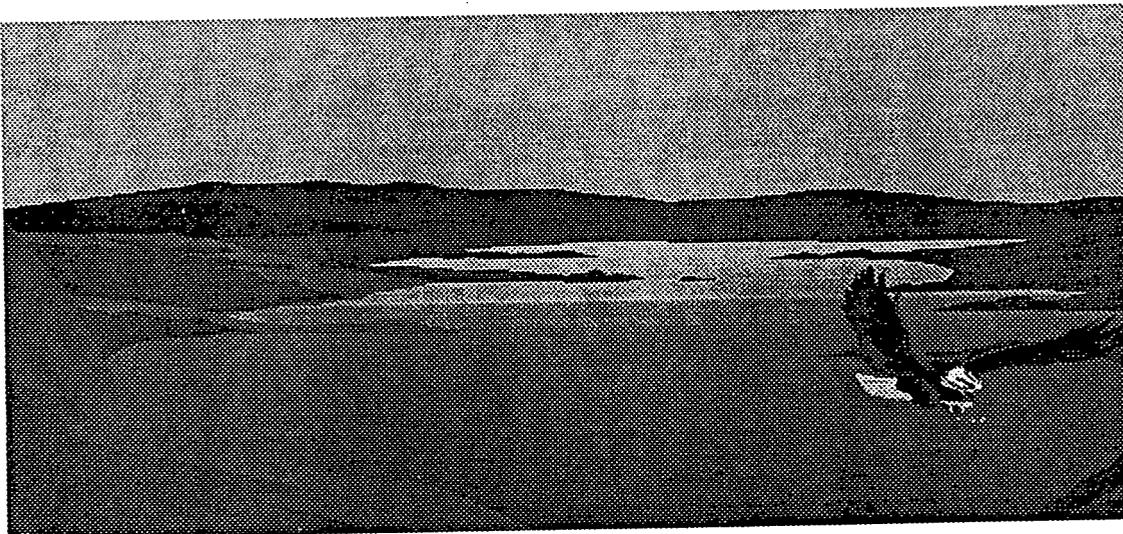


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ENVIRONMENTAL RESTORATION PROGRAM

Monthly Report For April 1991



May 20, 1991

 **EG&G ROCKY FLATS**

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

**ENVIRONMENTAL RESTORATION
PROGRAM**

MONTHLY REPORT FOR

APRIL 1991

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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 1991. This Program implements the Interagency Agreement 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 2.0 of this report, the Executive Summary, highlights significant achievements and summarizes the milestones completed during April. It also 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 in which no FY91 activity is planned are not included. 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 THE REPORT MONTH

The Final Work Plan for the RCRA Facility Investigation/Remedial Investigation (RFI/RI) for OU1 - 881 Hillside was transmitted to EPA/CDH on Friday, April 5, 1991. A start-up meeting was held for the RI field program on Tuesday, April 9, 1991. Work permitting, mobilization scheduling, and drill hole prioritization are all under way.

Phase II-A construction (installation of the process treatment system and effluent tanks) at OU1 - 881 Hillside began on April 1, 1991, the milestone date for this work.

Mechanical and electrical contractors are 95 percent complete with their work on the OU1 IRA 891 Treatment Building. The building lightning protection system is 50 percent complete and interior painting started April 26, 1991. The influent tank installation started April 29, 1991.

Construction of the temporary decontamination pad was completed at the OU1 - 881 Hillside site.

In preparation for the OU2 - 903 Pad, Mound, and East Trenches RFI/RI fieldwork drilling activities, the subcontractor began to move trailers, power generators, and propane tanks into the contractor yard on April 29, 1991.

Installation of the OU2 granular activated carbon (GAC) system pipeline began on April 8, 1991. The EG&G subcontractor has both the influent and effluent pipe layed out on top of the ground and has initiated the heat tracing of the effluent pipe. By heat tracing the pipe, year-round operation of the system will be possible. All culvert pipes are onsite, and excavation permits were signed April 26, 1991, allowing excavation to begin April 27, 1991. Weir box installation began the week of April 29, 1991.

The final OU3 - Offsite Areas Past Remedy Report was completed and delivered to EPA/CDH on its IAG milestone date of April 2, 1991.

The final OU3 Historical Information Summary and Preliminary Health Risk Assessment Report was delivered to EPA/CDH on its IAG milestone date of April 16, 1991.

The draft OU5 - Woman Creek Phase I RFI/RI Work Plan was completed and delivered to EPA/CDH on its IAG milestone date of April 5, 1991.

The draft OU6 - Walnut Creek Phase I RFI/RI Work Plan was submitted to EPA/CDH on its IAG milestone date of April 16, 1991.

On April 8, 1991, CDH granted an extension of the milestone completion date for the final Sitewide Plan for Prevention of Contaminant Dispersion (PPCD) from April 18, 1991 to July 22, 1991. In the letter, CDH commended the staffs of DOE and EG&G for the work being done on the PPCD and expressed confidence that a quality plan will be produced.

The Draft Radionuclides Discharge Limits Plan (RDLP) was completed and delivered to EPA/CDH on April 3, 1991, two days prior to its milestone date, April 5, 1991.

2.2 PROBLEMS AND PROGRAMMATIC ISSUES

The procurement process of the OU1 Phase II-A ion exchange system and effluent storage tanks is being delayed. There is currently a shortage of the required American-made ASME certified tanks. The best contractor estimate on the delivery date of the ion exchange tanks and effluent storage tanks is October 1991, and January 1992, respectively. Negotiations with the contractor are taking place in order to expedite the procurement of these tanks.

Remedial actions required under the 1985 McKay vs. 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. EPA/CDH and DOE staff are working to resolve the issue.

A preliminary internal review of the draft OU10 - Other Outside Closures RFI/RI Work Plan submitted to EG&G by the contractor in July 1990, revealed a number of deficiencies in the plan that must be corrected. The plan is consistent with the draft IAG and with early regulatory agency guidance, but it does not meet current requirements. Even though the IAG schedule shows no activity on this OU until October 1, 1991, we plan to revise the draft Work Plan in FY91 and incorporate the Environmental Evaluation (EE) Work Plan into it. It will also permit us to submit a draft plan that will meet current requirements to EPA/CDH on November 27, 1991, the IAG milestone delivery date.

Western Aggregate has submitted a request to DOE to mine the mineral resources for which they own the rights and which are under a portion of the western edge of the Rocky Flats Plant. The land in question is located within OU11 - West Spray Field. DOE has had preliminary discussions with EPA on this matter, and EPA agrees with DOE that any decision on mining operations should be delayed until the OU assessment is complete. The DOE-RFO legal staff is reviewing the request from Western Aggregate.

Agency review of the Sitewide SOPs produced substantial comments from CDH that need to be addressed before approval can take place. These issues will be resolved by the end of May, when the SOPs will be resubmitted to the agencies for approval. This postponement will not cause delays in fieldwork activities.

2.3 NEAR-TERM IAG MILESTONES

<u>QU#</u>	<u>Milestone Description</u>	<u>Scheduled Completion</u>	<u>Actual Completion</u>
01	Begin Phase II-A IM/IRA Construction	01 Apr 91	01 Apr 91
03	Submit Final Past Remedy Report	02 Apr 91	02 Apr 91
05	Submit Draft Phase I RFI/RI Work Plan	05 Apr 91	05 Apr 91
SW	Submit Draft Radionuclides Discharge Limits Plan	05 Apr 91	03 Apr 91
03	Submit Final Historical Information/Preliminary Health Risk Assessment Report	16 Apr 91	16 Apr 91
06	Submit Draft Phase II RFI/RI Work Plan (Alluvial)	19 Apr 91	19 Apr 91
02	Field Treatability Test System Installation Complete	10 May 91	
02	Begin Field Treatability Testing	13 May 91	

3.0 PROJECT STATUS

3.1 OU1 - 881 HILLSIDE AREA

DESCRIPTION:

The soil and groundwater at the 881 Hillside Area, located north of Woman Creek in the southeast section of RFP, were potentially contaminated in the 1960s and 1970s with solvents and radionuclides. The various waste management sites that make up OU1 are being investigated and treated as high-priority sites because of elevated concentrations of organic compounds in the near-surface groundwater and the proximity of the contamination to a drainage system leading to an offsite drinking water supply. The selected Interim Remedial Action (IRA) at OU1 involves construction of an underground drainage system (French drain) that will intercept and contain contaminated groundwater flowing from the OU1 area. The contaminated water will be treated and released back into the interceptor ditch alongside Woman Creek.

3.1.1 OU1 ASSESSMENT

SCOPE OF WORK CHANGES:

The scope of work for the OU1 RI fieldwork as defined by the final Phase III RFI/RI Work Plan is being compared to the scope of work defined by the IAG.

TECHNICAL APPROACH CHANGES: None

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:

The Final Work Plan for the Phase III RCRA Facility Investigation/Remedial Investigation (RFI/RI) was transmitted to EPA/CDH on Friday, April 5, 1991. A start-up meeting was held for the RI field program on Tuesday, April 9, 1991. Work permitting, mobilization scheduling, and drill hole prioritization are all underway.

Field personnel attended the first in a series of safety, QA, and SOP training classes the week of April 15, 1991. Completion of training is required before fieldwork activities can begin.

The final OU1 Health and Safety Plan was signed by all parties on April 19, 1991. The Draft Health and Safety Plan for the OUs 1, 2, and 5 Environmental Evaluation (EE) survey (the EE fieldwork for these three OUs is being combined into one project) was submitted to EG&G by the subcontractor for review on April 24, 1991. The Integrated Work Permit for field operations at OUs 1 and 2 were also submitted for internal EG&G approval on April 24, 1991.

PLANNED WORK FOR MAY:

Drilling activities for Phase III RFI/RI fieldwork are scheduled to start May 6, 1991.

PROBLEMS: None

OPEN ITEMS: None

3.1.2 OU1 REMEDIATION

SCOPE OF WORK CHANGES: None

TECHNICAL APPROACH CHANGES: None

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

APRIL WORK ACTIVITY STATUS:

Phase II-A construction at OU1 - 881 Hillside (installation of the process treatment system and effluent tanks) began on April 1, 1991, the milestone date for this work. The UV peroxide treatment system is being delivered to the 891 treatment building.

Mechanical and electrical contractors are 95 percent complete with their work on the 891 Treatment Building. The building lightning protection system is 50 percent complete and interior painting started April 26, 1991. The influent tank containment basin was completed and tank installation started April 29, 1991.

Construction of the temporary decontamination pad has progressed rapidly, with all the concrete for the temporary decontamination pad at the OU1 - 881 Hillside site being poured and the sediment and holding tanks installed by April 19, 1991. Final contractor activity, which includes inspection of the concrete, installation of the spray curtain, and final grading was completed by the end of April in time for the start of OU1 and OU2 RI fieldwork in May.

PLANNED WORK FOR MAY:

The decontamination pad will be operational by May 1, when the OU2 RFI/RI fieldwork is scheduled to start.

All work (except electrical) on the 891 Treatment Building will be complete by May 3, 1991. The one MW main building transformer will be delivered mid-August 1991. The final installation of power wiring will be completed at that time. Portable generators will be used until the transformer is installed.

PROBLEMS:

Procurement of the Phase II-A ion exchange system and effluent storage tanks is being delayed. There is currently a shortage of the required American-made ASME certified tanks. The best contractor estimate on the delivery date of the ion exchange tanks and effluent storage tanks is October 1991, and January 1992, respectively. Negotiations with the contractor are taking place in order to expedite the procurement of these tanks.

OPEN ITEMS: None

3.2 OU2 - 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 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.

The IM/IRA Plan provides for surface water seeps in source areas of contamination to be treated and discharged to the surface water system. Start-up of a field scale treatability unit is scheduled for the Walnut Creek drainage in 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. Bench scale testing of surface water in the Woman Creek drainage is planned for the spring of 1991, after which a separate Interim Remedial Action Plan for this drainage will be developed.

3.2.1 OU2 ASSESSMENT

SCOPE OF WORK CHANGES:

The scope of work for the OU2 RI fieldwork as defined by the final RFI/RI Work Plan is being compared to the scope of work defined by the IAG.

TECHNICAL APPROACH CHANGES: None

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

APRIL WORK ACTIVITY STATUS:

The subcontractor began to move trailers, power generators, and propane tanks for the RI fieldwork into the contractor yard on April 29, 1991.

An Integrated Work Control Package, which will replace all existing permits to conduct activities within the OU2 area, is being prepared in cooperation with Health and Safety. This package was ready for approval at the end of April 1991.

The Environmental Management (EM) Construction Yard Master Plan was reviewed and is ready for submittal under the RFP approval procedures (these are currently being developed by Health and Safety).

The construction yard is a site provided by RFP to store equipment, locate construction trailers, and provide logistic support for all ER field activities. A separate Integrated Work Control Package is also being prepared for the construction yard.

PLANNED WORK FOR MAY:

The OU2 scheduled start-up for field activities, May 1, 1991, remains intact. The initial activities will include locating and staking boreholes, test trenches, and soil sampling stations. Each piece of field equipment, drilling rigs, and support vehicles that may have been potentially exposed to contamination at other job sites will be decontaminated prior to entry into the OU2 area.

Resolution of agency comments on the RFI/RI Work Plan (Bedrock) is scheduled to commence May 6, 1991.

PROBLEMS: None

OPEN ITEMS:

EPA/CDH review of the draft Phase II RI Work Plan (bedrock) is scheduled to be completed by May 3, 1991.

3.2.2 OU2 REMEDIATION

SCOPE OF WORK CHANGES: None

TECHNICAL APPROACH CHANGES: None

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 Draft Responsiveness Summary and Final IM/IRA Decision Document	11 Jan 91

APRIL WORK ACTIVITY STATUS:

The design submittals by the EG&G subcontractor for the GAC equipment were approved by EG&G on April 5, 1991, and installation of the GAC system pipeline began on April 18, 1991. The EG&G subcontractor has both the influent and effluent pipe layed out on top of the ground and has initiated the heat tracing of the effluent pipe. By heat tracing the pipe, year-round operation of the system is possible. All culvert pipes are onsite, and excavation permits were signed April 26, 1991, allowing excavation to begin April 27, 1991. Weir box installation for seepage collection is scheduled to begin the week of April 29, 1991.

PLANNED WORK FOR MAY:

Construction and equipment installation activities on the OU2 South Walnut Creek IRA are on schedule to meet the May 10, 1991, and May 13, 1991, IAG milestone dates for installation and start of field treatability testing.

May 3, 1991, remains the target date for completion of the equipment trailer pad construction for the GAC treatment system.

The activities associated with the OU2 Woman Creek Surface Water IRA began with bench scale testing the first week in April 1991. Once the bench scale tests have been evaluated, a draft Interim Remedial Action Plan (IRAP) document will be prepared. This IRA will treat water collected from surface water seep locations SW-53, -55, -63 and -64.

PROBLEMS:

Delays to the GAC construction project have been introduced through reduced engineering support for design review and approval. These delays were caused by recent I&E projects that have been given a high priority by DOE. The review and approval delays have required that the construction subcontractor work significant amounts of overtime (therefore increasing project costs) to maintain the project schedule and meet IAG milestones.

OPEN ITEMS: None

3.3 OU3 - OFFSITE AREAS

DESCRIPTION:

OU3 can be divided into two categories based on the two drivers of the activities. The IAG directs activities according to CERCLA. This involves assessment of contamination in offsite areas also referred to as Individual Hazardous Substance Sites (IHSSs) (previously referred to as SWMUs): 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: None

TECHNICAL APPROACH CHANGES: None

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

APRIL WORK ACTIVITY STATUS:

The final Past Remedy Report was completed and delivered to EPA/CDH on April 2, 1991, its IAG milestone date. The Past Remedy Report details the history of the remedy ordered by the U. S. District Court pursuant to the land owner's suit settled in 1985, the implementation of the remedy, and the effectiveness of the remedy. The report includes a health assessment identifying the public health risk associated with potential exposure to the public prior to the start of site remediation, during remediation and after completion of the Settlement Agreement imposed remedy.

The Final Historical Information Summary and Preliminary Health Risk Assessment Report was delivered to EPA/CDH on its milestone date, April 16, 1991. This report provides known data describing contamination within three offsite reservoirs: Great Western Reservoir, Standley Lake Reservoir, and Mower Reservoir. The report also includes a health risk assessment identifying the public health risk associated with potential exposure to the public for a no-action alternative for remediation of the contamination.

Preparation of the draft Phase I RI Plan continued through April.

PLANNED WORK FOR MAY:

Preparation of the draft Phase I RFI/RI Work Plan will continue.

Incorporation of agency comments and finalization of the Past Remedy Report and the final Historical Information Summary and Preliminary Health Risk Assessment Report will be completed.

PROBLEMS:

Remedial actions required under the 1985 McKay vs. 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:

The final Past Remedy Report will be under EPA/CDH review until May 1, 1991.

The final Historical Information Summary and Preliminary Health Risk Assessment Report will be under EPA/CDH review until May 15, 1991.

3.4 OU4 - SOLAR PONDS

DESCRIPTION:

Five evaporation ponds were used for storage of low-level radioactive process waste, sanitary treatment plant effluent, and contaminated groundwater collected downgradient of the ponds. The ponds are RCRA interim status regulated units that are currently under closure. Leakage from the ponds has contaminated soils and groundwater with various contaminants, including heavy metals and uranium.

SCOPE OF WORK CHANGES: None

TECHNICAL APPROACH CHANGES: None

MILESTONE ACCOMPLISHMENTS:

Submit Draft Phase I RFI/RI Work Plan

08 Jun 90

APRIL WORK ACTIVITY STATUS:

Comments were received from CDH regarding the Environmental Assessment for dewatering and RCRA partial closure activities for the Solar Evaporation Ponds. The comments convey CDH's belief that the closure activities, specifically the operation of the "surge tanks" for the interceptor trench pump house system (ITPHS), constitute an interim measure study under the IAG, and therefore, the procedures dictated by the IAG for public notice and comment must be followed. DOE prefers that the activity be handled as a modification to RCRA interim status and not an interim measure action under the IAG. DOE is working with CDH and EPA to resolve this issue.

PLANNED WORK FOR MAY:

No activities are scheduled until July 1991.

PROBLEMS: None

OPEN ITEMS: None

3.5 OU5 - WOMAN CREEK

DESCRIPTION:

This activity encompasses assessment and remediation at the Woman Creek drainage, to include: Original Landfill; Ash Pits 1-4, Incinerator, and Concrete Wash Pad; Retention Ponds C-1 and C-2; and the surface disturbance southeast of Building 881.

SCOPE OF WORK CHANGES: None

TECHNICAL APPROACH CHANGES: None

MILESTONE ACCOMPLISHMENTS:

Submit Draft Phase I RFI/RI Work Plan

05 Apr 91

APRIL WORK ACTIVITY STATUS:

The draft RFI/RI Work Plan was completed and delivered to EPA and CDH on April 5, 1991, two days prior to its IAG milestone date. The RFI/RI investigates and defines the site physical characteristics, defines the sources of contamination, and describes the nature and extent of contamination.

PLANNED WORK FOR MAY:

Agency comments on the EE Work Plan for OUs 1, 2, and 5 will be addressed in May 1991.

Resolution of agency issues on the RFI/RI Work Plan will begin in July 1991.

PROBLEMS: None

OPEN ITEMS:

The agencies' review of the draft RFI/RI Work Plan will continue into early July 1991.

3.6 OU6 - WALNUT CREEK

DESCRIPTION:

This activity encompasses assessment and remediation at the Walnut Creek Drainage, to include: Sludge Dispersal; Retention Ponds A-1, A-2, A-3, A-4, A-5, B-1, B-2, B-3, B-4, and B-5; Old Outfall; Triangle Area; Trenches A, B, and C; and the North section of the East Spray Field.

SCOPE OF WORK CHANGES:

During development of the RFI/RI Work Plan, five monitoring wells, three high volume air monitoring stations, and one IHSS (IHSS 156.2 which was formerly in OU14 - Radioactive Sites) were added to the scope of work.

TECHNICAL APPROACH CHANGES: None

MILESTONE ACCOMPLISHMENTS:

Submit Draft Phase I RFI/RI Work Plan

19 Apr 91

APRIL WORK ACTIVITY STATUS:

The draft RFI/RI Work Plan was submitted to EPA/CDH on April 16, 1991, its scheduled milestone date. The RFI/RI investigates and defines the site physical characteristics, defines the sources of contamination, and describes the nature and extent of contamination.

PLANNED WORK FOR MAY:

Resolution of agency issues on the RFI/RI Work Plan will begin in July 1991.

PROBLEMS: None

OPEN ITEMS:

The agency review of the draft RFI/RI Work Plan will continue into mid-July 1991.

3.7 OU7 - PRESENT LANDFILL

DESCRIPTION:

The Present Landfill began operation in 1968. The landfill provided a means of disposing nonradioactive and nonhazardous solid waste. Some of the solid wastes from the plant, which were disposed in the landfill, are suspected to have contained hazardous waste and/or hazardous constituents. 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: None

TECHNICAL APPROACH CHANGES: None

MILESTONE ACCOMPLISHMENTS:

Submit Draft Phase I RFI/RI Work Plan

08 Jun 90

APRIL WORK ACTIVITY STATUS:

Comments were received from CDH regarding the RFI/RI Work Plan dated June 1990. The comments were consistent with EPA's comments received in November 1990, and also reflect DOE's determination that the work plan requires modification. The work plan submitted in June 1990 is consistent with the draft IAG and the guidance received from the regulatory agencies at that time, but does not meet current requirements.

A procurement request for proposal to modify the plan was issued and a proposal is under review.

PLANNED WORK FOR MAY:

A contract to revise the RFI/RI Work Plan to meet current requirements will be negotiated and issued.

PROBLEMS: None

OPEN ITEMS: None

3.9 OU9 - ORIGINAL PROCESS WASTE LINES

DESCRIPTION:

This activity involved characterizing a series of tanks and associated process waste lines. The system was constructed to transport and temporarily store aqueous process wastes. Soil characterization studies will determine the need for soil removal and/or treatment.

SCOPE OF WORK CHANGES: None

TECHNICAL APPROACH CHANGES: None

MILESTONE ACCOMPLISHMENTS:

Submit Draft Phase I RFI/RI Work Plan

08 Jun 90

APRIL WORK ACTIVITY STATUS:

No activities are scheduled until July 1991.

PLANNED WORK FOR MAY:

No activities are scheduled until July 1991.

PROBLEMS: None

OPEN ITEMS: None

3.10 OU10 - OTHER OUTSIDE CLOSURES

DESCRIPTION:

OU10 is made up of 13 IHSSs consisting of various hazardous waste units. An RFI/RI Work Plan is currently in preparation. The primary components of the RFI/RI Work Plan for OU10 will be a Field Sampling Plan (FSP), Baseline Risk Assessment Plan (BRAP), and an EE Work Plan.

SCOPE OF WORK CHANGES: None

TECHNICAL APPROACH CHANGES: None

MILESTONE ACCOMPLISHMENTS:

The first IAG milestone for this OU is scheduled for November 1991.

APRIL WORK ACTIVITY STATUS:

A preliminary internal review of the draft OU10 RFI/RI Work Plan submitted to EG&G by the contractor in July 1990, revealed a number of deficiencies in the plan that must be corrected. The plan is consistent with the draft IAG and with early regulatory agency guidance, but it does not meet current requirements. Even though the IAG schedule shows no activity on this OU until October 1, 1991, we plan to revise the draft Work Plan in FY91 and incorporate the Environmental Evaluation (EE) Work Plan into it. It will also permit us to submit a draft plan that will meet current requirements to EPA/CDH on November 27, 1991, the IAG milestone delivery date.

PLANNED WORK FOR APRIL:

The EE Work Plan for OU10, which will be incorporated into the RFI/RI Work Plan, is expected to be initiated in May 1991.

PROBLEMS: None

OPEN ITEMS: None

3.11 OU11 - WEST SPRAY FIELD

DESCRIPTION:

The West Spray Field is located within Rocky Flats property boundary 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 the solar evaporation ponds 207-B North and Center (contaminated groundwater 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 groundwater.

SCOPE OF WORK CHANGES: None

TECHNICAL APPROACH CHANGES: None

MILESTONE ACCOMPLISHMENTS:

Submit Draft Phase I RFI/RI Work Plan

08 Jun 90

APRIL WORK ACTIVITY STATUS:

No activities are scheduled until July 1991.

PLANNED WORK FOR MAY:

No activities are scheduled until July 1991.

PROBLEMS:

Western Aggregate has submitted a request to DOE to mine the mineral resources for which they own the rights and which are under a portion of the western edge of the Rocky Flats Plant. The land in question is located within Operable Unit 11 - West Spray Field. DOE has had preliminary discussions with EPA on this matter, and EPA agrees with DOE that a decision for any mining operations should be delayed until the OU assessment is complete. The DOE-RFO legal staff is reviewing the request from Western Aggregate.

OPEN ITEMS: None

3.12 SITEWIDE ACTIVITIES

DESCRIPTION:

The Sitewide programs assessment includes several tasks that encompass a wide variety of plans, procedures, reports, studies, and other activities required by the IAG and that apply to RFP in general.

SCOPE OF WORK CHANGES: None

TECHNICAL APPROACH CHANGES: None

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	03 Apr 91

APRIL WORK ACTIVITY STATUS:

Compilation of the Community Relations Plan Responsiveness Summary began April 1, 1991, on schedule for its IAG milestone submittal date of June 21, 1991.

On April 8, 1991, CDH granted an extension of the milestone completion date for the final PPCD from April 18, 1991 to July 22, 1991. In the letter, CDH commended the staffs of DOE and EG&G for the work being done on the PPCD and expressed confidence that a quality plan will be produced.

The PPCD Working Group met on April 3, 1991 to discuss technical matters impacting finalization of the document. Issues discussed included: standard receptor exposure characteristics, contaminant release scenarios, transport modeling distances, suitable meteorological data, identification of contaminants of concern, and the "point of departure" for establishing acceptable risk.

The Draft Radionuclides Discharge Limits Plan (RDLP) was completed and delivered to EPA/CDH on April 3, 1991, two days prior to its milestone date of April 5, 1991. The primary focus of this work plan is the monitoring and control of radionuclide concentrations in discharge water. The work plan describes

analytical protocols and methods for the determination of radionuclide levels, presents statistical assessments of accumulated analytical results, and recommends additional radionuclide studies to better characterize the water quality of Rocky Flats Plant discharges. The work plan describes current procedures for planning, approving, and conducting offsite discharges of water from the RFP terminal ponds A-5, B-5, and C-2. Procedures for implementing the discharge plan are reviewed, and methods for streamlining operations are proposed. Current treatment approaches and limitations are reviewed, and plans for future treatability studies are addressed.

PLANNED WORK FOR MAY:

The agencies' review of the RDLP will continue into early July 1991.

Resolution of issues on the Treatability Study Plan will continue through May, on schedule for its IAG milestone submittal date of June 3, 1991.

PROBLEMS:

Agency review of the SOPs produced substantial comments from CDH that need to be addressed before approval can take place. These issues will be resolved by the end of May, when the SOP will be resubmitted to the agencies for approval. This postponement will not cause delays in fieldwork activities.

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.

GROUNDWATER:

Each of the Groundwater Stations (approximately 259) 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 groundwater 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	Nitrate/Nitrite	Dissolved Oxygen (DO)
Gross Beta	Total Phosphorous	Specific Conductivity
Plutonium	Ortho-Phosphate	Temperature
Americium	Ammonia	Turbidity
Strontium		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.

* Prime Contractor: 1-EG&G Rocky Flats, Inc, 2-CN Geotech

OU	PROJECT	CONT	SUBCONTRACTOR	SUB-SUBCONTRACTOR	WORK DESCRIPTION	START DATE
1	Assessment	1	Ebasco	Dames & Moore Stoller Corp. SAIC	OU1 RFI/RI fieldwork (drilling, well development/completion, sampling) and RI report	Apr-91
1	Remediation	2	Diamondback Const		Implement Phase IB interim remedial action construction at the 881 Hillside site. Construct temporary decontamination pad.	TBD
1	Remediation	1	TBD		Construct/install effluent storage tanks for OU1 IRA	May-91
1	Remediation	1	TBD		OU1 IRA ion exchange system	Aug-91
1	Remediation	1	TBD		Installation of Phase IIA treatment system equipment for OU1 IRA	May-91
1	Remediation	1	TBD		Construct Phase IIB french drain at OU1 IRA site	Jul-91
2	Assessment	1	Woodward-Clyde		OU2 RFI/RI Work Plan (alluvial & bedrock) and RI fieldwork (drilling, well completion/development)	Sep-90
2	Remediation	1	Riedel Env. Svcs.		Construct/install GAC/FTU system for South Walnut Creek phase of OU2 IRA.	Apr-91
2	Remediation	1	Stearns Rogers		Design chemical precipitation/membrane filtration system for South Walnut Creek phase of OU2 IRA.	Jun-91
2	Remediation	1	TBD		Mfg./install chem. precip/filtration unit for South Walnut Creek phase of OU2 IRA	Sep-91
2	Remediation	1	TBD		Analyse water samples from OU2 South Walnut Creek treatment system.	May-91
2	Remediation	1	Woodward-Clyde		Conduct bench-scale tests on surface water from Woman Creek phase of OU2 IRA.	May-91
3	Assessment	1	IT Corp.		OU3 RI Work Plan	Mar-91
3	Assessment	1	TBD		Revegetate offsite lands	TBD

OU	PROJECT	CONT	SUBCONTRACTOR	SUB-SUBCONTRACTOR	WORK DESCRIPTION	START DATE
4	Assessment	1	IT Corp.	CH2M Hill	OU4 RFI/RI Work Plan including Environmental Evaluation Plan and Quality Assurance Addendum	TBD
5	Assessment	1	Woodward-Clyde		OU5 RFI/RI Work Plan including Environmental Evaluation Plan and Quality Assurance Addendum	Feb-90
6	Assessment	1	Woodward-Clyde		OU6 RFI/RI Work Plan including Environmental Evaluation Plan and Quality Assurance Addendum	Feb-90
7	Assessment	1	IT Corp.	Stoller Corp.	OU7 RFI/RI Work Plan including Environmental Evaluation Plan and Quality Assurance Addendum	Apr-90
9	Assessment	1	IT Corp		OU9 RFI/RI Work Plan including Environmental Evaluation Plan and Quality Assurance Addendum	Mar-90
10	Assessment	1	Ebasco		OU10 RFI/RI Work Plan including Environmental Evaluation Plan and Quality Assurance Addendum	TBD
11	Assessment	1	IT Corp		OU11 RFI/RI Work Plan including Environmental Evaluation Plan and Quality Assurance Addendum	TBD
SW	Hist. Rel. Rep.	1	IT	Doty & Assoc.	Prepare Historical Release Report	Feb-91
SW	Adm. Record	1	Tech		Maintain IAG Administrative Record	Oct-90
SW	Geolog. Char.	1	ASI		Geologic Characterization, Data Base, and Graphics	Feb-90
SW	Monitoring	1	Ebasco		Analytical Services for groundwater, surface water, and sediment	Dec-90
SW	Monitoring	1	IT Corp.		Analytical Services for groundwater, surface water, and sediment	Jul-90
SW	Fld. Oversight	1	Ebasco	Stoller Corp	ER field operations oversight	Oct-90
SW	Treatability	1	Ebasco		Sitewide treatability studies	Apr-90
SW	Treatability	1	Woodward-Clyde		Technical evaluation of sitewide treatability studies	Jul-90
SW	PPCD	1	Ebasco		Plan for Prevention of Contaminant Dispersion	Jun-90
SW	QA	1	Ebasco	SAIC	Develop and implement quality assurance program	Dec-90
PM	Support	1	Ebasco	Stoller Corp.	Program Management Support	Feb-90