cargo containers in OU 14. This material must be relocated during the remedial investigations.

Open Items

None

2.15 OU 15 - INSIDE BUILDING CLOSURES

OU 15 is composed of seven IHSSs: IHSS 178, Building 881 - Drum Storage Area; IHSS 179, Building 865 - Drum Storage Area; IHSS 180, Building 883 - Drum Storage Area; IHSS 204, RCRA Unit 45 - Original Uranium Chip Roaster; IHSS 211, RCRA Unit 26, Building 881 - Drum Storage Area; IHSS 212, RCRA Unit 63, Building 374 Drum Storage Area; and IHSS 217, RCRA Unit 32, Building 881 - Cyanide Bench Scale Treatment. The seven IHSSs currently have interim status under RCRA.

Closure Plans for the IHSSs were submitted to CDH during 1988 and 1989. The IHSSs were also included within the IAG to undergo a RCRA Facility Investigation/Remedial Investigation (RFI/RI). During scoping meetings for preparation of the Phase I RFI/RI Work Plan for Operable Unit 15 conducted between EPA, CDH and DOE during April 1992, the Closure Plan and RFI/RI Processes were combined. In affect, Clean Closure Performance Standard (6 CCR 1007-3, Part 265.111) will serve as the Applicable or Relevant and Appropriate Requirements for the OU 15 RFI/RI inside buildings and Closure Plans will no longer be prepared. The public comment period required for the Closure Plan process will be fulfilled through the IM/IRA process of the IAG.

Drums containing solids and liquids were stored at the OU 15 IHSSs. Types of waste stored in drums included oils, coolants and solvents containing chlorinated hydrocarbons (RCRA F001 and F002 wastes) and waste paints and waste metals contaminated with solvents. Hazardous constituents include chlorinated solvents, beryllium, and uranium. Since only one release has been documented in an OU 15 IHSS, the effort is to determine if contamination is present. The major activity proposed is characterization of contamination associated with the OU 15 IHSSs both inside and outside buildings and, if applicable, decontamination of the concrete floors at the indoor facilities and remediation of contamination outside buildings.

During April 1992, IHSS 215, Unit 55.13-Tank T-40, was deleted from OU 15 and added to OU 9 as part of a IHSS realignment pursuant to Part 32, Paragraph 191 (Additional Work or Modification to Work) of the IAG. This change was recommended by DOE in the OU 9 Phase I RFI/RI Work Plan approved by CDH and EPA in April 1992. Similarly, IHSS 212, RCRA Unit 63 was removed from the OU 15 RFI/RI process since it is currently active as a Drum Storage Area and has been included in the Rocky Flats Plant RCRA Part B TRU Mixed Waste permit application.

**Scope of Work Changes
This Period** None

**Technical Approach
Changes This Period** None

IAG Milestone Accomplishments	Submit Draft Phase I RFI/RI Work Plan	01 Jun 92
	Submit Final Phase I RFI/RI Work Plan	26 Oct 92

DOE, Rocky Flats Plant

Future IAG Milestones
Through FY95

<u>Milestone Name</u>	<u>IAG Date Scheduled</u>	<u>Extension Status</u>	<u>Planned Accomplishment Date</u>
Submit Draft Phase I RFI/RI Report	01 Aug 94		01 Aug 94
Submit Final Phase I RFI/RI Report	04 Jan 95		04 Jan 95

January Work Activity
Status

Preliminary copies of Sections One, Two, Four, and Five of the TM #1, *Field Sampling Plan (FSP)*, for the Phase I RFI/RI Work Plan were provided to EPA and CDH to ensure that TM #1 meets with regulatory agencies' expectations. A meeting with CDH, EPA, DOE, and EG&G was held on January 24, 1994, to discuss TM #1. DOE will receive the completed draft TM #1 by February 22, 1994, for transmittal to the regulatory agencies for formal review and comment.

Technical Memoranda

Project

OU 15-Inside Building Closures

TM #1

TM Title

TM Status

Field Sampling Plan (FSP)

When preparation is concluded or is estimated to be concluded:

Projected date of submittal to EPA/CDH: 28 Feb 94

Actual date of submittal:

Date when comments were received:

TM #2

TM Title

TM Status

Human Health Risk Assessment (HHRA)

When preparation is concluded or is estimated to be concluded: TBD

Projected date of submittal to EPA/CDH: TBD - may not be necessary unless Stage III field work is performed.

Actual date of submittal:

Date when comments were received:

Planned Work for
February

- Continue work on TM #1.

Problems

None

Open Items

None

2.16 OU 16 - LOW PRIORITY SITES

This assessment activity consists of preparing a No Further Action Justification Document (NFAJD) for seven IHSSs: Solvent Spill, Antifreeze Discharge, Steam Condensate Leaks (400 and 700 Areas), Nickel Carbonyl Disposal, Water Treatment Plant Backwash Pond, and Scrap Metal Sites. The NFAJD was approved by the regulatory agencies and the Record of Decision (ROD) process was initiated to close OU 16 as an operable unit (OU) at Rocky Flats Plant.

Scope of Work Changes This Period	None	
Technical Approach Changes This Period	None	
IAG Milestone Accomplishments	Submit Draft No Further Action Justification Document	04 Mar 92
	Submit Final No Further Action Justification Document	30 July 92
	Submit Revised Final NFAJ Document	16 Oct 92
Future IAG Milestones Through FY95	None	
January Work Activity Status	The Public Comment Period for the "Proposed Plan and Draft Modification (PP/DM) of Colorado Hazardous Waste Permit for RFP OU 16: Low Priority Sites" scheduled for November 8, 1993, through January 7, 1994, was extended until February 7, 1994. Public notification of the OU 16 Public Comment Period was provided within two local newspapers by January 7, 1994. A responsiveness summary for public comments on the PP and DM and a Record of Decision (ROD) to close OU 16 as an OU at RFP is being prepared.	
Technical Memoranda	None	
Planned Work for February	<ul style="list-style-type: none"> • Continue work related to the Public Comment Period for the OU 16 PP/DM. 	
Problems	None	
Open Items	None	

2.17 SITEWIDE ACTIVITIES

Sitewide activities include several task that encompass a wide variety of plans, procedures, reports, studies, and other activities required by IAG and that apply to RFP environmental activities in general. Activities include, but not limited to: Health Safety Plan (HSP), Sampling and Analysis Plan, Treatability Study deliverables, Background Study Plan, Groundwater Geochemistry, Risk Assessment, Industrial Area Interim Measure/Interim Remedial Action Plan (IA IM/IRA), hydrological characterization, Background Soils Study Plan, Decontamination Facilities, ER Waste handling facilities, ground water monitoring, Decontamination & Decommission, And Program Management Support activities.

Scope of Work Changes This Period None

Technical Approach Changes This Period None

IAG Milestone Accomplishments	Submit Draft Background Study Report (Water)	15 Dec 89
	Submit Draft Background Study Report (Soils)	15 Dec 89
	Submit Draft Community Survey Plan	23 Jan 90
	Submit Final Community Survey Plan	22 Mar 90
	Submit Draft Health and Safety Plan	15 Aug 90
	Submit Draft Quality Assurance Project Plan	29 Aug 90
	Submit Draft Standard Operating Procedures	29 Aug 90
	Submit Draft Plan for Prevention of Contaminant Dispersion	19 Sep 90
	Submit Draft Treatability Study Plan	21 Sep 90
	Submit Draft Community Relations Plan	01 Nov 90
	Submit Final Health and Safety Plan	12 Nov 90
	Submit Revised Background Study Report	21 Dec 90
	Submit Final Community Relations Plan	22 Jan 91
	Submit Final Quality Assurance Project Plan	01 Mar 91
	Submit Final Standard Operating Procedures	01 Mar 91
	Submit Draft Radionuclides Discharge Limits Plan	05 Apr 91
	Submit Community Relations Plan Responsiveness Summary	21 Jun 91
	Submit Final Treatability Study Plan	03 Jun 91
	Submit Final Plan for Prevention of Contaminant Dispersion	22 Jul 91

Submit Final Plan Discharge Limits Radionuclides	16 Sep 91
Submit Final PPCD and Responsiveness Summary	25 Nov 91
Submit Draft Historical Release Report	08 Jan 92
Submit Responsiveness Summary for DLRP	31 Jan 92
Submit Final Historical Release Report	03 Jun 92
Submit Annual Treatability Study Report	08 Mar 93

**Future IAG Milestones
Through FY95**

None

**January Work Activity
Status**

Sitewide Activities

Sitewide Treatability Studies

Sitewide Treatability Studies Annual Report - DOE received comments from on the second draft of the Annual Report on January 7, 1994; the comments are being incorporated into the report.

Magnetic Separation - Los Alamos National Laboratory (LANL) representatives suggested that a National Environmental Protection Act (NEPA) evaluation be made as the result of the RFP magnetic separation treatability study. This delay is not anticipated to negatively impact completion of the magnetic separation treatability study.

Solar Detoxification - A cost estimate was developed for the Solar Detoxification Treatability Study, which indicated that additional funds will be required for the project beyond those already allocated. DOE gave permission to transfer funds from other projects within the Sitewide Treatability Studies document to support this project and will provide written confirmation.

Other Sitewide Operations

Decontamination and Decommissioning (D&D) - Phase I: Pre-Task Planning for the removal of Building 788 in support of the accelerated Solar Pond Closure will be completed by June 30, 1994. Procurement packages, cost estimates, documentation, permitting/regulatory requirements, and field operations scope of work will be completed in preparation for field operations at the completion of Phase I.

Surface Water Management -Work continues on maps of affected wetland areas and DOE comment resolution in support of the Surface Water Structures Maintenance Activities Environmental Assessment. These maps will also provide support to determine the extent of EPA oversight relating to this work.

IA Integrated Operable Units - OUs (8, 9, 10, 12, 13 and 14) - The Statement of Work (SOW) for the modification to IA/OUs subcontract is being prepared and will be submitted to Procurement by February 9, 1994. The modification will include confined space activities, Geographical Information System, geostatistical data evaluations, computer usage costs, and miscellaneous tasks.

EG&G continues to address comments from a meeting held on January 6, 1994, regarding the IA Environmental Evaluation (EE) documents. The revised documents are anticipated to be returned to DOE by February 1, 1994. Following delivery of the revised document, a meeting will be scheduled among the regulatory agencies, DOE, and EG&G to establish and review the current format presentation for the IA EE Reports.

Interim Measures/Interim Remedial Action Plan (IM/IRAP) for the IA - Work is on schedule for the IM/IRAP. On January 21, 1994, a comment resolution meeting was held among EPA, CDH, and DOE to discuss comments on the preliminary draft sections of the IM/IRAP. The regulatory agencies' comments provided reinforcing comments that the "team approach" to this project seems to be effective, and they are pleased with the progress-to-date.

A proposal for the contract modification was received. The technical evaluation was completed and is awaiting transmittal to EG&G Procurement. Contract negotiations should occur in February 1994.

Community Relations

Community Relations Plan - EPA forwarded a letter regarding the schedule for a revision to the Community Relations Plan. Community interviews will begin in February 1994.

DOE, Rocky Flats Plant

**Planned Work for
February**

- Continue incorporating comments on the second draft of the Treatability Study Annual Report.
- Continue work on Pre-Task Planning for the removal of Building 788 in support of the accelerated Solar Pond Closure.
- Continue work on the IM/IRAP.
- Continue Community Relations activities.

Problems

None

Open Items

None

SECTION 3.0 ROUTINE ENVIRONMENTAL MONITORING

The following generalized sampling schedule for Routine Environmental Monitoring is provided as requested in Section 210 of the IAG. Detailed quarterly monitoring schedules are prepared in advance and are available to EPA and CDH upon request from the Environmental Management Department and EG&G Rocky Flats, Inc. The schedules are lengthy; therefore, they are not reproduced here. An EPA- or State-authorized representative may make arrangements to observe fieldwork and to obtain split or duplicate samples.

3.1 SURFACE WATER AND SEDIMENTS

- Each of the Surface Water Stations (approximately 20 stations) are sampled quarterly.
- Each of the Sediment Stations (approximately 10 stations) are sampled quarterly.
- Each surface water and sediment sample is analyzed for the following parameters:

CLP TCL VOA	Radionuclides
Metals CLP TAL & Non-TAL	Temperature
Field Parameters	TDS/TSS
Specific Conductivity	pH
Dissolved Oxygen (DO)	Nutrients
Major Anions	

- Additionally, sediment samples are analyzed for: CLP-Semi VOAs, CLP-Pesticides/PCBs Herbicides-619

3.2 SOILS

Each of the Soil Stations (located at 1- and 2-mile radii from the plant center) are sampled annually.

Each soil sample is analyzed for plutonium and americium.

3.3 GROUND WATER

A total of 410 Groundwater Stations are sampled quarterly; this includes alluvial wells, bedrock wells, and pre-1986 wells. Approximately one third of the wells are monitored monthly for water levels. Each ground water sample is analyzed for CLP, TCL, VOAs, TAL, Metals, as well as the following parameters:

DOE, Rocky Flats Plant

Radiochemical Parameters

Gross Alpha
Gross Beta
Plutonium
Americium
Strontium
Tritium
Uranium
Cesium

Inorganic Parameters

Nitrate/Nitrite
Total Phosphorous
Ortho-Phosphate
Ammonia
TDS
Chlorine
Fluorine
Sulfate
Carbonate
Bicarbonate
TSS
Dissolved CLP & additional metals
Cyanide
CLP Volatile Organic Constituents

Field Parameters

Specific Conductivity
Temperature
Turbidity
pH

SECTION 4 CONTRACTOR/SUBCONTRACTOR IDENTIFICATION

Contractors and subcontractors being used on the RFP ER Program and the work they are performing are identified on the following list as required by paragraph 13 of the IAG.

<u>OU</u>	<u>Project</u>	<u>Subcontractor</u>	<u>Sub-Subcontractor</u>	<u>Work Description</u>	<u>Start Date</u>
1	Assessment	Ebasco	Dames & Moore	CMS/FS Report	Jan 92
1	Assessment	Dames & Moore		Public Health Evaluation	Apr 93
1	Assessment	Roy F. Weston		Revise RI Report, respond to agency comments	Feb 93
1	Assessment	S.M. Stoller		Environmental Evaluation	Apr 93
1	Remediation	Resource Tech.		B-891 Treatment System Operations Group, Inc. (RTG)	
2	Assessment	Woodward-Clyde		OU 2 RFI/RI Work Plan (alluvial and bedrock) and RI field work (drilling, well completion/development)	Sep 90
2	Assessment	Ebasco	S.M. Stoller	Environmental Evaluation	Feb 91
	Assessment	Woodward-Clyde	Layne	OU 2 RFI/RI Work Plan (bedrock), surficial soils	Mar 93
2	Remediation	RT6		Installation and operation of the water treatment system for South Walnut Creek Phase of OU 2 IRA	Jan 91
3	Assessment	IT Corporation	CH2M Hill	OU 3 Field Work and RI Report	Apr 92
3	Assessment	MRI		Wind Tunnel/Soil Resuspension Study	Aug 92
4	Remediation	HNUS Services	Halliburton Spec.	Demobilize	Sep 91
4	Assessment	Parsons/Eng Science	Rust I&E	Implement the Phase I RFI/RI Work Plan, includes drilling, sampling radiation surveys, etc.	Aug 92
4	Remediation	Parsons/ Eng Science		Development of IM/IRA DD & conceptual design	
4	Remediation	ERM-Rocky Mountain	Geraghty & Miller	Post-closure monitoring plan	Nov 93

DOE, Rocky Flats Plant

<u>OU</u>	<u>Project</u>	<u>Subcontractor</u>	<u>Sub-Subcontractor</u>	<u>Work Description</u>	<u>Start Date</u>
5	Assessment	ASI Blackhawk Geo Walsh & Assoc. Layne Envir. Service S.M. Stoller Adv. Terra Testing	Dames & Moore	Implementation of OU 5 Work Plan (excluding EE) Utility Mgmt. Service	Jun 92
5	Assessment	S.M. Stoller		Implementation of EE section of OU 5 Work Plan	Sep 92
6	Assessment	Woodward-Clyde	Lane, Ogden, Geo Environmental	OU 6 RFI/RI Work Plan and Quality Assurance Addendum	Aug 92
6	Assessment	S.M. Stoller		Implementation of EE section of OU 6 Work Plan	Sep 92
7	Assessment	S.M. Stoller	Walsh & Assoc.	OU 7 RFI/RI Work Plan Implementation including EE Plan and QA Addendum	Nov 92
8	Assessment	Jacobs Eng.	Walsh & Assoc.	Implement the Phase I RFI/RI Work Plan for non-intrusive field work for the IA OUs	Aug 93
9	Assessment	Jacobs Eng.	Walsh & Assoc.	Implement the Phase I RFI/RI Work Plan for non-intrusive field work for the IA OUs	Aug 93
10	Assessment	Jacobs Eng.	Walsh & Assoc.	Implement the Phase I RFI/RI Work Plan for non-intrusive field work for the IA OUs	Aug 93
12	Assessment	Jacobs Eng.	Walsh & Assoc.	Implement the Phase I RFI/RI Work Plan for non-intrusive field work for the IA OUs	Aug 93
13	Assessment	Jacobs Eng.	Walsh & Assoc.	Implement the Phase I RFI/RI Work Plan for non-intrusive field work for the IA OUs	Aug 93
14	Assessment	Jacobs Eng.	Walsh & Assoc.	Implement the Phase I RFI/RI Work Plan for non-intrusive field work for the IA OUs	Aug 93
15	Assessment	ERM-Rocky Mtn.	G.S. Miller, Inc.	Implementation of the RFI/RI Work Plan	Mar 93
SW	HRR	IT Corporation	Doty & Assoc.	Prepare HRR	Feb 91
SW	Adm. Record	QuantaLex		Maintain IAG Administrative Record	Oct 90
SW	Geo. Char.	Jacobs Eng.		Well Abandonment and Replacement	Mar 93
SW	Geo. Char.	Colorado State University		Support M.S. thesis of Structural Geology, of Front Range Area Near RFP	Nov 91

Contractor/Subcontractor Identification

<u>OU</u>	<u>Project</u>	<u>Subcontractor</u>	<u>Sub-Subcontractor</u>	<u>Work Description</u>	<u>Start Date</u>
SW	Geo. Char.	S.M. Stoller		Prepare 1992 Annual RCRA Report and Addendum	Jan 93
SW	Geo. Char.	Colorado School of Mines		Masters level training program in ES and Engineering	Aug 92
SW	Geo. Char.	Woodward-Clyde		Support for the SSWMS	Feb 93
SW	Geo. Char.	Colorado State University		Sequential Extraction	April 92
SW	Geo. Char.	University of Colorado		Soil Monitoring Vadose Zone	Jun 92
SW	Geo. Char.	S.M. Stoller		Spatial Analysis/Computer Support	Mar 93
SW	Geo. Char.	Woodward Clyde	SAIC/Wright Water		Jan 93
SW	Monitoring	IT Corporation		Analytical Services for ground water, surface water, and sediment	Jul 90
SW	QA	SAIC		Develop and implement QA program and field operations oversight	Dec 90
PM	Support	S.M. Stoller		Program Management Support	Oct 92
PM	QA Support	SAIC		Provide QA/QC support to ER Program	Nov 92

ACRONYMS

ADS	Activity Data Sheet
AIP	Agreement In Principle
ALARA	As Low As Reasonably Attainable
AOC	Area of Concern
ARAR	Applicable or Relevant and Appropriate Requirements
ASRP	Accelerated Sludge Removal Project
BAT	Best Available Technology
BCP	Baseline Change Proposal
BIO	Basis for Interim Operations
BOA	Basic Ordering Agreement
BRAP	Baseline Risk Assessment Plan
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CHWA	Colorado Hazardous Waste Act
CMS	Corrective Measures Study
COC	Contaminant Of Concern
CPT	Cone Penetrometer Testing
CRP	Community Relations Plan
CSU	Colorado State University
DAC	Derived Air Concentration
DD	Decision Document
D&D	Decontamination & Decommissioning
DCN	Document Change Notice
DLRP	Discharge Limits Radionuclides Plan
DM	Draft Modification
DNAPL	Dense Non-Aqueous Phase Liquids
DOE	Department of Energy
DQO	Data Quality Objectives
DVP	Data Validation Plan
EA	Environmental Assessment
EE	Environmental Evaluation
EM	Environmental Management
END	Environmental NEPA Division
EPA	Environmental Protection Agency
EQS	Environmental Quality Support
ER	Environmental Restoration
ERA	Ecological Risk Assessment
ESE	Environmental Science and Engineering
FIDLER	Field Instrument for Detection of Low Energy Radiation
FS	Feasibility Study
FSP	Field Sampling Plan
FTU	Field Treatability Unit
FYP	Five-Year Plan

GAC	Granular Activated Carbon
GIS	Geographic Information System
GPR	Ground Penetrating Radar
H&S	Health and Safety
HSP	Health and Safety Plan
HAP	Health Advisory Panel
HGMS	High Gradient Magnetic Separation
HHRA	Human Health Risk Assessment
HPGe	High Purity Germanium
HQ	Headquarters
HRR	Historical Release Report
IA	Industrial Area
IAG	Interagency Agreement
ICP-MS	Inductively Coupled Plasma Mass Spectrometer
IDM	Investigative Derived Material
IHSS	Individual Hazardous Substance Site
IM	Interim Measure
IRA	Interim Remedial Action
IRAP	Interim Remedial Action Plan
ITS	Interceptor Trench System
IWCP	Integrated Work Control Package
IX	Ion Exchange
LANL	Los Alamos National Laboratory
LATO	Los Alamos Technology Office
L...	Low-level
LLMW	Low-level Mixed Waste
mg/l	milligrams per liter
MOU	Memorandum of Understanding
MTS	Master Task Subcontract
MSVEU	Mobile Soil Vapor Extraction Unit
NAPLs	Non-Aqueous Phase Liquids
NEPA	National Environmental Policy Act
NFAJ	No Further Action Justification
NTS	Nevada Test Site
O&M	Operations and Management
OPWL	Original Process Waste Line
ORR	Operational Readiness Review
OTD	Office of Technology Development
OU	Operable Unit
PA	Protected Area
PAC	Potential Area of Concern
ppb	Parts per billion
PCB	Polychlorinated biphenyl
PCCB	Plant Change Control Board
PCP	Process Control Plan
PIT	Process Improvement Team
PP	Proposed Plan
PPCD	Plan for Prevention of Contaminant Dispersion
PPE	Personal Protective Equipment

PU&D	Property Utilization and Disposal
QA	Quality Assurance
QAPP	Quality Assurance Project Plan
QP	Quality Plan
RAGS	Risk Assessment Guidance for Superfund
RCA	Radiological Control Area
RCRA	Resource Conservation and Recovery Act
RFEDS	Rocky Flats Environmental Database System
RFI	RCRA Facilities Investigation
RFP	Rocky Flats Plant
RI	Remedial Investigation
ROD	Record of Decision
RPT	Radiological Protection Technician
SAP	Sampling and Analysis Plan
SAR	Safety Analysis Report
SEP	Solar Evaporation Ponds
SID	South Interceptor Ditch
SMO	Sample Management Office
SOP	Standard Operating Procedure
SOW	Statement of Work
SPPO	Solar Ponds Program Office
STP	Sewage Treatment Plant
SVS	Soil Vapor Survey
SW	Surface Water
TA	Technical Area
TCE	Trichloroethene
TDS	Total Dissolved Solids
TIE	Technology Information in Exchange
TM	Technical Memorandum
TMST	Temporary Modular Storage Tanks
TRG	Technical Review Group
TSR	Treatability Study Report
TSS	Total Suspended Solids
UBC	Under Building Contaminations
USFWS	United States Fish and Wildlife Service
UV	Ultraviolet
VOA	Volatile Organic Analyte
VOC	Volatile Organic Compound
WBS	Work Breakdown Structure
WS	Waste Solidification