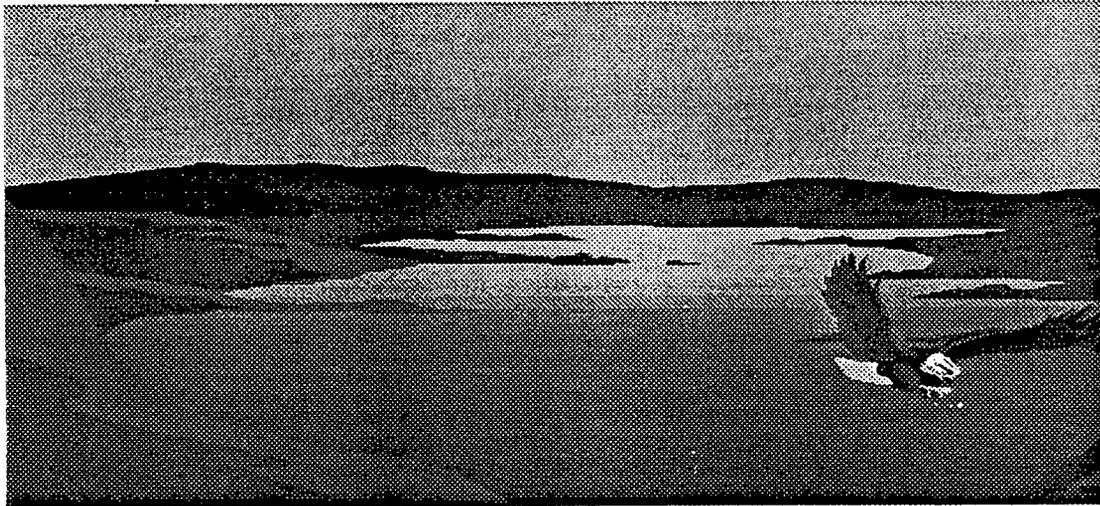


SEPT 1991

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ENVIRONMENTAL RESTORATION PROGRAM

Monthly Report For August, 1991



September 20, 1991

 **EG&G ROCKY FLATS**

ADMINISTRATIVE

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

**ENVIRONMENTAL RESTORATION
PROGRAM**

MONTHLY REPORT FOR

AUGUST 1991

TABLE OF CONTENTS

1.0	Introduction	1
2.0	Executive Summary	3
2.1	Significant Activities and Achievements for the Report Month	3
2.2	Problems and Programmatic Issues	4
2.3	Near-Term IAG Milestones	4
3.0	Project Status	7
3.1	OU1 - 881 Hillside Area	7
3.1.1	OU1 Assessment	7
3.1.2	OU1 Remediation	8
3.2	OU2 - 903 Pad, Mound, and East Trenches	10
3.2.1	OU2 Assessment	10
3.2.2	OU2 Remediation	11
3.3	OU3 - Offsite Areas	13
3.4	OU4 - Solar Ponds	15
3.5	OU5 - Woman Creek	17
3.6	OU6 - Walnut Creek	18
3.7	OU7 - Present Landfill	19
3.9	OU9 - Original Process Waste Lines	20
3.10	OU10 - Other Outside Closures	21
3.11	OU11 - West Spray Field	22
3.12	Sitewide Activities	24
4.0	Routine Environmental Monitoring	27
5.0	Contractor/Subcontractor Identification	29

1.0 INTRODUCTION

This Monthly Status Report presents the current status and technical achievements of the Rocky Flats Environmental Restoration Program for August 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 August. 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 RFI/RI drilling program for OU1 - 881 Hillside started on August 1, 1991. Nineteen boreholes were drilled and 4 monitor wells were completed by the end of August.

Systems operations testing of the OU 1 - 881 Hillside treatment building sump pump system began August 2, 1991, three days before the IAG milestone date for the start of IM/IRA testing. ET La Fore, EG&G's subcontractor, has completed installation of the double wall polypropylene pipe inside 891 Building and is 80% complete with the PVC pipe installation.

The pre-bid walk through for the OU 1 Phase II-B french drain construction was held July 13, 1991. Bid return was re-scheduled from August 23 to August 30, 1991 due to a change in bid documents. The IAG milestone date for the start of Phase II-B construction to begin on the french drain was September 3, 1991 but influent and effluent piping installation for the french drain started on August 26, 1991, eight days ahead of the IAG milestone date. Surveying of the french drain began August 28, 1991.

The final OU2 RFI/RI Bedrock Work Plan was approved by EPA/CDH on August 19, 1991.

The final OU2 Phase II RFI/RI Work Plan (Alluvial) was revised and will be submitted to EPA/CDH for approval. This issue will represent all the changes, revisions and editing on the work plan from November 1990 to date.

The OU2 RFI/RI borehole and sampling program started on August 26, 1991.

EG&G is coordinating the acquisition of DOE/UMTRA radionuclide removal equipment which will be used on the OU2 South Walnut Creek - Phase II Interim Remedial Action. A proposal for the used UMTRA radionuclides removal unit was received by EG&G August 23, 1991. Clarifications of proposed tasks are necessary and were presented to the vendor by EG&G staff August 28, 1991. Concerns regarding the decontamination of the unit before it is brought onto plantsite are still at issue.

The draft Interim Measure/Interim Remedial Action (IM/IRA) Plan for the OU4- Solar Evaporation Ponds Pondcrete Operations was delivered to EPA and CDH on August 16, 1991. The plan is being revised per EPA and CDH comments. The revised document is expected to be delivered to DOE by September 2, 1991. CDH has given conditional approval for the IM/IRA to be provided to the public for the IAG-required 60 day "Public Comment" period. The scheduled date for this period to begin is September 9, 1991.

The final OU5 Woman Creek RCRA Facility Investigation/Remedial Investigation (RFI/RI) Work Plan was delivered to EPA/CDH on August 30, 1991, the IAG milestone date.

DOE has received comments from EPA and CDH regarding the Draft Final Discharge Limits for Radionuclides Work Plan. Notification was received from the agencies granting an extension of the milestone date for delivery of the final plan from August 13, 1991 to September 16, 1991.

2.2 PROBLEMS AND PROGRAMMATIC ISSUES

Remedial actions for OU3 - Offsite Areas 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 an acceptable CERCLA regulated remedy. 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.

Western Aggregate has submitted a request to DOE to mine the mineral resources they own and which underlie 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- legal staff is reviewing the request from Western Aggregate.

Automated overnight collection of base flows from South Walnut Creek began August 18, 1991 for next day treatment in the GAC System. Tank capacity and pump limitations were allowing approximately two to three hours of uncollected stream flow. Attempts are being made to adjust the system equipment to assure full-time collection of base flows. Twenty-four hour operations were resumed to control this issue until system modifications are completed.

The nature of the waste previously treated by the UMTRA unit presents specific technical and operational concerns in regard to its use for the OU 2 radionuclide removal. These concerns include requirements for extensive decontamination prior to the transfer to Rocky Flats Plant, categorizations of the system as a Radiologically Controlled Area and the associated increase in operations costs and possible elevation of contaminant levels in the treated effluent.

There are environmental concerns that construction activities for the french drain will disturb a large area of currently vegetated and stable soils. This disruption has the potential to add significant amounts of sediment to downslope land surfaces and wetland areas adjacent Woman Creek and possibly Woman Creek itself. This potential disruption must be considered ecological stress that would not occur without the french drain construction.

2.3 NEAR-TERM IAG MILESTONES

<u>OU#</u>	<u>Milestone Description</u>	<u>Scheduled Completion</u>	<u>Actual Completion</u>
01	Begin IM/IRA Testing	05 Aug 91	02 Aug 91
05	Submit Final Phase I RFI/RI Work Plan	30 Aug 90	30 Aug 91
07	Submit Final Phase I RFI/RI Work Plan	28 Aug 91	28 Aug 91
01	Begin Phase II-B IM/IRA Construction	03 Sep 91	26 Aug 91
SW	Submit Final Radionuclide Discharge Limits Plan	16 Sep 91*	
06	Submit Final Phase I RFI/RI Work Plan	16 Sep 91	

- 02 Complete IM.IRA Construction 30 Sep 91
- 02 Begin Field Treatability Testing (Entire System) 30 Oct 91
- 03 Submit Final Phase I RFI/RI Work Plan 11 Oct 91**

* indicates a revised date

**Written confirmation from EPA/CDH for extending completion date to December 6, 1991 has been requested . Verbal confirmation has been received.

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 individual hazardous substance 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: None

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

AUGUST WORK ACTIVITY STATUS:

RFI/RI drilling activities began this month on the OU1 - 881 Hillside. The first drill rig was brought on site August 1, 1991, and a second drill rig was brought on site on August 14, 1991. All appropriate site safety guidelines and on-the-job training procedures were conducted before mobilization. Drilling began on borehole 54, on the eastern side of OU 1. The decontamination facility was tested and put into operation. Final approval of the Standard Operating Procedures was granted by EPA and CDH. By the end of August, 19 boreholes were drilled and 4 monitoring wells were completed.

During this reporting period, fall vegetation transect sampling on OU1 for relative abundance was started. Planning continued for vegetation biomass sampling based on initial transect data. Insects were collected using sweep nets for the second of three series of samples. A trial night collection of insects was performed on August 28, 1991. Arrangements for oversight of field sampling for environmental evaluations by DOE were initiated. This information will

contribute to the development of environmental evaluation as part of the baseline risk assessment in each operable unit's RFI/RI report. The information will also be used in Feasibility Studies and ultimately will contribute to the Records of Decision.

PLANNED WORK FOR SEPTEMBER:

Drilling and sampling activities continue on OU1 RI.

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
Begin IM/IRA Testing	05 Aug 91
Begin Phase II-B IM/IRA Construction	03 Sep 91*

*Actual date construction began was August 26, 1991

AUGUST WORK ACTIVITY STATUS:

Systems operations testing of the OU1 - 881 Hillside Treatment Building sump pump system began August 2, 1991, three days before the IAG milestone date for the start of IRA testing.

The pre-bid walk-through for the Phase II-B french drain construction contract was held August 13, 1991. Bid return was extended from August 23 to August 30, 1991 due to a change in bid documents. Influent and effluent piping installation for the french drain started on August 26, 1991, eight days ahead of the IAG milestone date for the start of Phase II-B construction. Merrick, an EG&G subcontractor, started surveying the french drain on August

28, 1991.

Negotiations for the Phase II-A effluent tank construction were completed July 20, 1991. The contract was awarded on August 2, 1991 to Advanced Tank. Delivery of the tank is scheduled for October.

ET LaFore, the subcontractor for the 881 Hillside Phase II-A equipment installation, has finished with the installation of the double wall polypropylene pipe inside 891 Building, and has completed 80% of the PVC pipe installation. Approximately 60% of the electrical conduit was put in place. A partial shipment of the one megawatt transformer was received the last week in the report month.

PLANNED WORK FOR SEPTEMBER:

The September 3, 1991 IAG milestone for the start of construction was met by the surveying and staking of the french drain and the start of the installation of influent and effluent piping lines from Building 881 to the french drain. The french drain construction contract is scheduled to begin by September 23, 1991. Activities for the month include writing health and safety plans, training subcontracting personnel and the purchasing of materials needed to begin the primary structure excavation.

PROBLEMS:

Concerns regarding the possibilities of crossing of the Westgas pipelines and the interceptor trench were eliminated. With the correction of the french drain drawings which reduced the drain length to approximately 2000 feet, the french drain will not cross Westgas pipelines. The staking of the french drain by Merrick has shown that, although construction will come close to the interceptor trench in places, it will not cross it.

There are environmental concerns that construction activities for the french drain will disturb a large area of currently vegetated and stable soils. This disruption has the potential to add significant amounts of sediment to downslope land surfaces and wetland areas adjacent Woman Creek and possibly Woman Creek itself. This potential disruption must be considered ecological stress that would not occur without the french drain construction.

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 collected, treated, and discharged to the surface water system. Operation of a field-scale treatability unit began for the Walnut Creek drainage 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. 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:

A scope reduction in the Alluvial field work changed the number of required boreholes and wells from an estimated 215 to an estimated 131. The scope of work increased in the bedrock program where the expected depth of drilling was 50 feet. The average well is now anticipated to be 85 feet and the average borehole is now anticipated to be 135 feet deep and estimated number of boreholes and wells is 57.

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
Submit Final Phase II RFI/RI Work Plan (Bedrock)	02 Jul 91

AUGUST WORK ACTIVITY STATUS:

The final OU2 RFI/RI Bedrock Work Plan was approved by EPA/CDH on August 19, 1991.

The RFI/RI borehole and sampling program started on August 26, 1991 with drilling monitor

well 64-91. A second monitor well (140-91) in shallow sandstone bedrock was installed by the end of the month.

The Surficial Soils Sampling program is on schedule. Ten of the total 26 test pits in the test pit portion of the soils sampling task have been completed.

PLANNED WORK FOR SEPTEMBER:

The RFI/RI borehole and sampling program will continue.

In the Surficial Soil Sampling Program, the test pit sampling will continue.

PROBLEMS: None

OPEN ITEMS: None

3.2.2 OU2 REMEDIATION

SCOPE OF WORK CHANGES:

Public response to the original IM/IRA resulted in the division of the OU2 program into two separate IRA projects; one IRA project each for South Walnut Creek and Woman Creek

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
Field Treatability Test System Installation Complete	12 May 91
Begin Field Treatability Tests	13 May 91

AUGUST WORK ACTIVITY STATUS:

The OU 2 - South Walnut Creek IRA granular activated carbon (GAC) treatment system collected, treated and discharged over 800,000 gallons of surface water during the past month. A preliminary assessment of the data concluded that contaminant levels present in the surface water were less than anticipated concentrations and the treatment system effectively removed the organic contaminants as designed.

EG&G is coordinating the acquisition of DOE/UMTRA radionuclide removal equipment which may be used on the OU2 South Walnut Creek - Phase II Interim Remedial Action. A proposal for the used UMTRA unit was received by EG&G August 23, 1991. Results of a radiation survey of the unit indicates the need for decontamination of the equipment prior to transfer to the Rocky Flats Plant. EG&G is also pursuing a second option for the design/construction of a new radionuclide removal system specifically suited to the OU2 project needs. Draft specifications and drawings for this alternative were submitted for EG&G review and comment August 30, 1991. Although present contaminations levels of South Walnut Creek surface water do not warrant a need for radionuclide removal, historical levels and Interagency Agreement deliverables for the IM/IRA requires this treatment.

The Preliminary Draft IM/IRA Plan for the Woman Creek Phase of OU 2 IRA was distributed for review and comment. EG&G and DOE/RFO staff met with DOE/HQ on August 22, 1991 to discuss HQ's review comments. The Draft IM/IRA plan for the Woman Creek Phase of OU2 IRA will be delivered to DOE for review and comment on September 3, 1991.

PLANNED WORK FOR SEPTEMBER:

Operation of the South Walnut Creek IRA GAC unit will continue.

Work on procurement, delivery, and setup of the UMTRA unit at RFP will continue.

Pending approval by DOE/HQ, the Draft IM/IRA plan for the Woman Creek Phase of OU 2 will be submitted to the regulatory agencies on October 1, 1991.

PROBLEMS:

The September 30, 1991 milestone for completed construction of a pipeline to transfer water from Woman Creek seeps to the South Walnut Creek treatment unit is no longer applicable due to the change in project scope. EG&G is actively pursuing acquisition and installation of the UMTRA unit in order to meet the October 30, 1991 milestone to begin field treatability testing of the Walnut Creek system.

Automated overnight collection of base flows from South Walnut Creek began August 18, 1991 for next day treatment in the GAC System. Tank capacity and pump limitations were allowing approximately two to three hours of uncollected stream flow. Attempts are being made to adjust the system equipment to assure full-time collection of base flows. Twenty-four hour operations were resumed to control this issue until system modifications are completed.

The nature of the waste previously treated by the UMTRA unit presents specific technical and operational concerns in regard to its use for the OU 2 radionuclide removal. These concerns include requirements for extensive decontamination prior to the transfer to Rocky Flats Plant, categorizations of the system as a Radiologically Controlled Area and the associated increase in operations costs and possible elevation of contaminant levels in the treated effluent.

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:

The number of sediment core samples is being examined in light of the large number of samples required under the current draft RFI/RI Work Plan and the resulting large cost for sample analysis. The revised plan is to obtain sufficient samples to validate older studies rather than conduct a new totally complete study. A statistical evaluation of the older data is needed to determine the number of samples needed to validate this older data.

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

AUGUST WORK ACTIVITY STATUS:

The first mowing of vegetation for weed control on the Jefferson County Remedy Lands is complete. This action is part of the revegetation plan for 1991 to comply with the 1986 Settlement Agreement with Jefferson County.

The semi-annual report to Jefferson County on the Remedy Lands is in preparation. This report will summarize results of plutonium and americium analyses of soil samples from the Remedy Lands and current revegetative activities to meet requirements of the Settlement Agreement.

A presentation by DOE/RFO and EG&G regarding OU 3 Preliminary Risk Assessments, was made to the Quarterly Public Information Workshop on Environmental Restoration at Rocky Flats. This presentation was based upon the recently approved OU 3 documents: Final Past Remedy Report and Final Historical Information Summary and Preliminary Health Risk Assessment Report.

PLANNED WORK FOR SEPTEMBER:

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

Delivery of the semi-annual Jefferson County report on the Remedy Lands.

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:

Verbal approval has been received from EPA/CDH to extend the delivery date of the final RFI/RI Work Plan from October 11, 1991 to December 6, 1991. Written confirmation of this change is required. The extension was granted because of the extension granted for completion of the draft work plan.

The draft RFI/RI Work Plan is being reviewed by EPA/CDH. Review comments are due October 7, 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 down gradient 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:

In July, 1991 CDH required that an IM/IRA process be followed to permit operation of the flash evaporators and surge tanks. DOE's previous proposal for a permit modification to change interim status was denied by EPA and CDH.

TECHNICAL APPROACH CHANGES: None

MILESTONE ACCOMPLISHMENTS:

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

AUGUST WORK ACTIVITY STATUS:

The draft Interim Measure/Interim Remedial Action (IM/IRA) plan concerning flash evaporators and surge tank operations for OU4 - Solar Evaporation Ponds was submitted to RFO on August 2, 1991. The final draft IM/IRA was delivered to DOE August 15, 1991 and to EPA and CDH on August 20, 1991.

The contract modification for the Final RFI/RI Work Plan for OU 4 - Solar Evaporation Ponds being processed by EG&G Procurement.

PLANNED WORK FOR SEPTEMBER:

The IM/IRA for the OU4 - Solar Evaporation Ponds program will be revised per EPA and CDH comments, and delivered to DOE by September 2, 1991. CDH has given conditional approval for the IM/IRA to be provided to the public for the IAG-required 60 day public comment period. The target date for this period to begin is September 9, 1991.

PROBLEMS:

The delay in removal of sludge from the solar ponds and the requirement for an IM/IRA for the surge tanks will impact the scheduled start of the RFI/RI field activities in January 1992. The impact of this delay on IAG milestones is being evaluated.

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
Submit Final Phase I RFI/RI Work Plan 30 Aug 91

AUGUST WORK ACTIVITY STATUS:

The final OU5 Woman Creek RFI/RI Work Plan was completed and delivered to EPA/CDH on August 30, 1991, the IAG milestone.

A meeting on the OU 5 Phase I RFI/RI Work Plan was held among EG&G, RFO, EPA, and CDH on August 9, 1991. One of the issues discussed concerned analytical methods utilized for Phase I RFI/RI activities. EG&G proposed that Contract Laboratory Program (CLP) methods be used for Phase I analysis instead of more expensive analytical methods that have lower detection limits. If compounds are detected above CLP detection limits either as a quantified result or a tentatively identified compound (TIC), other methods may be used for analysis of those specific compounds during subsequent RFI/RI phases. EG&G stated that this approach would be utilized for other operable units conducting Phase I RFI/RI analysis. The approach has the potential to significantly reduce the costs of analytical services.

PLANNED WORK FOR SEPTEMBER:

EG&G is awaiting approval of the final OU 5 Woman Creek RFI/RI Work Plan from the regulatory agencies.

PROBLEMS:

The existence of concerns that the OU 1 french drain excavation could possibly affect Woman Creek at this time are unsubstantiated.

OPEN ITEMS: None

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: None

TECHNICAL APPROACH CHANGES: None

MILESTONE ACCOMPLISHMENTS:

Submit Draft Phase I RFI/RI Work Plan 19 Apr 91

AUGUST WORK ACTIVITY STATUS:

EG&G has received comments from EPA, CDH and other agencies regarding the Draft Final Phase I RFI/RI Work Plan for OU6-Walnut Creek. The comments are being incorporated in the Work Plan and the comments documents.

PLANNED WORK FOR SEPTEMBER:

Resolution of agency issues and preparation of the draft Phase I RFI/RI Work Plan will continue, so that EG&G will meet the IAG milestone date of September 16, 1991.

PROBLEMS: None

OPEN ITEMS: None

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
Submit Final Phase I RFI/RI Work Plan	28 Aug 91

AUGUST WORK ACTIVITY STATUS:

The Final Phase I RFI/RI Work Plan, an IAG milestone, was delivered to EPA and CDH on August 28, 1991 in accordance with the IAG schedule. Agency comments on the work plan are due September 27, 1991.

PLANNED WORK FOR SEPTEMBER:

The RFI/RI Work Plan is under review by the regulatory agencies.

PROBLEMS: None

OPEN ITEMS: Comments on the Draft Final RFI/RI Work Plan for OU7 are due from EPA and CDH September 27, 1991

3.9 OU9 - ORIGINAL PROCESS WASTE LINES

DESCRIPTION:

This activity involves 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

AUGUST WORK ACTIVITY STATUS:

EPA/CDH began their review of the draft Phase I RFI/RI Work Plan on July 3, 1991. The regulatory agency review continued through August. Comments are due back from the agencies by September 30, 1991.

PLANNED WORK FOR SEPTEMBER:

The regulatory agency review of the draft Phase I RFI/RI Work Plan will continue through September 1991.

PROBLEMS: None

OPEN ITEMS:

EPA/CDH review comments on the RFI/RI Work Plan are due from EPA and CDH by September 30, 1991.

3.10 OU10 - OTHER OUTSIDE CLOSURES

DESCRIPTION:

OU10 is made up of 18 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.

AUGUST WORK ACTIVITY STATUS:

Three additional individual hazardous substance sites (IHSSs) were transferred from other operable units to OU10 after the draft RFI/RI Work Plan was completed in FY90. The draft Work Plan was based on the draft IAG which was modified during final IAG negotiations. A contract modification has been initiated to incorporate the three IHSSs into the draft work plan and to perform general upgrades to the plan.

PLANNED WORK FOR SEPTEMBER:

No activity planned

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

AUGUST WORK ACTIVITY STATUS:

EPA/CDH review of the draft Phase I RFI/RI Work Plan began July 31, 1991.

Preliminary field assessment for the OU11 Environmental Evaluation (EE) Work Plan preparation was completed in July. This field sampling will allow a detailed field sampling plan and discussion of target species and contaminants of concern to be incorporated into the OU11 EE Work Plan. The draft EE Work Plan was also edited so that it conforms with the format and content selected for the other OU's EE Work Plans. This will provide better coordination between OUs and will allow data collected at OU11 to better conform to data collected at other OUs.

PLANNED WORK FOR SEPTEMBER:

The regulatory agency review of the draft Phase I RFI/RI Work Plan will continue through September 1991. Comments are due back from the regulatory agencies by October 25, 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:

EPA/CDH review comments on the draft RFI/RI Work Plan are due October 25, 1991.

3.12 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 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	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

AUGUST WORK ACTIVITY STATUS:

Plan for Prevention of Contaminant Dispersion

On July 22, 1991 the Final Plan for the Prevention of Contaminant Dispersion (PPCD) was submitted to EPA/CDH for review, and on July 30, 1991, a 60-day public comment period on the plan began. A public information meeting on the PPCD was held on August 13, 1991. A public comment workshop is scheduled for September 5, 1991.

Polychlorinated Biphenyl (PCB) Contamination

In January 1991, EG&G Rocky Flats discovered a potential oil leak in the vicinity of transformer 707-1 on the roof of Building 707. Subsequent to discovery of the oil leak, limited samples were collected from the transformer, roof, and nearby soils to verify the presence or absence of PCB contamination. The sample

results indicated that PCBs were present at all three locations. In March 1991, a more extensive characterization effort was initiated in relation to the building roof and soils adjacent to the drain from the roof.

Once PCBs were determined to be present as a result from a historical release from the vicinity of transformer 707-1, a corrective action plan was developed for Building 707 and additional investigations were initiated relative to PCB sites. A preliminary search of The Rocky Flats Plant's files, documents, and discussions with plant personnel from various departments indicated an additional 33 sites. A more thorough file search is currently in progress to further assess additional potential PCB sites.

EG&G notified DOE/RFO that there was a historical PCB release from Building 707, and DOE notified EPA/CDH in accordance with the IAG requirements. PCB soil sampling at Rocky Flats resumed July 22, 1991 and was completed July 26, 1991. A Statement of Work is being prepared for preparation of a PCB assessment report that will be delivered to DOE/RFO in November 1991.

In a letter to DOE/RFO, EPA requested additional information that was not included in the PCB Preliminary Assessment/Site Description report. This report was modified by EG&G to incorporate EPA's requests and was submitted to DOE on August 22, 1991 for transmittal to the agencies.

Discharge Limits for Radionuclides

EG&G continues to resolve comments from EPA, CDH and other agencies regarding the Draft Work Plan for Discharge Limits for Radionuclides. Approval was received from EPA and CDH on August 9, 1991 granting an extension of the milestone date for delivery of the Final Plan from August 13, 1991 to September 16, 1991. This extension was necessary because of the extension granted by the regulatory agencies for submittal of the draft plan and because of the wide-ranging comments made by agency reviewers.

PLANNED WORK FOR SEPTEMBER:

The public comment period on the final PPCD will continue through August 1991. A public comment workshop is scheduled for September 5, 1991.

Resolution of EPA/CDH comments on the Radionuclides Discharge Limits Plan (RDLP) will continue, and the final plan will be delivered to EPA/CDH on September 16, 1991.

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.

GROUNDWATER:

259 of the 371 total Groundwater Stations are sampled quarterly; this includes alluvial wells, bedrock wells, and pre-1986 wells. Approximately one third of the wells are monitored monthly for water levels.

Each groundwater sample is analyzed for CLP TCL VOAs, CLP TAL Metals, as well as the following parameters:

Radiochemical Parameters

Gross Alpha	Tritium
Gross Beta	Lithium
Plutonium	Uranium
Americium	Cesium
Strontium	Tin
Molybdenum	

Inorganic Parameters

Nitrate/Nitrite
Total Phosphorous
Ortho-Phosphate
Ammonia

Field Parameters

Dissolved Oxygen (DO)
Specific Conductivity
Temperature
Turbidity
pH

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 RF/RI fieldwork (drilling, well development/ completion, sampling) and RI report	Apr-91
1	Remediation	TBD		Construct/install effluent storage tanks for OU1 IRA	Jun-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	TBD		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 RF/RI Work Plan (alluvial & bedrock) and RI fieldwork (drilling, well completion/development)	Sep-90
2	Assessment	Weston		OU2 RF/RI Alluvial Work Plan	Nov-90
2	Remediation	Riedel Env. Svcs.		Construct/install GAC/FTU system for South Walnut Creek phase of OU2 IRA.	Apr-91
2	Remediation	Stearns Rogers		Design 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 Walnut Creek	Jun-91
2	Remediation	TBD		Mfg./install chem. precip/filtration unit for South Walnut Creek phase of OU2 IRA	Sep-91
2	Remediation	Woodward-Clyde		Conduct bench-scale tests on surface water	May-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	CH2M Hill	OU4 RF/RI Work Plan including Environmental Evaluation Plan and Quality Assurance Addendum	TBD
4	Remediation	IT Corporation		Prepare OU4 IM/IRA Action Plan	Jul-90
5	Assessment	Woodward-Clyde		OU5 RF/RI Work Plan including Environmental Evaluation Plan and Quality Assurance Addendum	Feb-90
6	Assessment	Woodward-Clyde		OU6 RF/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 RF/RI Work Plan including Environmental Evaluation Plan and Quality Assurance Addendum	Apr-90
9	Assessment	IT Corporation		OU9 RF/RI Work Plan including Environmental Evaluation Plan and Quality Assurance Addendum	Mar-90
10	Assessment	Ebasco		OU10 RF/RI Work Plan including Environmental Evaluation Plan and Quality Assurance Addendum	TBD
11	Assessment	IT Corporation		OU11 RF/RI Work Plan including Environmental Evaluation Plan and Quality Assurance Addendum	TBD
SW	Hist. Rel. Rep.	IT Corporation	Doty & Assoc.	Prepare Historical Release Report	Feb-91
SW	PCB Assess.	TBD		Prepare PCB Assessment Report	Sep-91
SW	Adm. Record	Tech		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	Fld. 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