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DOE ORDER #
93 RF 11230

EG&G ROCKY FLATS

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NJAMIN A			
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ORGAN R V			
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ANDLIN N B			
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ILSON J M			
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<i>Handwritten initials</i>			X
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ORRES CONTROL	X	X	
MIN RECORD			
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BAFFIC			

EG&G ROCKY FLATS, INC
OCKY FLATS PLANT, P O BOX 464, GOLDEN, COLORADO 80402-0464 • (303) 966 7000

September 14, 1993

93-RF-11230

J K Hartman
Assistant Manager for
Transition and Environmental Restoration
DOE, RFO

ACCELERATION SCHEDULES FOR OPERABLE UNIT 4 (OU-4) SLUDGE CONTAINERIZATION AND REMEDIATION - NMH-472-93

EG&G Rocky Flats, Inc has completed the studies for acceleration of the OU-4 actions of sludge containerization and Phase I remediation in support of dispute resolution on Interagency Agreement (IAG) milestones Attached are the schedules with their assumptions as well as other supporting documents In addition, it has been determined that acceleration of these activities causes OU-4 to exceed its target funding level in FY94 and FY96 While estimates of the remediation costs will become more accurate and may come down, it is believed that a funding problem will persist In order to fund this acceleration, numerous Environmental Restoration (ER) projects may be deferred A list of these potential projects for deferral is also attached Attachment 1 1 shows dates of proposed IAG milestones versus current milestones

In the area of sludge containerization, the schedule is Attachment 2 1, and the assumptions are Attachment 2 2 Regarding funding, the containerization option exceeds by about \$1 7 million the anticipated cost of relining the ponds for safe sludge storage, which is the current baseline

The Phase I remediation schedule is attachment 3 1, assumptions are in attachment 3 2, the proposed outline of the integrated IM/IRA Decision Document is attachment 3 3 During schedule development, it became apparent that a milestone of "start construction" has not been defined very well During informal discussions on September 10, 1993, it was agreed with the regulators that since the construction process starts when the contract is let, award of contract is essentially start of construction This schedule addresses numerous activities required to complete the remedial construction, such as removal of Building 788 and ancillary equipment, relocation of utilities, and removal of abandoned underground pipe and other items, including some OU-9 items Waste disposal is assumed to be handled by Envirocare, which just received appropriate permits The attached enhanced schedule addresses all currently known obstacles to complete the Phase I remedial action, plus a rigorous assessment of schedule reserve to yield a 90% confidence level for the new IAG milestones

While the two schedules described above have both internal targets and external commitments, EG&G will continue to modify internal working schedules to further improve those schedules where possible

CLASSIFICATION

UCNI	
UNCLASSIFIED	
CONFIDENTIAL	
SECRET	

AUTHORIZED CLASSIFIER
SIGNATURE
DOCUMENT CLASSIFICATION
REVIEW-WAIVER PER
CLASSIFICATION OFFICE

DATE

IN REPLY TO RFP CC NO

OPTION ITEM STATUS

- PARTIAL/OPEN
- CLOSED

APPROVALS

ORIG & TYPIST INITIALS

ADMIN RECORD

DOCUMENT CLASSIFICATION
REVIEW WAIVER PER
CLASSIFICATION OFFICE

J K Hartman
September 13, 1993
93-RF-11230
Page 2

Attachments 4 1 and 4 2 show graphically and tabularly the estimated program cost profile for the two accelerated schedules enclosed herein, with ultimate sludge processing delayed past FY99. These estimates are based on a combination of new data, FY94 work packages, and the previously developed baseline cost estimates. Note that in FY94 and FY96 there exists disconnects between the Solar Pond Projects (SPP) target and projected budgets, with a small surplus occurring in FY95. In FY94, the accelerated OU-4 program, including D&D, is estimated to cost \$32.7M without contingency, \$0.7M above target funding, and \$3.3M over target funding allowing for a modest 8% contingency. In FY95, an underspent condition of about \$2M is estimated. In FY96, when remediation construction kicks into high gear, an underfunded condition of \$15M is estimated, including \$17M of contingency. Much cost uncertainty revolves around how much waste will be generated and handled. Packaging, transportation, and disposal of low-level mixed waste will potentially have large impacts on the estimates. Attachment 4 3 shows the ER cost profile and potential candidates for deferral in order to fund this OU-4 acceleration. In deciding which projects are delayed to fund OU-4 acceleration, I recommend DOE, EG&G, and the regulators jointly reach a consensus.

If you have any questions on the contents of this package, please contact S R Kerth of my staff at extension 8541.



N M Hutchins
Acting Associate General Manager
Environmental Restoration Management
EG&G Rocky Flats, Inc

SRK bep

Attachments
As Stated

Org and 1 cc - J K Hartman

cc

F R	Lockhart	-	DOE, RFO
A H	Pauole	-	" "
R J	Schassburger	-	" "

IAG MILESTONES

<u>DESCRIPTION</u>	<u>CURRENT DATE</u>	<u>PROPOSED DATE</u>
Submit draft Phase I RFI/RI Report	N/A	Delete
Submit final Phase I RFI/RI Report	N/A	Delete
Submit draft Proposed IM/IRA DD (with enhanced conceptual design)	4/14/94	4/14/94
Submit Proposed IM/IRA DD	9/12/94	6/24/94
Submit IM Design Workplan (replaced with in-process design review)	5/24/95	Delete
Submit IM/IRA Responsiveness Summary	1/25/95	11/1/94
Submit Final IM/IRA DD and Resp Summary	4/24/95	1/13/95
Submit IM/IRA Implementation Document (combined with Title II Design Submittal)	2/26/96	Delete
Submit final IM/IRA Title II Design	6/24/96	3/10/95
All Solar Ponds emptied of water and sludge	New	1/20/95
Begin Phase I IM/IRA Construction (Award of IM/IRA construction contract)	1/28/97	10/20/95

IM Design Work Plan

Proposed Delete IAG 5/24/95

(5) Final IM Title II Design.

Proposed 3/10/95 IAG 6/24/96

The document will present the final Title II design package of drawings, specifications, design analyses as appropriate, and the cost estimate will be included with the implementation document in the same deliverable. The document is intended for implementation by a knowledgeable subcontractor, and does not include introductions or other narratives (WBS 83100)

IM/IRA Implementation Document.

Proposed Delete IAG 2/26/96

(*) Solar Ponds Emptied of Water & Sludge

Proposed 1/20/95 IAG None

Waste water and sludge removed from ponds, ponds rinsed and dry of other than incidental rain water
This work is being performed as part of the Accelerated Sludge Removal Project

(6) Award of Construction Contract.

Proposed 10/20/95 IAG 1/28/97

Award of construction contract commences the construction phase of the project. The selected contractor will immediately commence preparation of required safety plan, site-specific training of employees, material and services procurement, and mobilization (WBS 25000)

September 9/14/93
Rev 4

ACTIVITY ID	ACTIVITY DESCRIPTION	RESP	ORIG DUR	EARLY START	EARLY FINISH
1000-	Project Start		0	15JUL93	
1005-	Administrative & Project Management	RLB/KEI	31	15JUL93	26AUG93
1010-	NEPA - Environmental Checklist	TGH/SET	5	15JUL93	21JUL93
1020-	NEPA - Evaluate Changes	TGH/SET	5	22JUL93	28JUL93
1030-	NEPA - Recommendations to DOE	TGH/SET	10	29JUL93	11AUG93
1040-	NEPA - DOE approval	DOE	10	12AUG93	25AUG93
1050-	NEPA - Receive DOE Determination	DOE	0		26AUG93
6005-	Administrative & Project Management	RLB/KEI	15	26AUG93	16SEP93
6010-	Funding - BCP, Baseline Development	GEN/SIE	5	26AUG93	1SEP93
6020-	Funding - AOS Revision	RLB/KEI	5	2SEP93	9SEP93
6030-	Funding - Review & Comment	RLB/KEI	5	10SEP93	16SEP93
3005-	Administrative & Project Management	RLB/KEI	89	23SEP93	4FEB94
3010-	Permitting - Request a Change to Interim Status	TGH/SCH	20	23SEP93	20OCT93
3020-	Permitting - EG&G Review & Approval	TGH/SCH	15	21OCT93	10NOV93
3030-	Permitting - Rocky Flats Office Review	DOE	10	21OCT93	3NOV93
3040-	Permitting - Comment Resolution	TGH/SCH	15	4NOV93	24NOV93
3050-	Permitting - Rocky Flats Office Approval	DOE	0		29NOV93
3060-	Permitting - Submit Findings To CDH	DOE	5	30NOV93	6DEC93
3070-	Permitting - CDH Review & Approval	CDH/EPA	38	7DEC93	4FEB94
3080-	Permitting - Change to Interim Status	CDH/EPA	0		4FEB94
5230-	AFENS Notification	TGH/SCH	8	7DEC93	16DEC93
2005-	Administrative & Project Management	RLB/KEI	41	27JUL93	22SEP93
2010-	Conceptual Design - Criteria Package	RLB/KEI	19	27JUL93	20AUG93
2020-	Conceptual Design - Project Cost Estimate	RLB/KEI	13	4AUG93	20AUG93
2030-	Conceptual Design - Project Schedule	RLB/KEI	13	4AUG93	20AUG93
2040-	Conceptual Design - Weekly Meetings	RLB/KEI	31	27JUL93	6SEP93
2045-	Incorporate Comments into DCP	RLB/KEI	10	9SEP93	22SEP93
2047-	DCP Approval	RLB/KEI	0		23SEP93
2050-	Title II - Prepare Project RA Plan	RLB/KEI	10	13SEP93	24SEP93
4070-	DOE Approval to Start Detailed Design	DOE	0		23SEP93
5005-	Administrative & Project Management	RLB/KEI	68	13SEP93	17DEC93
5010-	Title II - Establish Quality Levels For System	HSB/ANI	10	27SEP93	8OCT93
5015-	Title II - Final Design	RLB/KEI	15	23SEP93	13OCT93
5020-	Title II - Final Drawings	RLB/KEI	15	14OCT93	3NOV93

Plot Date 15SEP93
Data Date 1JUL93
Project Start 1JUL93
Project Finish 14AUG93

Activity - Orderly when
Critical Activity
Approved by
Manufacturing Activity

Activity Legend
□/□

(c) Primavera Systems, Inc.

ACCELERATED SLUDGE REMOVAL PROJECT
EG&G ROCKY FLATS
MASTER SCHEDULE

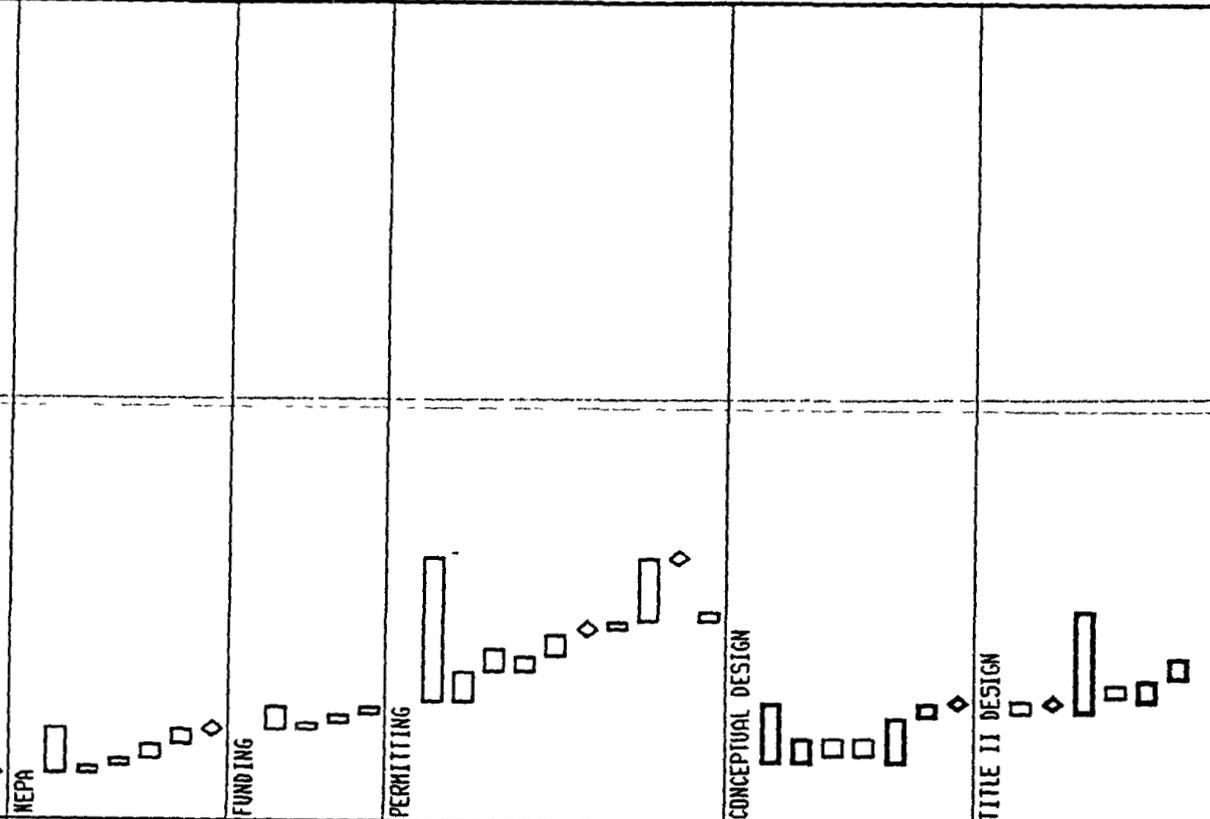
Sheet 1 of 5
DRAFT - 10-SEPT-93

Date	Revision	Checked	Approved

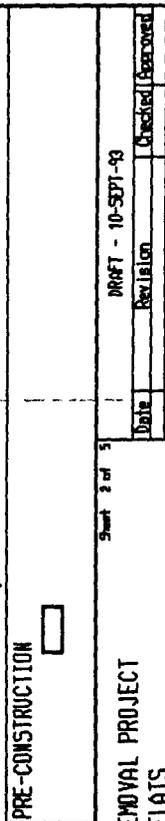
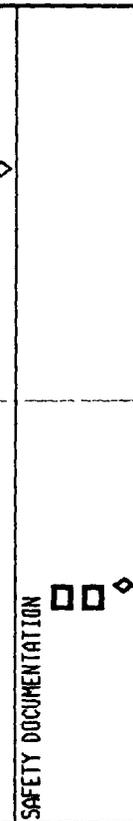
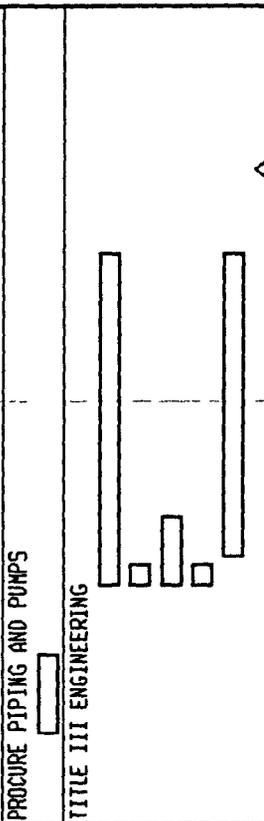
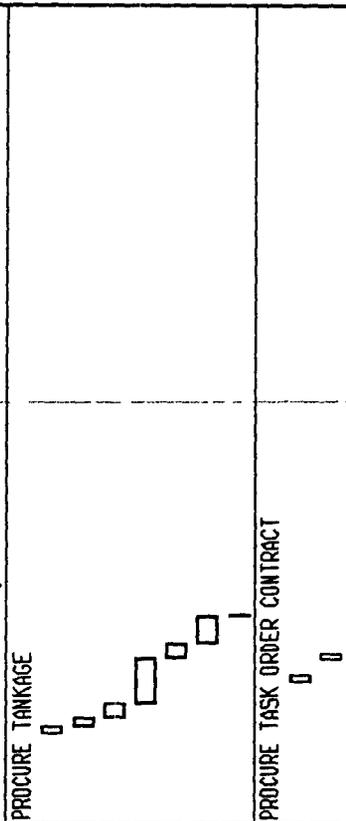
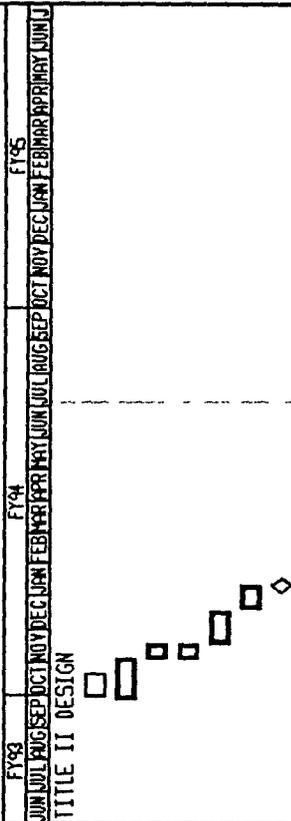
START PROJECT

1993 1994 1995

JUN JUL AUG SEP OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC JAN FEB MAR APR MAY JUN JUL



ACTIVITY ID	ACTIVITY DESCRIPTION	RESP	ORIG DUR	EARLY START	EARLY FINISH
5030-	Title II - Final Specifications	RLB/KEI	15	30SEP93	20OCT93
5045-	Title II - Safety Analysis Engineering	RLB/KEI	28	27SEP93	3NOV93
5050-	Title II - Final Cost Estimate	RLB/KEI	10	4NOV93	17NOV93
5060-	Title II - Final Schedule	RLB/KEI	10	4NOV93	17NOV93
5070-	Title II - Review & Comment	RLB/KEI	20	18NOV93	17DEC93
5075-	Incorporate Comments	RLB/KEI	10	20DEC93	10JAN94
5077-	Title II Approval	RLB/KEI	0		10JAN94
6060-	Procurement - Screening	GEM/SAM	5	26AUG93	1SEP93
6070-	Procurement - Prepare Solicitation	GEM/SAM	5	25SEP93	9SEP93
6080-	Procurement - DOE Approval for Solicitation	DOE	10	10SEP93	23SEP93
6105-	Procurement - Receipt of Proposals	GEM/SAM	30	24SEP93	4NOV93
6140-	Procurement - Evaluate Proposals	GEM/SAM	10	5NOV93	18NOV93
6150-	Procurement - DOE Pre-award Approval	DOE	15	19NOV93	13DEC93
6160-	Procurement - Award	GEM/SAM	1	14DEC93	14DEC93
6050-	Procurement - Const Davis Bacon Determination	RLB/KEI	5	14OCT93	20OCT93
6085-	Procurement - Const Prepare Statement of Work	RLB/KEI	3	4NOV93	8NOV93
6090-	Procurement - Const Prepare Task Order	GEM/SAM	2	9NOV93	10NOV93
6095-	Procurement - Const Assemble Package	GEM/SAM	5	11NOV93	17NOV93
6100-	Procurement - Const Prepare RFP	GEM/SAM	1	18NOV93	18NOV93
6110-	Procurement - Const Receipt of Proposals	GEM/SAM	10	19NOV93	6DEC93
6120-	Procurement - Const Evaluate Proposals	GEM/SAM	10	7DEC93	20DEC93
6130-	Procurement - Const Award Task Order	GEM/SAM	1	20DEC93	20DEC93
6410-	Procurement - Write & Place PO for Miscellaneous	GEM/SAM	52	26AUG93	8NOV93
5105-	Administrative & Project Management	RLB/KEI	222	11JAN94	22NOV94
5110-	Title III - Verify Vendor Drawings	RLB/KEI	15	11JAN94	31JAN94
5111-	Title III - Construction Inspection	RLB/KEI	48	11JAN94	17MAR94
5115-	Title III - Prepare 50 Test Procedures	RLB/KEI	15	11JAN94	31JAN94
5120-	Title III - As-built Drawings	RLB/KEI	202	8FEB94	22NOV94
5125-	As-built Drawings Finish Deadline	RLB/KEI	0		9FEB95
5140-	Safety Analysis - Operations	HSB/SAT	10	20DEC93	10JAN94
5150-	Safety Analysis - Pads	HSB/SAT	10	20DEC93	10JAN94
5153-	Safety Analysis Review & Approval	RLB/KEI	0	11JAN94	
6400-	Administrative & Project Management	RLB/KEI	30	9NOV93	22DEC93



Plot Date 12SEP93
 Date Date 1JUN93
 Project Start 1JUN93
 Project Finish 18NOV95

Activity: Activity (solid bar), Early Finish (hatched bar), Critical Activity (dotted bar), Milestone (diamond)

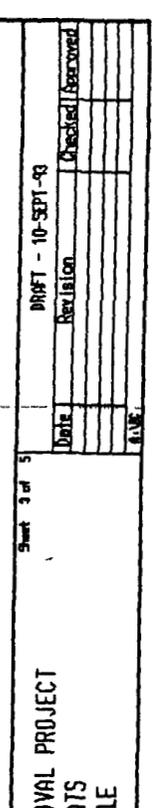
Sheet 2 of 5

ACCELERATED SLUDGE REMOVAL PROJECT
 EG&G ROCKY FLATS
 MASTER SCHEDULE

DATE: 10-SEPT-93
 REVIEWED: []
 CHECKED: []
 APPROVED: []

(c) Primavera Systems, Inc.

ACTIVITY ID	ACTIVITY DESCRIPTION	RESP	ORIG DUR	EARLY START	EARLY FINISH
6430-	Offsite Fab & Delivery of 22 Tanks for Tent 3	RLB/KEI	15	15DEC93	4JAN94
6433-	Offsite Fab & Delivery of 22 Tanks for Tent 6	RLB/KEI	15	15DEC93	4JAN94
6435-	Receive/Inspect 22 Tanks (each) for Tents 3 & 6	RDC/COL	15	3JAN94	27JAN94
6440-	Offsite Fab & Delivery of 25 Tanks for Tent 4	RLB/KEI	17	5JAN94	27JAN94
6442-	Receive/Inspect 25 Tanks for Tent 4 & 18 for I-6	RDC/COL	17	19JAN94	10FEB94
6445-	Offsite Fab & Delivery of 18 Tanks for Tent 6	RLB/KEI	12	5JAN94	20JAN94
6520-	Offsite Fab & Delivery (Miscellaneous)	RLB/KEI	30	9NOV93	20DEC93
6530-	Receive & Inspect Miscellaneous	RDC/COL	2	21DEC93	22DEC93
5080-	DOE Approval for Construction	DOE	0	11JAN94	
7005-	Administrative & Project Management	RLB/KEI	57	11JAN94	30MAR94
7010-	Construction - Pondsides Construction Planning	RDC/COL	20	11JAN94	7FEB94
7020-	Construction - B Pondsides Construction	RDC/COL	25	8FEB94	14MAR94
7040-	Construction - C Pondsides Construction	RDC/COL	12	15MAR94	30MAR94
7060-	Construction - Clarifier Construction	RDC/COL	12	1MAR95	16MAR95
7470-	Design Tent Modifications	RLB/KEI	20	23SEP93	20OCT93
7475-	Procure Materials for Tent Modifications	GEN/SAM	40	21OCT93	17DEC93
7480-	Clean Tent 3	TGH/MOR	2	1DEC93	2DEC93
7485-	Clean Tent 4	TGH/MOR	2	3DEC93	6DEC93
7490-	Clean Tent 6	TGH/MOR	2	7DEC93	8DEC93
7505-	Execute Tent 3 Modifications	RDC/COL	10	21DEC93	11JAN94
7507-	Tent 3 Modification 50 Test	RDC/COL	1	12JAN94	12JAN94
7508-	Tent 3 Modification Readiness Assessment	RDC/COL	1	13JAN94	13JAN94
7509-	Tent 3 Modification Certification	RDC/COL	0	13JAN94	13JAN94
7510-	Execute Tent 4 Modifications	RDC/COL	10	12JAN94	25JAN94
7512-	Tent 4 Modification 50 Test	RDC/COL	1	26JAN94	26JAN94
7513-	Tent 4 Modification Readiness Assessment	RDC/COL	1	27JAN94	27JAN94
7514-	Tent 4 Modification Certification	RDC/COL	0	27JAN94	27JAN94
7515-	Execute Tent 6 Modifications	RDC/COL	10	22DEC93	12JAN94
7517-	Tent 6 Modification 50 Test	RDC/COL	1	13JAN94	13JAN94
7518-	Tent 6 Modification Readiness Assessment	RDC/COL	1	14JAN94	14JAN94
7519-	Tent 6 Modification Certification	RDC/COL	0	14JAN94	14JAN94
8115-	Onsite Tank Transportation	RDC/COL	37	3JAN94	22FEB94
8120-	Tent 3 Tank Installation of 22 Tanks	RDC/COL	15	14JAN94	3FEB94
8125-	Tent 4 Tank Installation of 25 Tanks	RDC/COL	17	28JAN94	21FEB94
8127-	Tent 6 Tank Installation of 1st 22 Tanks	RDC/COL	15	17JAN94	4FEB94



ACCELERATED SLUDGE REMOVAL PROJECT
EG&G ROCKY FLATS
MASTER SCHEDULE

Sheet 3 of 5

Plot Date	12SEP93
Base Date	1JUN93
Project Start	1JUN93
Project Finish	16MAY95

Activity Bar/Only below
Critical Activity
Progress Bar
Milestone/Flag Activity

Legend:

DRIFT - 10-SEPT-93	Checked	Approved
Date	Revision	

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ACTIVITY ID	ACTIVITY DESCRIPTION	RESP	ORIG DUR	EARLY START	EARLY FINISH
8130-	Tent 6 Tankage Installation of 18 Tanks	RDC/COL	12	7FEB94	22FEB94
5300-	DOE Approval For Operations	DOE	0	6APR94	
5155-	Administrative & Project Management	RLB/KEI	369	11JAN94	28JUN95
5160-	Operational Planning - Processing	IGH/MOR	20	11JAN94	7FEB94
5170-	Operational Planning - Procedures	RLB/KEI	20	11JAN94	7FEB94
5175-	Operational Planning - Procedures Approval	RLB/KEI	0	8FEB94	
5180-	Operational Planning-Develop Classroom Training	AMK/SAH	23	25JAN94	24FEB94
5182-	Operational Planning-Finalize Classroom Training	AMK/SAH	3	25FEB94	1MAR94
5184-	Operat Planning-Approval of Training Materials	AMK/SAH	3	2MAR94	4MAR94
5186-	Operational Planning - Conduct Training	AMK/SAH	2	7MAR94	8MAR94
5187-	OJT & Qual	WASTE	9	9MAR94	21MAR94
5190-	Operational Planning - Security Considerations	IGH/MOR	20	8FEB94	7MAR94
5210-	Operational Planning - Review & Comments	RLB/KEI	10	22MAR94	5APR94
5220-	Modify M&S Plan	IGH/SCH	17	7DEC93	6JAN94
5240-	OSA	RLB/KEI	8	7DEC93	16DEC93
5250-	Modify H&S Plan	RLB/KEI	7	7DEC93	15DEC93
5260-	Modify Emergency Preparedness Plan	RLB/KEI	10	7DEC93	20DEC93
6710-	Execute 50 Vent Test for Tent 3	RLB/KEI	5	4FEB94	10FEB94
6720-	Execute 50 I&C Test for Tent 3	RLB/KEI	5	4FEB94	10FEB94
6730-	Pre-Operational - Tent 3 Readiness Assessment	RLB/BRD	10	11FEB94	24FEB94
6740-	Pre-Operational - Tent 3 Review & Comment	RLB/KEI	5	25FEB94	3MAR94
6750-	Tent 3 Tankage Operational	RLB/KEI	0		3MAR94
6760-	Execute 50 Vent Test for Tent 4	RLB/KEI	5	22FEB94	28FEB94
6770-	Execute 50 I&C Test for Tent 4	RLB/KEI	5	22FEB94	28FEB94
6780-	Pre-Operational - Tent 4 Readiness Assessment	RLB/BRD	10	1MAR94	14MAR94
6790-	Pre-Operational - Tent 4 Review & Comment	RLB/KEI	2	15MAR94	16MAR94
6810-	Tent 4 Tankage Operational	RLB/KEI	0		16MAR94
6820-	Execute 50 Vent Test for Tent 6	RLB/KEI	5	23FEB94	1MAR94
6830-	Execute 50 I&C Test for Tent 6	RLB/KEI	5	23FEB94	1MAR94
6840-	Pre-Operational - Tent 6 Readiness Assessment	RLB/BRD	10	2MAR94	15MAR94
6850-	Pre-Operational - Tent 6 Review & Comment	RLB/KEI	2	16MAR94	17MAR94
6860-	Tent 6 Tankage Operational	RLB/KEI	0		17MAR94
7022-	Pre-Operational - B Pond Construction Power Test	RLB/KEI	2	15MAR94	16MAR94
7024-	Pre-Operational - B Pond Construction Press Test	RLB/KEI	2	15MAR94	16MAR94
7025-	Pre-Operational - B Pond Const Readiness Assess	RLB/BRD	10	17MAR94	30MAR94

Plot Date: 12SEP93
Data Date: 1JUN93
Project Start: 1JAN93
Project Finish: 18AUG95

Activity Bar/Color: Name: Critical Activity: Preparation: Bill of Materials Activity:

Activity Description: ACCELERATED SLUDGE REMOVAL PROJECT
EG&G ROCKY FLATS
MASTER SCHEDULE

Sheet 4 of 5

DATE: _____ Revision: _____
DRAFT - 10-SEPT-93

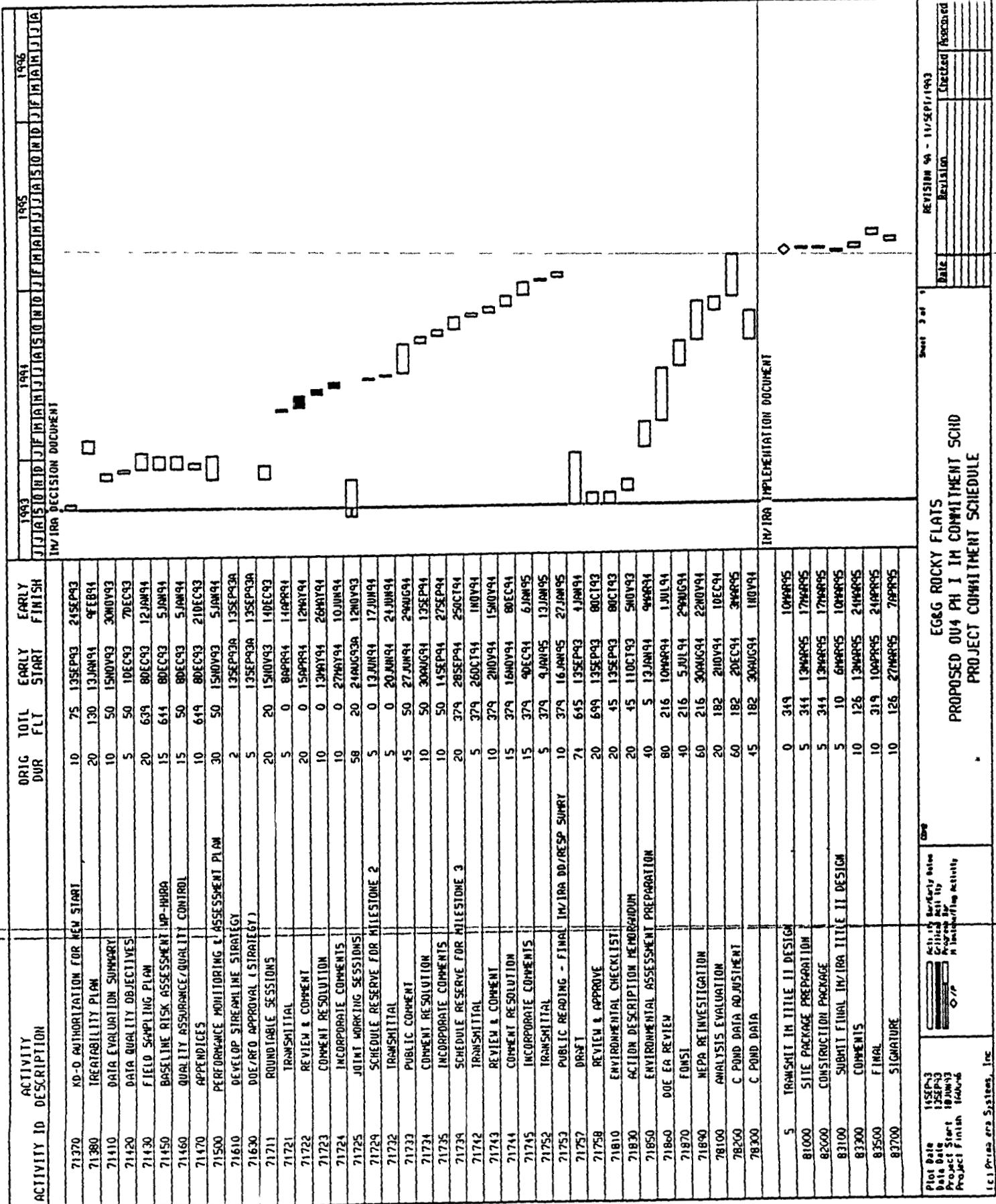
FY93: JUN JUL AUG SEP OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC JAN FEB MAR APR MAY JUN JUL
FY94: CONSTRUCTION - TANK INSTALLATION
FY95: OPERATIONS APPROVED
FY96: OPERATIONAL PLANNING

PRE-OPERATION - TENTS/TANKAGE

PRE-OPERATION - PONDS/CLARIFIER

ASSUMPTIONS FOR THE ACCELERATED POND SLUDGE REMOVAL SCHEDULE

- Organizations external to EG&G will complete their activities in accordance with the schedule. Examples are
 - DOE will complete the NEPA process before equipment is ready to be ordered
 - CDH will grant the permit changes in a timely manner
 - DOE will approve the BCP in a timely manner
- No formal Readiness Review is required. The CCCP will provide control equivalent to an ORR proportional to need.
- Title II Design & Engineering will be performed by an MTS sub contractor. EG&G Engineering & Technology will approve all Design and Engineering products.
- Review durations are based on Safety Category 3, Quality Level 3 procurements.
- EG&G will give project top priority in terms of resources.
- A graded approach will be used for any work to be performed (I E IWCP Packages).
- Sprinklers will not be required for the tents even though the cost of tents and tanks exceeds the \$1M limit for structures without fire protection.
- The current HNUS piping design is acceptable from a seismic standpoint.
- The 5 foot main aisles provided in the tents will be suitable for all RCRA inspections (I E personnel will not have to circle each tank as part of the daily RCRA inspection).
- No endangered species of plants or animals will be discovered that impact the schedule.
- No winter (11/1-4/1) pumping operations (external to the tents) are required.



Plot Date	15SEP93	REVISION 94 - 11/SEP/1993
Date Date	13SEP93	Decision
Project Start	18JAN93	Checked
Project Finish	14JUN94	Revised

EG&G ROCKY FLATS
PROPOSED 004 PH I IM COMMITMENT SCHD
PROJECT COMMITMENT SCHEDULE

Assumptions

Procedural

Department of Energy

The DOE will commit to a high degree of interaction with EG&G and the Regulators in order to achieve the accelerated review schedule

The DOE will authorize commitment and expenditure of funds in a timely manner. Funds will appear in the FIN plan on or before the dates needed.

The DOE will provide guidance for and approval of deferral of effort on other OUs made necessary by acceleration of effort on OU4, since funding for the ER program is fixed.

The DOE will reach closure with the Regulators regarding the above-mentioned deferral of effort on other OUs within a period of time that allows reallocation of funds within the ER program to support PCCB action in accordance with the schedule.

The DOE will support EG&G in obtaining timely and cost effective support from Wackenhut, Inc., and from the DOE security staff.

The DOE will negotiate a contract with a commercial waste disposal facility for disposal of wastes generated during the conduct of this project. Specifically, the use of Envirocare in Utah is assumed. The DOE will grant an Order waiver to allow waste disposal at a commercial facility.

The DOE will authorize early bidder qualification for all applicable procurements, especially for the construction contractor(s).

The DOE will provide, within the period defined in the schedule, authorization from the Secretary for award of the construction contract.

The DOE will authorize EG&G to proceed at Key Decision Points 2 and 3 (KD2 and KD3).

The DOE has granted approval of KD0 and will formalize that approval no later than September 20, 1993.

The DOE will either waive KD1 or will combine KD1 and KD2 at or before the time that authorization is required to proceed with Title II design.

The DOE will agree with an appropriate graded approach to safety review and documentation.

The DOE will concur in and approve hazard classification of the remediation of OU4 to be Category III.

The DOE, HQ will delegate approval authority of Category III Safety Analysis Reviews (SAR) to DOE, RFO or will approve the project SAR, if required, within the period described in the schedule.

The DOE will approve, within 2 weeks of notification, the Baseline Change Proposal (BCP).

The DOE will provide early concurrence and direction regarding the proper level of NEPA documentation to be prepared and will commit to scheduled review durations for the NEPA process.

The DOE will authorize performance of Title II design prior to issuance of the Finding of No Significant Impact (FONSI)

The DOE will provide early notification of deficiencies in the NEPA submittals such that the limited period included in the schedule to include new issues is not exceeded

The DOE will expeditiously review and approve all standards, criteria, policies, procedures, and other such documentation necessary to conduct D&D activities on the OU4 site

The DOE will provide funding adequate to support D&D activities on the OU4 site

The DOE will reach agreement with the Regulators, by the time indicated on the schedule, regarding integration of closure of OU9 with this project

The DOE will provide guidance, by the time indicated on the schedule, regarding the land use assumption required for the closure process

The DOE will come to closure, by the time indicated on the schedule, with the Regulators regarding the current dispute resolution and will document all formal and informal agreements involved in that resolution

The DOE will provide transmittal authorization and action for the various deliverables

The DOE will provide authorization as required to allow long-lead procurement and authorization to supply materials so procured to contractors as Government Furnished Equipment (GFE)

The DOE will seek adjustment of the applicable IAG milestones in the event that the remediation method/system used for the planning baseline is rejected by the Regulator or the Public or is otherwise not implemented

Regulatory Agencies

The Regulatory Agencies will consider significant deviation from the planning baseline, driven by failure of the Regulators or the Public to approve the remediation methodology described therein, to be justification for modification of applicable IAG milestone dates and/or descriptions

The Regulators will reach agreement with the DOE regarding deferral of effort on other OUs made necessary by acceleration of effort on OU4 within a period of time that allows reallocation of funds within the ER program to support PCCB action in accordance with the schedule

The Regulators will provide approval of necessary permits in accordance with the applicable periods described in the schedule and will consider failure of approval to be justification for modification of subsequent IAG milestone dates and/or descriptions

Participation of the regulatory agencies in the joint development and review process for the identification and selection of the remedial alternative will be consistent and continuous over the required periods. Substantive technical input will be completed by the end of the joint process

Durations of agency review periods will be as previously asserted by the agencies and as shown on the schedule

Duration of public comments period will be no more than 60 calendar days

Technical

A hybrid landfill closure (dirty closure) of the ponds is used as the planning baseline. In the event that a substantially different option is selected, then the potential impacts on the design, planning, costs, and schedules will require evaluation/revision. The baseline remediation scenario has the following principal features relative to development of the IM/IRA Decision Document:

Sludges will be removed from the ponds prior to pond closure activities. Further, it is assumed that residual radiation and hazardous contaminant levels will be reduced to acceptable worker levels.

A single RCRA-equivalent cover will be placed over the Solar Evaporation Ponds. The cover will incorporate composite design features utilizing geo-membranes and synthetic liner materials, clay or compacted clays that meet the hydraulic conductivity requirements outlined in the RCRA regulations, and soil and vegetative components. Local clay will be sufficient.

It is assumed that, prior to installation of the cover, the top-most 6 inches of pond structure will be removed and disposed of as waste.

The cover design will incorporate drainage features to prevent run-on/run-off and to provide erosion control.

The cover will be sized and implemented to encompass the RCRA-designated waste zone (IHSS 101 Boundary).

Information on piping, utilities, and other below-grade structures has not been reviewed as part of this strategy. The remedial design will specify the removal or relocation of underground structures and utilities where appropriate based on plant drawings and other information.

Gradient control of shallow ground water will not be required. Encapsulation of the pond areas using slurry walls, grout curtains, or any other construction is not included in this schedule assumptions/baseline.

Planning

No additional funding will be provided by DOE to EG&G to support accelerated solar ponds closure. Funding for this task must be reallocated from within the planned Rocky Flats environmental restoration budget. Such reallocation will necessarily cause delays in other IAG tasks, representing good cause for schedule extensions for those tasks. Further, it is assumed that such funding is made available by DOE in a timely manner such that work dependent upon the funding can proceed in accordance with the schedule. Specifically, it is assumed that, in the case in which award of the prime construction contract and actual commencement of work under the contract fall in different fiscal years, full authority to obligate the contract funding is available at the time of contract award.

This schedule assumes a request will be granted by EPA and CDH to delete several IAG Table 6 Milestones as follows: "IM Design Work Plan", "IM/IRA Implementation Document", "Draft Phase I RFI/RI Report", "Final Phase I RFI/RI Report".

EPA, CDH, DOE, and EG&G agree to review various aspects of all documentation generated concurrently to facilitate expediting this schedule.

Public, agency, and DOE review periods will not exceed, in quantity or duration, those scheduled

Building 788, located between Pond 207C and Pond 207A, will be removed prior to closure of the solar ponds and adequate funding will be made available to support this and other required D&D activities

Building 788 will be closed and razed under the authority of the IM/IRA DD for closure of the solar ponds

Sludge removal, treatment, handling, storage and disposal are outside the scope of this Phase I IM/IRA DD and schedule, and thus are not included in them

Initial issue of Decision Document does not include the C-Pond and B-South-Pond Remedial Investigation. The C-Pond and B-South Pond Remedial Investigation will be included, through amendment of the IM/IRA, when available, and is excluded from the deliverable-commitments for IAG milestones

A single subcontract will be let for the Building 788 demolition and Solar Pond closure construction

The Proposed IM/IRA Decision Document will not differ significantly from the Draft Proposed IM/IRA Decision Document. Only minor changes in organization, clarification, format, or terminology will be required

NEPA

The scope of NEPA activities will be an Environmental Assessment only (an Environmental Impact Statement will not be required)

DOE will find FONSI applies

DOE will commit to completing their review per the schedule

DOE will authorize Title II Design and construction-subcontracting up to the award of the subcontract to proceed prior to FONSI issuance

EG&G Ecology and NEPA Division (END) has in-hand all necessary environmental data/background information

EG&G Solar Pond Projects (SPP) has in-hand all necessary RI data

NEPA document for disposal at Envirocare is in place

Planning Baseline

Since the project scope includes definition of the remediation system to be implemented as well as its design and actual implementation, it is necessary to pre-define a baseline system so that planning of the project activities that follow the definition can proceed. The planning baseline developed includes removal of all pond structures and other existing facilities from the site, removal of minimal amounts of soil from beneath the ponds and from the site in general,

packaging of pond structures and soil in approved waste containers and disposal at a commercial waste disposal facility, decontamination of D&D rubble to comply with waste minimization objectives, packaging of contaminated D&D rubble in approved waste containers and disposal at a commercial waste disposal facility, and construction of a single RCRA-compliant cap extending, nominally, to the boundaries of existing IHSS 101

**OPERABLE UNIT 4 IM/IRA PROGRAM
DRAFT ANNOTATED OUTLINE OF IM/IRA DD**

OBJECTIVE (2 pages)

Concise statement of objective for the remedy

INTRODUCTION (25 pages)

General information describing the Rocky Flats Plant and location, the intent of the IM/IRA project, the uniqueness of this project, dispute resolution process and chronology of events, regulatory criteria/issues associated with the Interagency Agreement (IAG) and the Solar Evaporation Ponds (SEP)

BACKGROUND (20 pages)

Information specifically pertaining to the SEP and possibly RFP, if appropriate/needed This section will describe the overall use of the ponds, when they were constructed, the construction chronology, construction material, types of waste streams and constituents

PART I

RCRA FACILITIES INVESTIGATION/REMEDIAL INVESTIGATION

Site Investigation (30-35 pages)

The OU 4 site investigation will describe the objectives/rationale for drilling, sampling, geophysical surveys, radiological surveys, vadose zone equipment installation, surficial soil sampling, analytical methodologies, etc

Summary of the Phase I RFI/RI Data (40-45 pages)

This section will present, in a summary format, the data from the OU 4 Phase I RFI/RI Program Various data will include, but may not be limited to, radiological characterization, geophysical characterization, surficial and subsurface characterization, geologic characterization, and vadose zone characterization The "raw" data will be incorporated into appendices

Nature and Extent of Contamination for Source and Soils (20-25 pages)

This section will be our interpretations of the data This section will only discuss the nature and extent of contamination associated with the source and soils, as required in the IAG Hazardous substance areas showing risk levels in excess of 10⁻⁶ will be identified

Contaminant Transport and Fate (60-80 pages)

This section will present a conceptual model, contaminant behavior and mobility, and contaminant migration pathways

Summary and Conclusions (20 pages)

This section will summarize our understanding/interpretations of the nature and extent of contamination associated with the Solar Evaporation Ponds/Operable Unit 4

PART II

INTERIM MEASURE/INTERIM REMEDIAL ACTION DECISION DOCUMENT

Analysis of Dirty Closure vs Clean Closure/Hybrid Closure (30 pages)

This section will discuss the feasibility of clean closure and dirty closure from a regulatory, technical, and cost perspective. Also, this section will provide the rationale for the selected closure option (clean vs dirty). In general, this section will be the "bridge" from the Phase I RFI/RI to the Phase I IM/IRA.

Remedial Options Selection Criteria (20 pages)

This section will establish the criteria which will be utilized in for evaluation of the remedial options and in selecting the proposed remedy.

Remedial Options Analysis (100 pages)

This section will be the "core" of the IM/IRA DD. This section will present the remedial options evaluated against the selection criteria.

Selected Remedy (20 pages)

This section will present the selected remedy for closure of the ponds and provide the basis and justification for the selected alternative. This section may also include quantitative/qualitative modelling in support of defining the effectiveness of the selected alternative, and explanation of how the selected remedy will be consistent with Phase II for OU 4.

Identification and analysis of ARARs (20-25 pages)

This section will present the ARARs which are directly relevant, if appropriate, to the selected alternative.

Risk Assessment (70-80 pages)

This section will present a methodology and results associated with the risk of the selected remedy. In general, a risk analysis will be conducted for the selected remedy. Areas with risk levels above 10⁻⁶ will be addressed.

PART III

CONCEPTUAL DESIGN

Design Components (30 pages)

This section will present the "engineering" components associated with the selected alternative, i.e., geomembrane, clay material, sand material, etc.

Conceptual Design (50 pages)

This section will be the first stage in the engineering drawings for the selected alternative. This will eliminate the IM Design Work Plan and the Title I as separate packages, and provide a 10% design level in the draft and 40% design level in the final IM/IRA DD.

PART IV

PERFORMANCE MONITORING and FURTHER EVALUATION

Performance Monitoring and Assessment of Selected Alternative

This subsection will describe the general content and requirements of the performance monitoring and assessment program for the recommended alternative. Precise locations for the actual monitoring equipment will not be able to be provided prior to completion of the final design.

Evaluation of the Effectiveness of the ITS (35 pages)

This section will present a historical overview of the ITS, the ITS configuration, design, and storage capacity available water balance data, analysis of ITS water balance, and evaluation of system efficiency.

Data Evaluation (100-150 pages)

This section will present the data, in summary format, which was evaluated in support of designing the field sampling plan. The data which is expected to be evaluated includes the RCRA ground water monitoring data, Phase I RFI/RI data, historical data, etc. This section will include a summary of the OU 4

previous investigations with the purpose of identifying data gaps needed to complete a ROD

Data Quality Objectives (20 pages)

This section will define the OU 4 data-gaps and provide a rationale for the data quality objectives for subsequent characterization

Field Sampling Plan (200 pages)

This section will present the methodologies utilized for supporting "plume delineation" associated with the alluvial ground water system and bedrock ground water system. It will include the standard requirements for collecting ground water samples, possible pumping tests, tracer tests, analytical methodologies, etc

Baseline Risk Assessment Work Plan (80 pages)

This section will include the standard BRA WP requirements for a complete BRA. However, the BRA WP will be for the HHRA and not the ecology

Quality Assurance/Quality Control (20 pages)

Standard QA/QC section required for all field activities

PART V

D&D of Building 788

This section will describe work needed to close the two RCRA units in B788, decontaminate the structure if necessary, and demolish the structure. Support structures such as the clarifier tank and cement silos are included in the effort. The potential for decontaminating the structure to allow disposal of the rubble as non-hazardous waste will be included as appropriate.

Note: The number of pages are only an estimate and do not include figures, tables, graphs, charts, etc

Appendix A - Analytical Data

Appendix B - Applicable or Relevant and Appropriate Requirements

Chemical Specific Requirements

Location Specific Requirements

Action Specific Requirements

Appendix C - Toxicological Profiles for the Contaminants of Concern

Appendix D - Risk Analysis Calculations (selected remedy)

Appendix E - Design Sketches (enhanced conceptual)

Appendix F - Outline Specifications

Appendix G - Cost Estimate Details

Appendix H - Performance Monitoring and Assessment Conceptual Plan

Appendix I - Reserved for supplemental information on potential environmental impacts

Attachment 1 - Combined IM/IRA and NEPA Responsiveness Summary (Final Only)

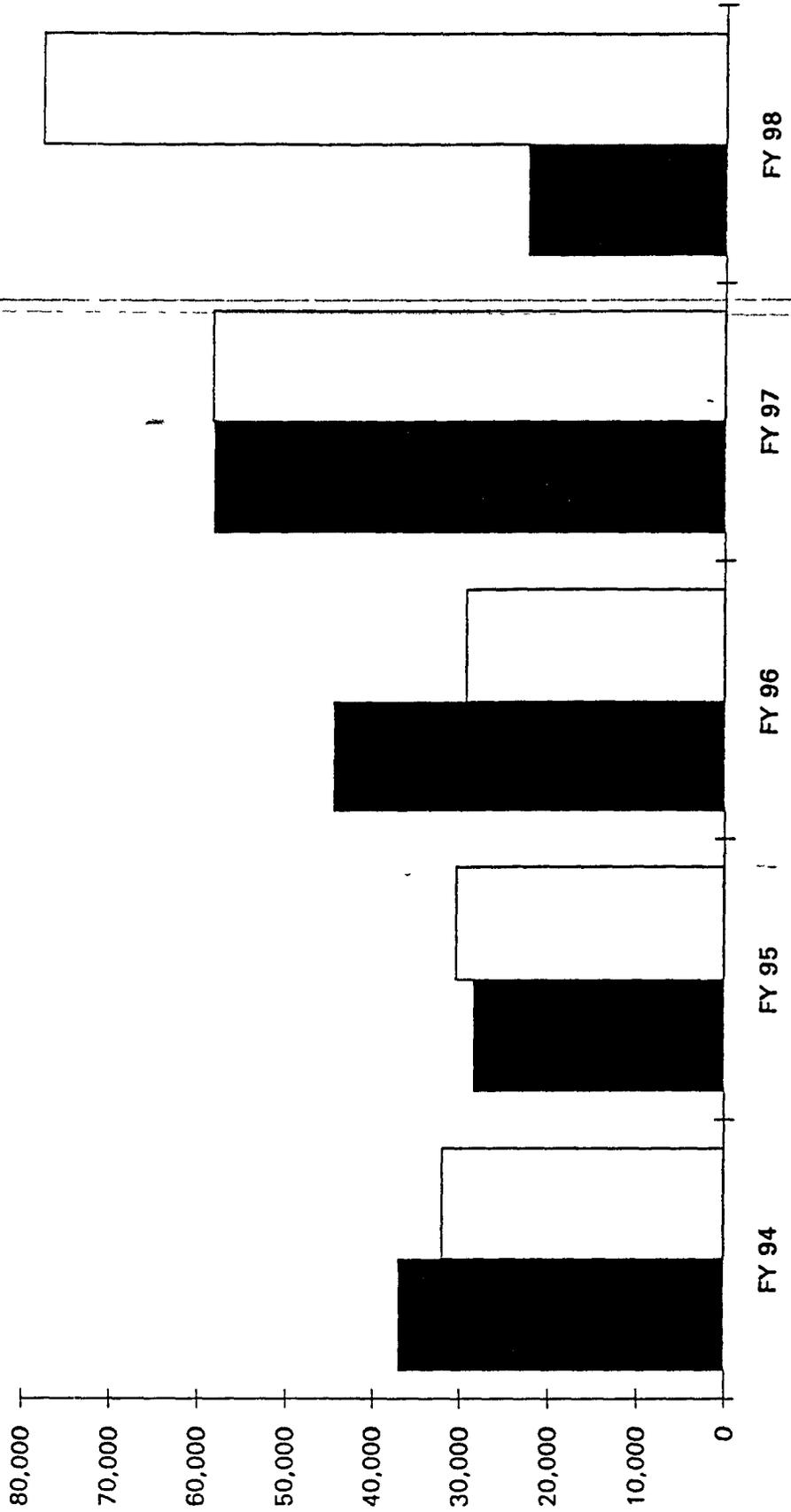
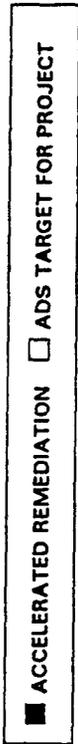
List of Tables/Figures

List of Acronyms and Abbreviations

September 14, 1993

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OU-4 ACCELERATED REMEDIATION



OU-4 ACCELERATED REMEDIATION					
COST COMPARISON (\$M)					
	FY 94	FY 95	FY 96	FY 97	FY 98
ACCELERATED REMEDIATION	37,020	28,552	44,739	58,761	22,528
ADS TARGET FOR PROJECT	32,000	30,500	29,500	59,000	78,400
D&D COSTS FOR OU-4 ARE INCLUDED					
CONSTRUCTION STARTS FY 95					

ACTIVITY	FY94	FY95	FY96	FY97	FY98	FY99
ON SITE H2O	4,100	13,000	14,315	6,935	6,663	6,535
OFF SITDE H2O	10,000	25,200	10,600	0	0	0
OU-1 IM/IRA	1,580	1,227	1,068	0	0	0
OU-2 IM/IRA *	2,274	2,328	1,565	1,687	398	0
OU-6 IM/IRA	2,394	3,920	2,920	3,420	3,920	1,920
OU-8	2,679	640	2,291	6,334	26	653
OU-9	2,747	5,496	6,210	11,024	6,703	12,693
OU-10	2,019	1,633	207	1,127	1,276	356
OU-12	2,021	0	0	2,463	1,094	1,190
OU-13	2,035	0	0	0	8,449	1,193
OU-14	2,786	0	0	1,646	2,910	95
O/IRAP **	1,363	11,740	29,201	2,766	0	0
INTEGRATED OU'S TOTAL	15,650	19,509	37,909	25,360	20,458	16,180
SITEWIDE TREATABILITY	3,126	4,344	4,444	4,539	3,093	0
MOBIL LAB	1,991	0	0	0	0	0
FIELD LAB	0	1,593	762	762	762	762
D&D	500	16,100	16,523	16,548	17,044	17,446
TOTAL	57,265	106,730	128,015	84,611	72,796	59,023
* SOIL VAPOR EXTRATION EXCLUDED						
** INCLUDES ACCELLERATED CLEANUP						