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ENVIRONMENTAL RESTORATION PROGRAM

Monthly Report For
April, 1992



May 20, 1992

 **EG&G ROCKY FLATS**

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**U.S. DEPARTMENT OF ENERGY
ROCKY FLATS PLANT**

**ENVIRONMENTAL RESTORATION
PROGRAM**

MONTHLY REPORT FOR

APRIL 1992

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1.0 INTRODUCTION

This monthly status report presents the current status and technical achievements of the Rocky Flats Environmental Restoration Program for April 1992. This program implements the Interagency Agreement (IAG) between the U.S. Department of Energy, the U.S. Environmental Protection Agency, 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.

Section 2.1 of this report highlights significant achievements and summarizes the milestones completed during April. Section 2.2 presents any major unresolved issues of the program. Technical progress, schedule status, and milestone status for each Operable Unit as well as other program activities are presented in Section 3.0. Operable Units will be reported on as work in them commences. Section 4.0 contains the schedules for routine environmental sampling as required by paragraph 210 of the Interagency Agreement. Section 5.0 contains a list which identifies the contractors and subcontractors performing work on the program as required by paragraph 13 of the IAG.

2.0 EXECUTIVE SUMMARY

2.1 SIGNIFICANT ACTIVITIES AND ACHIEVEMENTS FOR APRIL 1992

Preparation of the OU 1 Remedial Investigation (RI) Report continued. Draft portions of the report are being reviewed as they are developed by the RI subcontractor.

The OU 1 french drain IRA was completed as scheduled on April 13, 1992. 150,000 gallons of contaminated water was treated by the IRA in April. The french drain pumping system continues to be operational and approximately 180,000 gallons of groundwater is presently stored within the two influent tanks and effluent tank 205. Additionally, EPA and CDH requested a french drain monitoring and mitigation plan be implemented. EPA and CDH reviewed the plan and submitted their comments to DOE. Comments will be incorporated into the plan for final approval.

OU 2 drilling operations were completed on April 15, 1992. The drilling crews were demobilized and offsite by April 17, 1992. A small field crew is finishing up geologic core logging, sample management and data management duties, and other demobilization tasks.

Installation of the OU 2 IRA Radionuclide Removal System (RRS) was completed on April 24, 1992. Final System Operations (SO) testing was completed on the same date and Performance Testing was initiated April 25, 1992 and completed on April 27, 1992. Routine operation was initiated on April 27, 1992. These actions fulfill the compliance with the IAG milestones entitled Completion of the IM/IRA Construction for the FTU Phase II (compliance date April 24, 1992) and Begin Field Treatability Testing for the FTU Phase II (compliance date April 27, 1992). EPA and CDH staff were onsite April 27, 1992 to tour and observe our progress and witnessed operation of the system.

Work continued in OU 3 (Offsite Areas) on obtaining approval signatures on access agreements with local municipalities and landowners in order to start the required fieldwork. Seasonally required water and sediment sampling will begin in May. Mobilization and the remainder of fieldwork will begin by the end of May.

Construction of the OU 4 temporary surge tanks and water treatment system as outlined in the Final Interim Measure/Interim Remedial Action (IM/IRA) document began on April 20, 1992. The Final IM/IRA decision document was placed in the public reading rooms on April 7, 1992. The IM/IRA document remained in the public reading rooms for a period 10 working days after which construction activities began.

EPA has recommended conditional approval of the OU 4 Final Phase I RFI/RI Work Plan in a letter to CDH dated March 26, 1992. CDH agency approval of the document is still pending.

During April 1992, 20 IHSSs were deleted from OUs 8, 10, 12, 13, and 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. The IHSSs now are included in the Original Process Waste Lines and will be investigated and remediated as such. These IHSS changes were recommended by DOE in the now-approved OU 9 Phase I RFI/RI Work Plan and approved by CDH and EPA in April 1992.

The technical review group (TRG) which is composed of representatives from local environmental groups and local municipalities held a meeting on April 22, 1992. DOE gave a presentation on the just-completed draft RFP ER Roadmap. TRG will provide comments to RFO by June 1, 1992.

2.2 PROBLEMS AND PROGRAMMATIC ISSUES

The IAG milestone for submittal of the OU 1 RI report, July 30, 1992, may be in jeopardy due to the following items: 1) Laboratory validation. If the current turnaround time on data validation is not expedited, a complete validated data set for the Phase III work will not be available until May. This does not allow adequate time for the data analysis and report development. 2) The tentative ground water sample turnaround schedule indicates the second quarter analytical data will be received in June, when the report is being finalized. 3) The final delay is on the soil sampling. The radionuclide data is not being analyzed in a timely manner so that data is not available in the required time frame. All avenues to expedite these delays are being pursued. The impact to the IAG milestone for delivery of the RI Report is being evaluated.

Fiscal Year 1992 (FY92) funding is insufficient to fund the OU 2 bedrock assessment program; therefore, no drilling or field activities will occur in the bedrock program. The bedrock program will be re-evaluated for FY93. Moreover, due to the postponement of the bedrock program, field support activities for the soil sampling field activities must be funded independently of drilling activities.

The planned start of OU 3 water and sediment sampling has been delayed. To meet the IAG schedule, surface water samples should have been taken during the spring runoff event that occurred during April. Sampling activities were delayed pending completion of two actions. The first action is the approval of the request for a National Environmental Policy Act (NEPA) categorical exclusion (CX) and floodplain Federal Register Notice for OU 3 fieldwork. The second action holding up fieldwork is the completion of access agreements with local municipalities and landowners. Completing all access agreements is taking longer than originally planned.

The delay in removal of sludge from the OU 4 solar ponds and the requirement for an IM/IRA for the surge tanks has impacted the IAG scheduled start of the RFI/RI field activities in January 1992. The impact, if any, to the IAG milestone for delivery of the RFI/RI Report is being evaluated.

2.3 NEAR-TERM IAG MILESTONES

<u>OU#</u>	<u>Milestone Description</u>	<u>Scheduled Completion</u>	<u>Actual Completion</u>
01	Complete IM/IRA Construction (Treatment plant)	02 Mar 92	02 Mar 92
01	Complete IM/IRA Construction (French drain)	13 Apr 92	13 Apr 92
16	Submit Draft No Further Action Justification	04 Mar 92	04 Mar 92
02	Submit Draft Treatability Test Report (Phase I GAC)	01 Apr 92	01 Apr 92
02	Complete IM/IRA Construction (Rads Removal System)	24 Apr 92	24 Apr 92
02	Begin Field Treatability Testing (Rads Removal System)	27 Apr 92	27 Apr 92
08	Submit Draft Phase I RFI/RI Work Plan	01 May 92	
10	Submit Final Phase I RFI/RI Work Plan	01 May 92	
12	Submit Draft Phase I RFI/RI Work Plan	08 May 92	
13	Submit Draft Phase I RFI/RI Work Plan	15 May 92	
14	Submit Draft Phase I RFI/RI Work Plan	22 May 92	

3.0 PROJECT STATUS

3.1 OU 1 - 881 HILLSIDE AREA

DESCRIPTION:

The alluvial ground water at the 881 Hillside Area, located north of Woman Creek in the southeast section of RFP, was contaminated in the 1960s and 1970s with solvents and radionuclides. The area is almost two miles from the eastern, outer edge of the plant's buffer zone at Indiana Street. The various Individual Hazardous Substance Sites (IHSSs) that make up OU 1 are being investigated and treated as high-priority sites because of 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 involves construction of an underground drainage system called a French drain that intercepts and contains contaminated ground water flowing from the OU 1 area. The contaminated water is treated at the 891 treatment facility, designed for this purpose, and released onsite into the South Interceptor Ditch alongside Woman Creek. IRA construction was completed this month. The remedial investigation and feasibility study (RI/FS) to determine the final remedial action are continuing in parallel with the IRA.

3.1.1 OU 1 ASSESSMENT

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING 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

APRIL WORK ACTIVITY STATUS:

Preparation of the Remedial Investigation (RI) Report continued. Draft portions of the report are being reviewed as they are developed by the RI subcontractor.

PLANNED WORK FOR MAY:

Data evaluation required to generate the RI report is scheduled to continue through June 1992.

In mid-May, a subcontractor field crew will operate one drilling rig for approximately two weeks to complete ten boreholes as part of the OU 1 Treatability Study.

PROBLEMS:

The IAG milestone for submittal of the RI report, July 30, 1992, may be in jeopardy due to the following items: 1) Laboratory validation. If the current turnaround time on data validation is not expedited, a complete validated data set for the Phase III work will not be available until May. This does not allow adequate time for the data analysis and report development. 2) The tentative ground water sample turnaround schedule indicates the second quarter analytical data will be received in June, when the report is being finalized. 3) The final delay is on the soil sampling. The radionuclide data is not being analyzed in a timely manner so that data is not available in the required time frame. All avenues to expedite these delays are being pursued. The impact to the IAG milestone for delivery of the RI Report is being evaluated.

OPEN ITEMS: None

3.1.2 OU 1 REMEDIATION

SCOPE OF WORK CHANGES THIS REPORTING PERIOD:

500 feet of the western end of the french drain was truncated. Work added as part of the monitoring and mitigation plan includes: 11 wells drilled and monitored, monitoring on 2 wells previously drilled, 3 sample stations (sumps), and 8 surface water monitoring stations. Also, water quality data for all the added work will be analyzed quarterly for 2 quarters and then reevaluated by the regulatory agencies. EPA and CDH requested a french drain monitoring and mitigation plan be implemented as a condition of the agreement to truncate the french drain 500 feet short of the original design.

TECHNICAL APPROACH CHANGES THIS REPORTING 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	02 Mar 92

APRIL WORK ACTIVITY STATUS:

The Environmental Protection Agency (EPA) and the Colorado Department of Health (CDH) gave approval on March 26, 1992, to truncate the french drain at Station 5+00. This termination is 500 feet short of the original design on the western end. French drain excavation progressed at approximately 10 feet per day and station 5+00 was reached April 3, 1992. The french drain was completed as scheduled on April 13, 1992. Additionally, EPA and CDH requested a french drain monitoring plan be implemented. EPA and CDH reviewed the plan and submitted their comments to DOE. This submittal was required by the agencies as a condition of the agreement to truncate the french drain 500 feet short of the original design. The subcontractor is incorporating these comments into the plan for final approval.

Revegetation of the 881 Hillside where the french drain was excavated is expected to begin the week of May 4, 1992. The collection well influent piping and electrical systems repair is complete. The french drain pumping system continues to be operational and approximately 180,000 gallons of groundwater is presently stored within the two influent tanks and effluent tank 205.

Interim operation of the treatment system started April 6, 1992. The programmable logic controller (PLC) inside building 891 is inoperable and requires some troubleshooting by the Instrumentation and Control (I&C) subcontractor. The treatment system will run manually but not in the "auto mode" controlled by the PLC. To date, 150,000 gallons of water have been treated.

Ion exchange regeneration testing on contaminated water was initiated in April. Discharge from the ion exchange system has had a pH below four in recent operation of the OU 1 IM/IRA system. Further evaluation of this anomaly will be performed to determine whether the increase in acidity is due to start-up conditions or due to a long-term anomaly. Receipt of equipment for the real time gamma sensor has been delayed. Upon receipt of the equipment, calibration of the sensors will begin.

PLANNED WORK FOR MAY:

Revegetation of the 881 Hillside where the french drain is located is expected to begin the week of May 4, 1992.

Final grading around Building 891 and the effluent tanks will be completed.

PROBLEMS: None

OPEN ITEMS: None

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

DESCRIPTION:

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 of which may have contaminants that were not removed by the treatment system.

An Interim Measures/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 will be 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 Proposed Subsurface Investigation IM/IRAP/EA is north of Woman Creek and encompasses the 903 Pad, the Mound Area, and the East Trenches Area of OU 2. This IM/IRAP/EA identifies and evaluates interim remedial actions for removal of residual free-phase VOC contamination from three distinct subsurface environments at OU 2. Each of the proposed VOC-removal actions involve in situ vacuum-enhanced vapor extraction technology. The interim remedial actions are proposed for the collection of information that will aid in the selection and design of final remedial actions that address subsurface, residual free-phase VOC contamination at OU 2.

3.2.1 OU 2 ASSESSMENT

SCOPE OF WORK CHANGES THIS REPORTING PERIOD:

The Request for Proposal for Technical Memorandum 4 (MOD 9) for conducting additional radiological surficial soil sampling was sent out on April 15, 1992. It is anticipated that the contract will be awarded in early May. This additional task is to support the Human Health Risk Assessment for OU 2.

TECHNICAL APPROACH CHANGES THIS REPORTING 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

APRIL WORK ACTIVITY STATUS:

Drilling operations were completed on April 15, 1992 for OU 2. The drilling crews were demobilized and offsite by April 17, 1992. A small field crew is finishing up geologic core logging, sample management and data management duties, and other demobilization tasks.

The monitoring wells installation is complete with a total of 101 and the borehole drilling program is complete with a total of 46. Total linear drilling footage completed is 4635 feet. OU 2 has 729 drums from drilling and sampling operations which have been sampled for characterization.

The Request for Proposal for Technical Memorandum 4 (MOD 9) for conducting additional radiological surficial soil sampling was sent out on April 15, 1992. It is anticipated that the contract will be awarded in early May. This additional task is to support the Human Health Risk Assessment for OU 2.

The multi-aquifer pump tests for OU 2 started April 28, 1992. There are three separate pump tests to be performed and the activities will take approximately one month to complete. These tests are part of the Work Plan and involve testing hydroconductivity and permeability of the geologic units. The subcontractor is mobilizing in the field and beginning the step drawdown test necessary for preliminary evaluation of the pumping rate. Four 16,400 gallon water collection "Frac Tanks" are onsite for collection of pumped groundwater.

PLANNED WORK FOR MAY:

The multi-aquifer pump tests started on April 28, 1992 will continue. There are three separate pump tests to be performed and the activities will take approximately one month to complete.

The subcontractor is mobilizing in the field and beginning the step drawdown test necessary for preliminary evaluation of the pumping rate.

By the end of May, a field crew will be conducting the radiological surficial soil sampling outlined in Technical Memorandum #4.

PROBLEMS:

Fiscal Year 1992 (FY92) funding is insufficient to fund the bedrock assessment program; therefore, no drilling or field activities will occur in the bedrock program. The bedrock program will be re-evaluated for FY93. Moreover, due to the postponement of the bedrock program, field support activities for the soil sampling field activities must be funded independently of drilling activities.

OPEN ITEMS: None

3.2.2 OU 2 REMEDIATION

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING 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)	13 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

APRIL WORK ACTIVITY STATUS:

Installation of the Radionuclide Removal System (RRS) was completed on April 24, 1992. Final System Operations (SO) testing was completed on the same date and Performance Testing was initiated April 25, 1992 and completed on April 27, 1992. Routine operation was initiated on April 27, 1992. These actions fulfill the compliance with the IAG milestones entitled Completion of the IM/IRA Construction for the FTU Phase II (compliance date April 24, 1992) and Begin Field Treatability Testing for the FTU Phase II (compliance date April 27, 1992).

EPA and CDH staff were onsite April 27, 1992 to tour and observe our progress and witnessed operation of the system.

Completion of construction and initiation of operation for surface water collection at SW132 was realized on April 27, 1992. The activity was also observed by EPA and CDH staff during their visit to the site.

The surface water sampling frequency at SW 59, SW 61, and SW 132 have been increased from one event per quarter to two events per month by the EG&G Surface Water Division. This increase in sampling will allow the required level of data to be obtained.

The Draft Treatability Study Report for the OU 2 IRA GAC system, an IAG milestone scheduled for completion on April 1, 1992, was completed in March and delivered to EPA and CDH on March 31, 1992 for their review and comment. One copy of the document has been mailed to each of the National Resource Damage Assessment (NRDA) trustees for review and comment.

The granular activated carbon (GAC) system collected, treated and discharged approximately 800,000 gallons of water during the month of April 1992. Twenty-four hour manned operation continues without problems.

The Draft Proposed Subsurface Interim Measures/Interim Remedial Action Plan/Environmental Assessment and Decision Document (IM/IRAP/EA) is currently in a 60-day public comment period. A public presentation of the Draft IM/IRAP/EA was given at a public meeting April 7, 1992. A public meeting to obtain comments on the document is scheduled for May 7, 1992 with the end of the comment period on May 18, 1992.

PLANNED WORK FOR MAY:

The GAC unit and RRS will continue water treatment operations.

The draft Proposed Subsurface IM/IRAP/EA and Decision Document began a 60-day public review period on March 20, 1992. A public meeting to obtain comments on the document is scheduled for May 7, 1992.

PROBLEMS: None

OPEN ITEMS: None

3.3 OU 3 - OFFSITE AREAS

DESCRIPTION:

OU 3 can be divided into two categories based on two main activities. The IAG directs activities according to Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This involves assessment of contamination in offsite areas also referred to as IHSSs: 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 v. 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 land owners.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING 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

APRIL WORK ACTIVITY STATUS:

Work continued on obtaining approval signatures on access agreements with local municipalities and landowners in order to start the required fieldwork.

PLANNED WORK FOR MAY:

Work will continue to obtain access agreements from offsite land owners for field sampling activities. Coordination and planning to begin OU 3 field activities will continue.

Seasonally required water and sediment sampling will start beginning in May. Mobilization and the remainder of fieldwork will begin by the end of May.

PROBLEMS:

The planned start of water and sediment sampling has been delayed. To meet the IAG schedule, surface water samples should have been taken during the spring runoff event that occurred during April. Sampling activities were delayed pending completion of two actions. The first action is the approval of the request for a National Environmental Policy Act (NEPA) categorical exclusion (CX) and floodplain Federal Register Notice for OU 3 fieldwork. The request for a decision on these items is at DOE/HQ and has not yet received final approval. DOE/RFO has directed EG&G to take seasonally dependent samples within floodplains, but wait to complete the remainder of floodplain sampling until the floodplain notice is published in the Federal Register.

The second action holding up fieldwork is the completion of access agreements with local municipalities and landowners. The City of Broomfield access agreement could not be considered until the city council meeting which was held on April 14, 1992. Completing all access agreements is taking longer than originally planned.

Remedial actions required under the 1985 McKay v. U.S. Settlement Agreement may be in conflict with CERCLA. Tilling of the land surface to mix plutonium contaminated surface soil, as required under the Settlement Agreement, prior to completion of the RI/FS will probably not be allowed by EPA. The remedial action as determined by the RI/FS process, if any, will probably not include plutonium soil mixing through tilling.

OPEN ITEMS: None

APRIL WORK ACTIVITY STATUS:

Construction of the temporary surge tanks and water treatment system as outlined in the Final Interim Measure/Interim Remedial Action (IM/IRA) document began on April 20, 1992. The Final IM/IRA decision document was placed in the public reading rooms on April 7, 1992. The Final IM/IRA document remained in the public reading rooms for a period 10 working days after which construction activities began.

EPA has recommended conditional approval of the OU 4 Final Phase I RFI/RI Work Plan in a letter to CDH dated March 26, 1992. CDH agency approval of the document is still pending.

PLANNED WORK FOR MAY:

Construction of the temporary surge tanks and water treatment system as outlined in the Final IM/IRA document will continue.

The proposals for implementation of the Phase I RFI/RI Work Plan are scheduled to be delivered to RFP on May 8, 1992.

PROBLEMS:

The delay in removal of sludge from the solar ponds and the requirement for an IM/IRA for the surge tanks has impacted the IAG scheduled start of the RFI/RI field activities in January 1992. The impact, if any, to the IAG milestone for delivery of the RFI/RI Report is being evaluated.

OPEN ITEMS: None

3.5 OU 5 - WOMAN CREEK

DESCRIPTION:

This activity encompasses assessment and remediation in the Woman Creek drainage of 10 IHSSs. These are: 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, stormwater run-off into holding ponds, and ash-pit operations. Constituents in OU 5 are believed to include nitrates, plutonium, uranium, metals, beryllium, solvents, pesticides, oils, paints, and cleaners. Medias affected include soils, sediments, surface water, ground water, and air resuspension.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING 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

APRIL WORK ACTIVITY STATUS:

The statement of work (SOW) for the fieldwork to implement the RFI/RI Work Plan was revised.

PLANNED WORK FOR MAY:

The technical evaluation for the proposal to implement the Work Plan is scheduled for May.

PROBLEMS: None

OPEN ITEMS: None

3.6 OU 6 - WALNUT CREEK

DESCRIPTION:

This activity encompasses assessment and remediation in the Walnut Creek Drainage of 20 Individual Hazardous Substance Sites (IHSSs). They are the 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), and the Old Outfall Area (IHSS 143). One additional site, the Soil Dump Area (IHSS 156.2), was transferred from OU 14 to OU 6 in 1991. Two IHSSs, Property Utilization And Disposal Yard (IHSS 170) and Property Utilization and Disposal Container Storage Facilities (IHSS 174) have been transferred from OU 6 to OU 10. 13 ground water monitoring wells will be installed throughout OU 6 to monitor the alluvial aquifer. 5 bedrock ground water monitoring wells will be installed in the vicinity of North Walnut Creek during the OU 6 remedial investigation. To characterize the bedrock aquifer in the vicinity of the A-series ponds up to 9 additional bedrock ground water monitoring wells may be installed.

Sediment samples will be collected from the drainage in OU 6 where existing data are insufficient to adequately characterize the sediments. Sediment sampling has been proposed along each stream segment on North and South Walnut Creeks where additional characterization is needed. Based on a review of the data collected at the existing locations along the OU 6 drainage, there is sufficient information about the sediments in many parts of OU 6; therefore, the sampling locations specified in the RFI/RI Work Plan have been reduced in those areas.

The surface soil sampling has been modified for the Triangle Area (IHSS 165) and the Old Outfall Area (IHSS 143) so that the surface soil samples specified in the IAG will be obtained from the original surface of these units. This will entail borings through the overlying fill material down to the original surface to collect samples.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD:

The radiation survey in IHSS 143 has been deleted with approval from the regulatory agencies.

TECHNICAL APPROACH CHANGES THIS REPORTING 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

APRIL WORK ACTIVITY STATUS:

The radiation survey which was specified in the RI Work Plan for IHSS 143 has been deleted with verbal approval from CDH and EPA. The survey was highly unlikely to have detected any radiation due to the fill and asphalt pavement which has been placed over the entire IHSS. The change will appear in the final Work Plan. Work Plan revisions are being made that respond to CDH's comments which need to be addressed as required in the conditional approval. The procurement package to implement the Work Plan is being processed.

Minor changes have been recommended to the draft of the OU 6 Health and Safety Plan which would reduce personal protective equipment (PPE) required during specific activities. The PPE requirements that have been questioned are being reviewed by EG&G Industrial Hygiene. The reduction would save time, reduce costs, and greatly improve working conditions in warm weather.

PLANNED WORK FOR MAY:

A proposal to implement the Work Plan is due from the subcontractor on May 18, 1992.

PROBLEMS: None

OPEN ITEMS: None

3.7 OU 7 - PRESENT LANDFILL

DESCRIPTION:

The Present Landfill - Operable Unit (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, and 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 REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING 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

APRIL WORK ACTIVITY STATUS:

Final approval of the OU 7 RFI/RI Work Plan is pending CDH approval.

PLANNED WORK FOR MAY:

Preparation of the procurement package for implementation of the RFI/RI Work Plan will begin in May.

PROBLEMS: None

OPEN ITEMS: None

3.8 OU 8 - 700 AREA

DESCRIPTION:

The 24 IHSSs which 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.

During April 1992, 14 IHSSs were deleted from OU 8 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. The IHSSs that were transferred to OU 9 include: 123.2-Valve Vault West of Building 707, 125-Holding Tank, 126.1 and 126.2-Out-of-Service Process Waste Tanks, 127-Low-Level Radioactive Waste Leak, 132-Radioactive Site - 700 Area Site #4, 146.1-146.6-Concrete Process Waste Tanks, 149-Effluent Pipe, 159-Radioactive Site Building 559. These IHSS changes were recommended by DOE in the now-approved OU 9 Phase I RFI/RI Work Plan and approved by CDH and EPA in April 1992.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD:

14 IHSSs were deleted from OU 8 and added to OU 9.

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

IAG MILESTONE ACCOMPLISHMENTS:

The first IAG milestone out of four scheduled is the delivery of the Draft Phase I RFI/RI Work Plan which is due on May 1, 1992.

APRIL WORK ACTIVITY STATUS:

The contract to develop the OU 8 Phase I RFI/RI Work Plan was awarded on March 31, 1992. Meetings were held among EG&G, DOE, EPA and CDH on April 9 and April 16, 1992 to present progress of the Phase I RFI/RI Work Plan regarding the conceptual model and development of investigative approaches. The Work Plan was completed by the subcontractor on April 21, 1992. DOE has completed review of the Work Plan and comments were incorporated.

Agreement was reached at EPA and CDH to accept DOE's proposal to reduce the work included under this OU. The deleted work will be added to OU 9, which is appropriate given the nature and location of the work.

PLANNED WORK FOR MAY:

The Work Plan will be submitted to EPA and CDH on May 1, 1992, the IAG milestone date.

PROBLEMS: None

OPEN ITEMS: None

3.9 OU 9 - ORIGINAL PROCESS WASTE LINES

DESCRIPTION:

This activity involves characterizing a series of tanks and associated process waste lines. The Original Process Waste Lines (OPWL) consisted of a system of 57 designated pipe sections extending between 73 tanks and 24 buildings connected by 35,000 feet of buried pipeline that transferred process wastes from point of origin to onsite treatment plants. 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 have been 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 pickling liquor from foundry operations, medical decontamination fluids, miscellaneous laboratory liquids from Building 123, and laundry effluent from Buildings 730 and 778. The RFI/RI plan includes inspection and sampling of the OPWL tanks and pipelines which 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 borings 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 tanks which are outdoors. Soil characterization studies will determine the need for soil removal and/or treatment. The results of the RFI/RI will determine the need for interim and/or final remediation action.

During April 1992, 20 IHSSs were deleted from OUs 8, 10, 12, 13, and 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. The IHSSs that were transferred to OU 9 include: 123.2-Valve Vault West of Building 707, 125-Holding Tank, 126.1 and 126.2-Out-of-Service Process Waste Tanks, 127-Low-Level Radioactive Waste Leak, 132-Radioactive Site - 700 Area Site #4, 146.1-146.6-Concrete Process Waste Tanks, 149-Effluent Pipe, 159-Radioactive Site Building 559, 124.1-124.3-Radioactive Liquid Waste Storage Tanks, 147.1-Process Waste Leaks/Maas Area, 122-Underground Concrete Tank, and 215-Tank T-40.

The above IHSSs all constitute part of the Original Process Waste Lines and will be investigated and remediated as such. These IHSS changes were recommended by DOE in the now-approved OU 9 Phase I RFI/RI Work Plan and approved by CDH and EPA in April 1992.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD:

The following 20 IHSSs were added to OU 9 in April:

<u>IHSS</u>	<u>Description</u>
122	Underground Concrete Tank
123.2	Valve Vault West of Building 707
124.1-124.3	Radioactive Liquid Waste Storage Tanks
125	Holding Tank
126.1 and 126.2	Out-of-Service Process Waste Tanks
127	Low-Level Radioactive Waste Leak
132	Radioactive Site 700 Area Site #4
146.1-146.6	Concrete Process Waste Tanks
147.1	Process Waste Leaks/Maas Area
149	Effluent Pipe
159	Radioactive Site Building 559
215	UNIT 55.13 - Tank T-40.

TECHNICAL APPROACH CHANGES THIS REPORTING 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

APRIL WORK ACTIVITY STATUS:

The proposal for implementation of the Final OU 9 Phase I RFI/RI Work Plan was completed by the subcontractor on April 10, 1992. The technical evaluation of the proposal for implementation of the Work Plan was completed on April 27, 1992.

Approval was received from EPA and CDH adding twenty IHSSs to this OU.

PLANNED WORK FOR MAY:

Subcontract negotiations for implementation of the Phase I RFI/RI Work Plan will take place during May.

PROBLEMS: None

OPEN ITEMS: None

PLANNED WORK FOR MAY:

The OU 10 Draft RFI/RI Work Plan will be completed and submitted to the regulatory agencies on May 1, 1992.

PROBLEMS: None

OPEN ITEMS: None

3.11 OU 11 - WEST SPRAY FIELD

DESCRIPTION:

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 determine the presence and levels of hazardous constituents in soil and ground water.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING 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

APRIL WORK ACTIVITY STATUS:

The statement of work (SOW) for OU 11 RFI/RI Work Plan implementation was completed and the internal review process was began. The OU 11 Work Plan is near conditional approval status. The item holding up approval is resolution of the sitewide applicable, relevant and appropriate requirements (ARARs) issue. Options being contemplated by CDH with respect to the OU 11 Work Plan include conditional approval or disapproval pending outcome of the ARAR issue resolution.

PLANNED WORK FOR MAY:

Continue efforts to resolve any outstanding issues pertaining to approval of the RFI/RI Work Plan.

PROBLEMS: None

OPEN ITEMS:

Approval of the RFI/RI Work Plan by CDH.

3.12 OU 12 - 400/800 AREA

DESCRIPTION:

The 400/800 Area involves assessment and remediation of the 11 IHSSs at the 400/800 Area, including: 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 - Northeast, South, and West of Building 460 (IHSSs 136.1, 136.2, and 136.3); Process Waste Leak - Owen Area (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 Environmental Evaluation and a Human Health Risk Assessment. After implementation of this work plan, fieldwork and sample analysis will be conducted, data will be analyzed, and the Phase I RI Report will be prepared. A Feasibility Study 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 EPA and CDH, followed by a Record of Decision, release to the public, and implementation of the plan.

During April 1992, IHSS 147.1 (the Process Waste Leaks-Maas Area), was deleted from OU 12 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 now-approved OU 9 Phase I RFI/RI Work Plan and approved by CDH and EPA in April 1992.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD:

IHSS 147.1 was deleted from OU 12 and added to OU 9.

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

IAG MILESTONE ACCOMPLISHMENTS:

The first IAG milestone out of the 4 scheduled is the Draft Phase I RFI/RI Work Plan which is due on May 8, 1992.

APRIL WORK ACTIVITY STATUS:

The subcontractor continued development of the OU 12 Draft Phase I RFI/RI Work Plan. Three scoping meetings for the work were held among EG&G, DOE, EPA and CDH. Comments received during scoping were used during development of the Work Plan. DOE comments on the Work Plan were received on April 24 and DOE/HQ comments were received on April 30, 1992. All comments have been incorporated into the Work Plan. Currently, all work is on schedule.

Agreement was reached at EPA and CDH to accept DOE's proposal to reduce the work included under this OU. The deleted work (IHSS 147.1) will be added to OU 9, which is appropriate given the nature and location of the work.

PLANNED WORK FOR MAY:

The Draft Phase I RFI/RI Work Plan will be completed and then delivered to the regulatory agencies on May 8, 1992.

PROBLEMS: None

OPEN ITEMS: None

3.13 OU 13 - 100 AREA

DESCRIPTION:

Cleanup of the 100 Area involves the assessment and remediation of 14 IHSSs including: 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).

Assessment will consist of preparing a Phase I RFI/RI Work Plan, which will include both an Environmental Evaluation and a Human Health Risk Assessment. After implementation of this work plan, fieldwork and sample analysis will be conducted, data will be analyzed, and the Phase I RI Report will be prepared. A Feasibility Study 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 EPA and CDH, followed by a Record of Decision, release to the public, and implementation of the plan.

During April 1992, IHSS 122, the Underground Concrete Tank, was deleted from OU 13 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 now-approved OU 9 Phase I RFI/RI Work Plan and approved by CDH and EPA in April 1992.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD:

IHSS 122 was deleted from OU 13 and added to OU 9.

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

IAG MILESTONE ACCOMPLISHMENTS:

The first IAG milestone out of the 4 scheduled is the Draft Phase I RFI/RI Work Plan which is due on May 15, 1992.

APRIL WORK ACTIVITY STATUS:

The OU 13 Phase I RFI/RI Work Plan was delivered to DOE on April 15, 1992 for review. DOE/RFO, DOE/HQ, and EG&G initial comments have been incorporated into the document and resubmitted to EG&G for additional review and comment.

Agreement was reached at EPA and CDH to accept DOE's proposal to reduce the work included under this OU. The deleted work (IHSS 122) will be added to OU 9, which is appropriate given the nature and location of the work.

PLANNED WORK FOR MAY:

DOE/RFO will make the final review of the RFI/RI Work Plan and deliver it to the regulatory agencies on May 15, 1992.

PROBLEMS: None

OPEN ITEMS: None

3.14 OU 14 - RADIOACTIVE SITES

DESCRIPTION:

Work at the "Radioactive Sites" involves the assessment and remediation of eight IHSSs, including: 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 Environmental Evaluation and a Human Health Risk Assessment. After implementation of this work plan, fieldwork and sample analysis will be conducted, data will be analyzed, and the Phase I RI Report will be prepared. A Feasibility Study 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 EPA and CDH, followed by a Record of Decision, release to the public, and implementation of the plan.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD:

IHSS 156.2 (Soil Dump Area) was deleted from this OU and added to OU 6 as recommended by DOE in the now-approved OU 6 Phase I RFI/RI Work Plan because of the IHSS location along the Walnut Creek Drainage.

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

IAG MILESTONE ACCOMPLISHMENTS:

The first IAG milestone out of the four scheduled is the Draft Phase I RFI/RI Work Plan which is due on May 22, 1992.

APRIL WORK ACTIVITY STATUS:

Subcontract negotiations were held on March 26, 1992 for the development of the OU 14 Draft RFI/RI Work Plan. The subcontract to develop and complete the Work Plan was awarded on April 24, 1992.

Agreement was reached at EPA and CDH to accept DOE's proposal to reduce the work included under this OU. The deleted work (IHSS 156.2) will be added to OU 9, which is appropriate given the nature and location of the work.

PLANNED WORK FOR MAY:

Completion on the Work Plan will be expedited in order to deliver the Draft Plan to the regulatory agencies on May 22, 1992, the IAG milestone date.

The Final Work Plan is scheduled to be delivered to the regulatory agencies in October 1992.

PROBLEMS: None

OPEN ITEMS: None

3.15 OU 15 - INSIDE BUILDING CLOSURES

DESCRIPTION:

OU 15 is composed of six IHSSs including: Building 881 Drum Storage Area; Building 865 Drum Storage Area; Building 883 Drum Storage Area; Unit 45, Original Uranium Chip Roaster; Unit 26, Building 881 Drum Storage; and Unit 32, Building 881 - Cyanide Bench Scale Treatment. OU 15 will undergo RCRA closure of all IHSSs. The six IHSSs are currently listed as RCRA interim status units. Closure Plans for the facilities were submitted to CDH in 1988 and again in 1989. The major activity proposed is characterization and decontamination, if applicable, of the concrete floors at the indoor facilities. Drums and dumpsters containing solids and liquids were stored at these facilities. Types of waste 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.

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 now-approved OU 9 Phase I RFI/RI Work Plan and approved by CDH and EPA in April 1992.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD:

IHSS 215 (Unit 55.13-Tank T-40) was deleted from OU 15 and added to OU 9

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

IAG MILESTONE ACCOMPLISHMENTS: None

APRIL WORK ACTIVITY STATUS:

Preparation of the Draft OU 15 Phase I RFI/RI Work Plan began in April. Two tours of OU 15 were conducted on April 8 and April 20, 1992. Photographs were also obtained to assist in the preparation of the Work Plan. Scoping meetings between EG&G, RFO, EPA and CDH were held on April 15 and 20, 1992. The April 20 meeting was held to resolve issues discussed in the first meeting.

Agreement was reached at EPA and CDH to accept DOE's proposal to reduce the work included under this OU. The deleted work includes one IHSS that will be added to OU 9 and a drum storage area that will no longer undergo RCRA closure due to the changing RFP plant mission.

PLANNED WORK FOR MAY:

Preparation of the Draft Phase I RFI/RI Work Plan will continue. The IAG submittal date for the Draft Work Plan to EPA and CDH is June 1, 1992.

Closure plans are currently being reviewed by CDH.

PROBLEMS: None

OPEN ITEMS: None

3.16 OU 16 - LOW PRIORITY SITES

DESCRIPTION:

This assessment activity consists of preparing a "No Further Action Justification Document" for 7 IHSSs, including: Solvent Spill, Antifreeze Discharge, Steam Condensate Leaks, Nickel Carbonyl Disposal, Water Treatment Plant Backwash Pond, and Scrap Metal Sites. In addition, RFP must review the document, resolve comments, and finalize the draft. EPA will then review the RFP final draft.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

IAG MILESTONE ACCOMPLISHMENTS:

Submit Draft No Further Action Justification Document	04 Mar 92
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APRIL WORK ACTIVITY STATUS:

Contract negotiations for the "Final No Further Action Justification Document" were completed the week of April 13, 1992.

PLANNED WORK FOR MAY:

The contract to develop and complete the Final No Further Action Justification Document will be awarded in May. The document is scheduled for delivery to the regulatory agencies on July 30, 1992, the IAG milestone submittal date. This will be the second and last scheduled deliverable for OU 16, the Low-Priority Sites.

PROBLEMS: None

OPEN ITEMS: None

3.17 SITEWIDE ACTIVITIES

DESCRIPTION:

Sitewide activities include several tasks that encompass a wide variety of plans, procedures, reports, studies, and other activities required by the IAG and that apply to RFP environmental restoration activities in general. The activities include, but are not limited to, the Health and Safety Plan, a Sampling and Analysis Plan, a Plan for Prevention of Contaminant Dispersion, the Community Relations Plan, the Discharge Limits for Radionuclides Work Plan, Treatability Study deliverables, the Background Study Plan, Administrative Record, State Response (support for CDH oversight), Historical Release Report, Operations Management, Decontamination Facilities, Contractor yard support, ER Waste handling facilities, geologic characterization, hydrogeologic characterization, and ground water monitoring.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD:

Upon EPA and CDH recommendation, 2 additional tasks have been added to the Historical Release Report; Significant Air Releases and Building Histories for RFP Process Buildings. These additions will be part of the quarterly update to the Final Historical Release Report to be submitted to EPA and CDH on June 3, 1992.

TECHNICAL APPROACH CHANGES THIS REPORTING 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 Historical Release Report	08 Jan 92
Submit Responsiveness Summary for DLRP	31 Jan 92

APRIL WORK ACTIVITY STATUS:

Decontamination Facilities

A meeting for construction of the Protected Area (PA) Decontamination Facility was held on April 1, 1992 to establish the timelines for completion of the Facility by June 1, 1992. A kick-off meeting for planning, development and construction of another decontamination facility to be located near the present landfill was also held April 1, 1992.

An Engineering Job Order (EJO) is being prepared to initiate planning and construction of the decontamination pad. Cargo containers containing low level waste were staged in the planned location for the pad. An area to relocate the cargo containers has not yet been determined. The expedited start of construction is awaiting resolution of the site location decision.

Field Activities Drum Usage

Inspection was completed of all drums in the buffer zone on a weekly basis. All drums are present and conform to the standard operating procedure (SOP) for labeling and required paperwork. At the present time, there are 1,650 drums in the buffer zone from the current drilling and sampling activities. There are 1198 55-gallon drums and 452 30-gallon drums. Starting in late March, loose soil from drilling operations was packaged slightly differently. RFP changed from using the 55-gallon drums to using 30-gallon drums. RFP changed to the smaller-sized drum since such a drum, if found to contain contaminated soil, could be repackaged inside a 55-gallon drum.

Soil from the drill sites is sampled in accordance with the IAG. If no contamination is found, the drums are sent to the onsite landfill for disposal. The emptied drums, which are part of the RFP chemical tracking and control system, are then monitored, cleaned, inspected for structural soundness, repainted, relabeled, and reused. Evaluation of drill cuttings is an ongoing process and will continue until remediation of RFP is complete.

Protected Area (PA) Interim Measure (IM)/Interim Remedial Action Plan (IRAP)

Currently the PA contains all or portions of ten Operable Units (OUs) which are scheduled for Remedial Investigations (RIs). It may be advantageous to defer the RI process within the PA until a time when it is no longer impacted by security concerns. The resulting benefits would be a reduction in operating costs attributed to the ease of operating in a less restrictive working environment and a better coordination of investigative and remedial effort resulting from the consolidation of geographically similar OUs.

A preliminary project plan was prepared to guide direction for the assembly of an IM/IRAP. The IM/IRAP would provide a plan under which contaminant sources, potential migration pathways, and potential sensitive receptors for known PA contamination are identified, and alternatives are proposed to stabilize or mitigate any immediate human health or environmental risks. The plan would assess and interpret current data with respect to potential exposure pathways and potential sensitive receptors. It would also define the Applicable or Relevant and Appropriate Requirements (ARARs) and applicable environmental regulations. The IM/IRAP will also identify and screen IM/IRA alternatives and provide documentation to aid the National Environmental Policy Act (NEPA) in determination of the environmental impacts of a proposed action.

A statement of work is being prepared to initiate the production of a PA/IRAP.

On April 8, 1992, contractor representatives presented a Preliminary Project Plan for an IM/IRAP for the PA to DOE. In attendance were representatives from EPA and CDH. The proposal was well received by the regulatory agencies. DOE will respond by formally requesting EG&G to revise and pursue the plan. Such a proposal should be linked to the decontamination and decommissioning (D&D) effort. The agencies expressed concern that the proposal plan would compromise IAG milestones but expressed an interest in reviewing the proposal when it was formally submitted. Efforts are currently focused on revising the proposal.

Community Relations Activities

The IAG quarterly meeting with the public was held on April 7, 1992 and included a presentation on the OU 2 IM/IRAP/EA. A comment meeting is scheduled for May 7, 1992.

The technical review group (TRG) which is composed of representatives from local activist groups and local municipalities held a meeting on April 22, 1992. DOE gave a presentation on the just-completed RFP ER Roadmap. TRG will provide comments to RFO by June 1, 1992.

The monthly ER meeting with members of the local municipalities was held on April 16, 1992. Frazer Lockhart of DOE provided an update on ER activities. The group has decided to meet quarterly instead of monthly. The next meeting will be held in June.

PLANNED SITEWIDE WORK FOR MAY:

Work will continue on development of the PA/IRAP/EA

Community Relations will hold a public comment meeting on the OU 2 IM/IRAP/EA on May 7, 1992

Work will continue on planning the PA decontamination facilities in order to facilitate remediation efforts inside the PA

The Final Historical Release Report will be developed based on recent comments and will be ready for the June 3, 1992 delivery to EPA and CDH

PROBLEMS: None

OPEN ITEMS: None

4.0 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 Monitoring and Assessment Division, 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.

SURFACE WATER AND SEDIMENTS:

Each of the Surface Water Stations (approximately 120 stations) are sampled monthly.

Each of the Sediment Stations (approximately 40 stations) are sampled quarterly.

Each surface water and sediment sample is analyzed for the following parameters:

CLP TCL VOAs	Major Anions
CLP TAL Metals	Radionuclides
plus Cesium	Field Parameters
Lithium	pH
Molybdenum	Temperature
Strontium	Specific Conductivity
Tin	Dissolved Oxygen (DO)
	Turbidity

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.

GROUND WATER:

A total of 259 of the 371 total Ground water 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, CLP, TAL, Metals, as well as the following parameters:

<u>Radiochemical Parameters</u>	<u>Inorganic Parameters</u>	<u>Field Parameters</u>
Gross Alpha Tritium	Nitrate/Nitrite	Dissolved Oxygen (DO)
Gross Beta Lithium	Total Phosphorous	Specific Conductivity
Plutonium Uranium	Ortho-Phosphate	Temperature
Americium Cesium	Ammonia	Turbidity
Strontium Tin		pH
Molybdenum		

5.0 CONTRACTOR/SUBCONTRACTOR IDENTIFICATION

Contractors and subcontractors being used on the Rocky Flats Plant Environmental Restoration Program and the work they are performing are identified on the following list as required by paragraph 13 of the IAG.

OU	PROJECT	SUBCONTRACTOR	SUB-SUBCONTRACTOR	WORK DESCRIPTION	START DATE
1	Assessment	Ebasco	Dames & Moore Stoller Corp.	OU1 RFI/RI fieldwork (drilling, well development/ completion, sampling) and RI report	Apr-91
1	Remediation	Advance Tanks		Fabricate/Install effluent storage tanks for OU1 IRA	Oct-91
1	Remediation	Bruner		OU1 IRA ion exchange system	Feb-91
1	Remediation	E.T. LaFore		Installation of Phase II-A treatment system equipment for OU1 IRA	Jun-91
1	Remediation	Eng Sciences		Design Phase II-B French drain for OU1 881 Hillside IRA	Sep-90
1	Remediation	Jennison		Construct Phase II-B French drain at OU1 IRA	Aug-91
1	Remediation	P.S.I.		UV bench scale testing for volatile organics	Aug-91
2	Assessment	Woodward-Clyde		OU2 RFI/RI Work Plan (alluvial & bedrock) and RI fieldwork (drilling, well completion/development)	Sep-90
2	Assessment	Weston		OU2 RFI/RI Alluvial Work Plan	Nov-90
2	Remediation	Riedel Env. Svcs.		Fabricate/install/operate GAC/FTU system for South Walnut Creek Phase of OU2 IRA.	Apr-91
2	Remediation	Stearns Rogers		Performance Specification for chemical precipitation/membrane/filtration system for South Walnut Creek Phase of OU2 IRA	Jun-91
2	Remediation	Weston		IRAP, EA, Risk Assessment, and Historical Assessment for Women Creek	Jun-91
2	Remediation	Woodward-Clyde		Conduct bench-scale tests on surface water	May-91
2	Remediation	TBD		Mfg/Install chemical precipitation/filtration unit for South Walnut Creek Phase of OU 2 IRA	Dec-91
3	Assessment	IT Corporation	CH2M Hill	OU3 RI Work Plan	Mar-91
3	Assessment	IT Corporation	CH2M Hill	Revegetate offsite lands	Jun-91
4	Assessment	IT Corporation	Applied Environ.	OU4 RFI/RI Work Plan including Environmental Evaluation Plan and Quality Assurance Addendum	Sep-91
4	Remediation	IT Corporation		Prepare OU4 IM/IRA Action Plan	Jul-90
5	Assessment	Woodward-Clyde		OU5 RFI/RI Work Plan including Environmental Evaluation Plan and Quality Assurance Addendum	Feb-90
6	Assessment	Woodward-Clyde		OU6 RFI/RI Work Plan including Environmental Evaluation Plan and Quality Assurance Addendum	Feb-90

OU	PROJECT	SUBCONTRACTOR	SUB-SUBCONTRACTOR	WORK DESCRIPTION	START DATE
7	Assessment	IT Corporation	Stoller Corp.	OU7 RFI/RI Work Plan including Environmental Evaluation Plan and Quality Assurance Addendum	Apr-90
9	Assessment	IT Corporation		OU9 RFI/RI Work Plan including Environmental Evaluation Plan and Quality Assurance Addendum	Mar-90
10	Assessment	Ebasco		OU10 RFI/RI Work Plan including Environmental Evaluation Plan and Quality Assurance Addendum	Jun-90
11	Assessment	IT Corporation		OU11 RFI/RI Work Plan including Environmental Evaluation Plan and Quality Assurance Addendum	Oct-91
SW	Hist. Rel. Rep.	IT Corporation	Doty & Assoc.	Prepare Historical Release Report	Feb-91
SW	PCB Assess.	Ebasco	Stoller Corp.	Prepare PCB Assessment Report	Jan-92
SW	Adm. Record	QuantaLex		Maintain IAG Administrative Record	Oct-90
SW	Geolog. Char.	ASI		Geologic Characterization, Data Base, and graphics	Feb-90
SW	Monitoring	Ebasco		Analytical Services for groundwater, surface water, and sediment	Dec-90
SW	Monitoring	IT Corporation		Analytical Services for groundwater, surface water, and sediment	Jul-90
SW	Fid. Oversight	Ebasco	Stoller Corp.	ER field operations oversight	Oct-90
SW	Treatability	Ebasco		Sitewide treatability studies - Pu contaminated soils	Apr-90
SW	Treatability	Woodward-Clyde		Technical evaluation of sitewide treatability studies	Jul-90
SW	PPCD	Ebasco		Plan for Prevention of Contaminant Dispersion	Jun-90
SW	QA	Ebasco	SAIC	Develop and implement quality assurance program and field operations oversight	Dec-90
PM	Support	Ebasco	Stoller Corp.	Program Management Support	Feb-90