

Final

Meeting Minutes Transmittal/Approval
Unit Manager's Meeting: 100 Aggregate Area/100 Area Operable Units
2440 Stevens Center, Room 1200, Richland, Washington
March 16, 1995

FROM/APPROVAL: Nancy Werdel Date 4/20/95
Nancy Werdel, 100 Area Unit Manager, RL (H4-83)

APPROVAL: Phil Staats for Date 4/21/95
Phil Staats, 100 Aggregate Area Unit Manager, WA Dept of Ecology (B5-18)

APPROVAL: Dennis Faulk Date 4-20-95
Dennis Faulk, 100 Aggregate Area Unit Manager, EPA (B5-01)

Meeting Minutes are attached. Minutes are comprised of the following:

- Attachment #1 - Meeting Summary
- Attachment #2 - Attendance Record
- Attachment #3 - Agenda
- Attachment #4 - Action Item Status List
- Attachment #5 - March Unit Manager's Meeting 100 Area Status Package
- Attachment #6 - SAFER Pilot Project
- Attachment #7 - 100 Area Operable Unit/ERDF Interface
- Attachment #8 - Initial Results from Salmon Redd Water Quality Sampling Effort
- Attachment #9 - N Deactivation: Fuel Spacers Disposal



Prepared by: Amoret Bunn Date: 4/20/95
Amoret Bunn, Stephanie Johansen, GSSC (B1-42)

Concurrence by: Greg Eidam Date: 4/20/95
Greg Eidam, BHI 100 Area Manager (H4-91)

**Attachment #1
Meeting and Summary of Commitments and Agreements**

**Unit Manager's Meeting: 100 Aggregate Area/100 Area Operable Units
March 16, 1995**

1. **SIGNING OF THE SEPTEMBER, OCTOBER, AND FEBRUARY 100 AREA UNIT MANAGER'S MEETING MINUTES** - The minutes for September, October, and February were reviewed and approved with changes.
2. **ACTION ITEM UPDATE:** (See Attachment 4 for complete status, items listed below indicate the update to Action Items made during the meeting):

1AAMS.22 Open.

3. **NEW ACTION ITEMS:**

None.

4. **100 AREA ACTIVITIES:**

- Questions and Answers: Phil Staats asked how many soil washing analyses results were being validated. John April replied that 10% of the samples (for a total of 17 samples) would be validated. An attempt was made to select representative samples, but in some cases that was not possible due to the composition of the Sample Delivery Groups. Radionuclide validation will be conducted manually using accepted WHC procedures, as well as using the new Karnofsky electronic validation methodology.

Phil Staats also asked which chemicals or extractants were used during the soil washing test. John April responded that extractants were not used due to secondary waste issues. Only surfactants were used, and this point will be made clear in the focused feasibility study.

- Operable Unit Status: Unit managers received the status packages (see Attachment #5) for general information on the 100 Areas Operable Units prior to the March 16, 1995 Unit Manager Meeting. There were no further questions regarding the status package.
- SAFER Pilot Project: Roberta Day gave a presentation on the SAFER Pilot Project as the project enters the remedial design phase (see Attachment #6). The handout specifies five areas of the SAFER Pilot Project and gives a status of each area. Roberta Day requested that DOE/RL and the agencies form a SAFER Pilot Project working group. Those people who will represent the agencies on the individual task teams should attend the initial meeting. This meeting will take place Tuesday, March 28, 1995, 1-4 p.m. (location TBD). Dennis Faulk and Kevin Oates will coordinate this effort for EPA, while Phil Staats and Ted Wooley will coordinate this effort for Ecology.

Roberta Day stated that the intent is to resolve issues as they arise via

working groups, rather than attempting to resolve numerous issues at the end of the process. The results of the B/C SAFER process will become a template for the remainder of the 100 Areas. The SAFER process will be facilitated by DOE/HQ representatives.

Dennis Faulk mentioned that the EPA response to Environmental Restoration Refocusing states that remediation in the 100 Area will begin during summer 1995.

Kevin Oates requested clarification on "remedial design/remedial action strategy" and "flexible ROD support."

- Focused Feasibility Studies/Proposed Plans: The Focused Feasibility Studies will be ready to go to the regulators by Close of Business March 24, 1995. Comment resolution for these is scheduled for 8 a.m. on March 30, 1995 at 2440 Stevens, Room 1200.

DOE/RL plans to have the Proposed Plans ready to go to the regulators on April 5, 1995, but these will not be ready for distribution to the public at that time. DOE/RL will provide the regulators with a schedule for the proposed plans during the week of March 20, 1995. Dennis Faulk will submit his comments prior to the comment resolution meeting on Monday, March 20, 1995. Dennis Faulk stressed the need to work through the public involvement system. DOE is the lead for public involvement, and John Yerxa is the point of contact.

- Baseline Estimates: The meeting regarding baseline estimates was Friday, March 10, 1995. Nancy Werdel will provide clean copies of the entire baseline package to Phil Staats and Kevin Oates, who will distribute them internally. Doug Sherwood has already presented EPA's major concerns. Ted Wooley was uncertain regarding the schedule for Ecology's comments on the baseline estimates. Nancy Werdel stated that the Activity Data Sheets (ADS) and baseline estimates are not coordinated because the ADSs are due before the baselining is complete.
- 100 Area Operable Unit/ERDF Interface: Alvin Langstaff distributed Attachment #7 highlighting the 100 Area OU/ERDF interface. The ERC ERDF working groups meet bi-weekly. Dennis Faulk inquired why Waste Acceptance Criteria waivers would not be in the ERDF ROD. Pam Innis replied that waivers need to be evaluated on an OU basis rather than a site-wide ERDF waiver.

Ted Wooley asked if the waste acceptance criteria is met at the site or at ERDF. Alvin Langstaff and Pam Innis stated that the waste generator (operable unit) is responsible for verification of the waste.

Joan Woolard pointed out that HR-1, DR-1, and BC-1 each have at least one site with lead, chromium, or mercury may exceed Land Disposal Restrictions. The affected sites are 116-C-5, 116-DR-1, 116-H-1, and 116-H-7.

Alvin Langstaff indicated that W-025 will be accepting bulk disposal. Pam Innis stated that efforts to amend W-025's Waste Acceptance Criteria are underway.

Greg Eidam stated and Nancy Werdel concurred that transportation and disposal costs will be borne solely by ERDF, not by the operable units.

- Salmon Redd Sampling: Dick Biggerstaff provided Attachment #8, a letter to DOE regarding Initial Results from Salmon Redd Water Quality Sampling Effort. The sampling schedule was delayed, and the redds are no longer distinguishable from other areas in the river bottom. Consequently, it is not possible to confirm that samples are being taken from areas where spawning took place.

Phil Staats asked what measurements were taken in addition to hexavalent chromium. Dick replied that pH, hardness, conductivity, and temperature were also evaluated. Dissolved oxygen is being considered for future studies of the redds.

Pam Innis asked what previous chromium levels in the river have been. In the past, hexavalent chromium levels have been undetected (< 6 micrograms/L).

- N-area Pilot Project: Dave Olson discussed the status of activities in the N-Area. He reported that the ion exchange skid contract for the pump-and-treat system was awarded to RTG. Total depth has been reached on Extraction well 103A and injection well 104A. They are preparing to drill extraction well 105A.

The balance of plant for the pump & treat has been broken up into three procurement packages. The first package is leveling for the skid and underground components.

RL is planning to use four existing wells in the pump and treat well network that are part of the RCRA monitoring program for 1301-N and 1325-N. The wells are N-14, N-29, N-31 and N-75. Well N-14 needs refurbishment to be utilized as an extraction well.

The Groundwater Modeling Letter Report is being finalized. The redline version will be out early next week.

The final version of the Skyshine Abatement Letter Report has been transmitted to DOE. DOE is preparing for transmittal to the regulators.

Round 7 of 100-NR-2 groundwater monitoring sampling is complete.

DOE/RL is closing out the contract and construction activities for the Barrier Wall.

Phil Staats asked about the problems with the installation of well 103A. Merl Lauterbach replied that during installation they encountered construction debris and later found the Ringold formation to be very tight. As a consequence, the productivity of this well may be low. During installation they found strontium-90 contamination 10 feet above the groundwater table. This contamination will not be captured during the pump & treat.

Merv Greenidge distributed Attachment #9, N Deactivation: Fuel Spacers Disposal. Phil Staats asked about the purpose of grouting the spacers in the pipe sections. Merv Greenidge replied that the grout will reduce radiation exposure to workers and will reduce void spaces such that disposal costs will be lower. In response to another question from Phil Staats, Merv Greenidge stated that the emergency dump basin and the silos are on schedule. The Environmental Assessment for the Deactivation Scope has not yet been issued.

5. **NEXT MEETINGS:** The next meetings are scheduled for:
- April 19, 1995
 - May 18, 1995
 - June 22, 1995
 - July 20, 1995
 - August 23, 1995
 - September 21, 1995

100 Aggregate Area Unit Manager's Meeting
Official Attendance Record
March 16, 1995

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PRINTED NAME	ORGANIZATION	O.U. ROLE	MSIN	TELEPHONE
Richard Biggerstaff	BHI	100 Areas GW	H4-91	372-9572
ALVIN LANGSTAFF	BHI	100 AREA Proj. Engr.	H4-91	372-9565
John Rayner	BHI	TPA Coord 100 Area	H4-79	372-9410
Alan D. Krug	BHI	K/F Teamleader	H4-91	372-9567
Nicole Kimball	DOE	100 BC Support	H4-83	376-4670
John April	CHI	Tasklead TS	H4-91	372-9590
Chuck Hedel	CHI	H Area Tasklead	H4-89	372-9637
JOAN WOODARD	BHI	100 Area	H4-89	372-9649
Plants	Ecology	UM		736-3029
Ted Woolley	Ecology	UM		736-3012
Kevin Oates	EPA	UM	?	376-6623
Pamela Innis	EPA	UM	B5-01	376-4919
W.E. Lum II	USGS	EPA Support		206 593 6510
Arlene Tortoso	DOE	100 Area Manager	H4-83	373-9631
Stephanie Johansen	GSSC	BC/F/K Support	B1-42	946-3693
Roberta Day	ERC	100-BC		372-9650
Dennis Fankle	EPA	UM	B5-01	376-9631
Greg Eidam	ERC	100 Area PM		375-4650
Nancy Wardel	DOE	100 Area UM	H4-83	376-5500
Niana Neffes	ERC	Support	H4-79	(609) 375-9422
Keith Holliday	Ecology	F Area DM	Ken	736-3036
Deid Olson	DOE-RL	NRI and 2	H4-83	376-7326
M. J. LAUTERBACH	ERC	NR-1 & 2		372-9571
Mr B GREENIDGE	ERC	N. DEACTIVATION	X5-54	372-3551
Amoret Bunn	GSSC	H+D Support	B1-42	946-3695

Attachment #3
Agenda

Unit Manager's Meeting: 100 Aggregate Area/100 Area Operable Units
March 16, 1995

1:30 - 4:00, 100 Area

1:30 - 1:45, Questions & Answers

- * Status Package - N. Werdel

1:45 - 2:05, Remedial Design/Safer Pilot Project

- * Status - R. Day

2:05 - 2:20, Proposed Plan

- * Update - K. Oates, P. Staats, N. Werdel

2:20 - 2:35, Baseline

- * Status - N. Werdel

2:35 - 2:55, Waste Disposal - G. Eidam

- * W-025 Waste
- * Disposal Negotiations
- * 100/ERDF Interface
Waste Acceptance
Criteria - A. Langstaff

2:55 - 3:25, Redd Sampling

- * Results - M. Thompson

3:25 - 4:15, N-Area Pilot Project

- * Status - P. Pak
- * Space Silo Status
Removal
Recommendations - M. Greenidge
- * NR Remedial Status - M. Lauterbach

Attachment #4

**Action Items Status List
CERCLA UNIT MANAGER'S MEETINGS
March 16, 1995**

PLEASE REVIEW THESE ACTION ITEMS. IF YOU FIND THAT ANY WITHIN YOUR OPERABLE UNITS ARE NO LONGER APPLICABLE &/OR HAVE BEEN CLOSED, PLEASE NOTIFY KAY KIMMEL ON 946-3692.

ITEM NO.	ACTION/SOURCE OF ACTION	STATUS
1AAMS.15	Provide response to April 2 EPA letter concerning river seeps. Action: Mike Thompson (RL) 07/27/94	Closed 02/14/95.
1AAMS.21	Provide Ecology (Dave Holland, H Area manager) a copy of Revision 0 for 100-HR-1 LFI. Action: Dick Biggerstaff	Closed 02/17/95.
1AAMS.22	Determine strategy (course of action) regarding interim actions at HR-3, FR-3 & KR-4, and how to get to a Record of Decision. Action: Mike Thompson. This strategy will be provided at the March 8 meeting with the regulators.	Open 02/16/95.

STATUS PACKAGE

March Unit Managers Meeting

100-BC, 100-K, 100-D, 100-H and 100-F Areas

Treatability Studies

Soil Washing

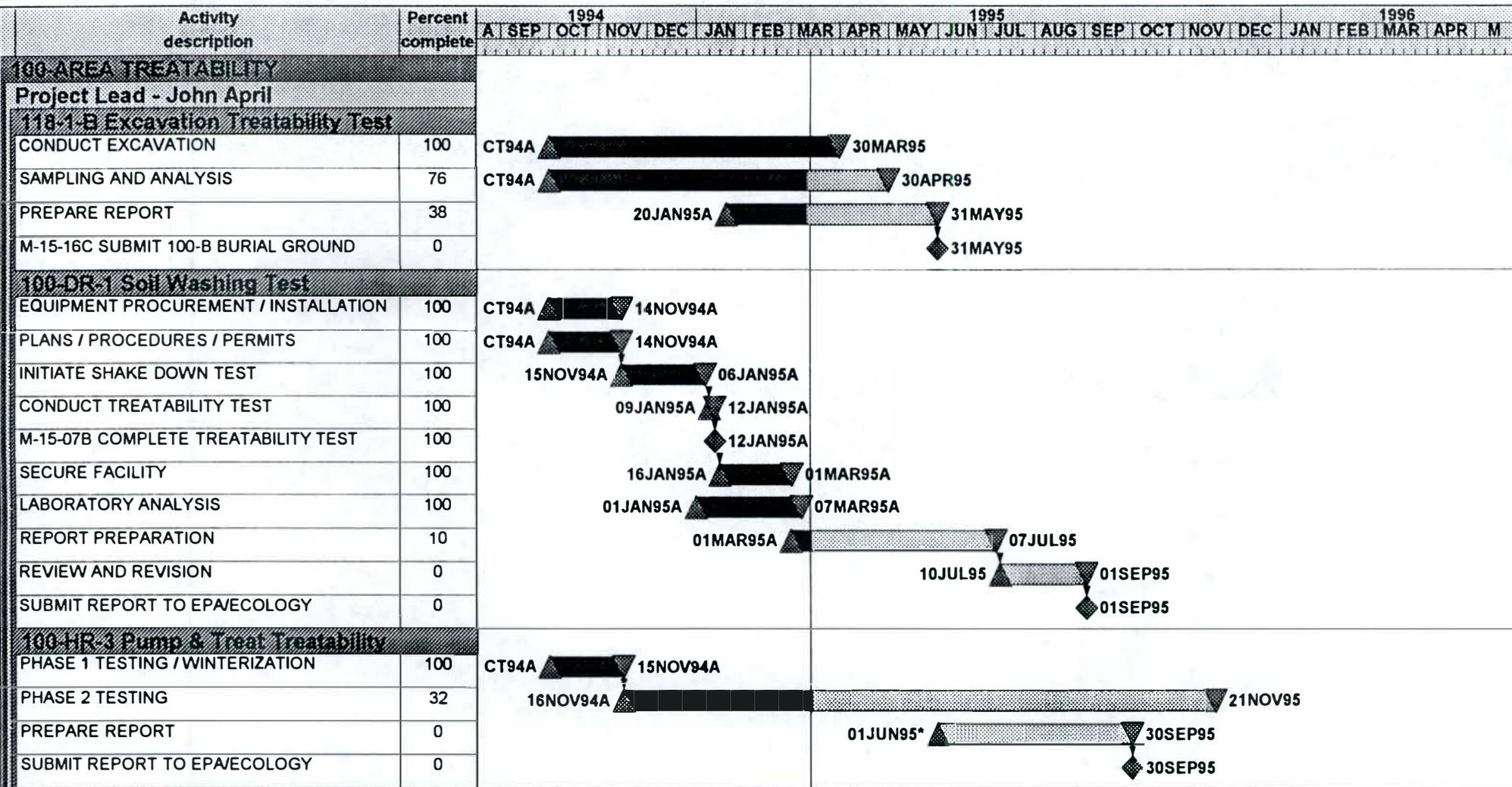
During this reporting period work began on the soil washing treatability study report. A meeting was held with the Soil Washing Team consisting of ERC, RL and Mactec staff to discuss report structure and how data will be presented to make this document a useful reference for future tests and remedial action. A detailed schedule was developed. Based on this schedule a target date of June 30, 1995, has been established for submittal of draft soil washing test report to the regulators. The target date is 60 days ahead of the Tri-Party Agreement (TPA) Milestone date of August 31, 1995.

118-B-1 Excavation Treatability Study

During the month of February, additional Ground Penetrating Radar was performed on Pit 5 to obtain better subsurface data prior to stabilizing the excavated area. Stabilization of Pit 5 was completed on February 7. Site restoration activities were completed on February 17. The test report structure was developed by the project team consisting of ERC, RL, and Mactec staff, and a detailed schedule for report preparation was prepared. Draft submittal of the test report to the regulators will be May 1, 1995. This target date is 30 days ahead of the TPA Milestone for draft report submittal.

100 HR-3 Pump & Treat

The Level C Safety Investigation "Judgement of Needs" were addressed. Operating procedures, and organizational roles and responsibilities were revised, and the system was winterized. An Operational and Safety Assessment Review and walk down of the system was performed on February 9 and 10. Due to extremely cold weather, the system was not re-started on the target date of February 13 because integrity testing could not be performed under these conditions. Pump and Treat operations began on February 21. Total groundwater treated during the February reporting period was 160,000 gallons with approximately 1.3 kg chromium removed. A design to fully automate the Pump and Treat will be completed by March 1. Installation and testing of automation will be completed by mid March 1995. Automation should decrease operator requirements by 50 percent.



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#5/Page 3 of 12



Project Start	01OCT94		Early Bar
Project Finish	20DEC96		Program Bar
Date Date	13MAR95		
Plot Date	13MAR95		

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 FY 1995 Unit Managers Meeting
 February 1995

Date	Revision	Checked	Approved

100-BC Operable Units

100-BC-1. 100-BC-1 OU remedial design activities have been initiated and include the following tasks: development of a remedial design/remedial action strategy, definition of contaminant specific remediation goals, definition of a process to prioritize waste sites for cleanup, and support for preparation of a flexible Record of Decision. Actual "hard" design will begin once the Tri-Parties agree to the RD/RA strategy. The 100 Area Source OU FFS, Sensitivity Analysis (SA), 100-BC-1 FFS, and the 100-BC-1 PP are currently being updated to incorporate regulatory comments and the newly developed land use scenario. The schedule for these activities has been updated to reflect the above changes. The documents are being prepared concurrently and are expected to be completed by April 20, 1995.

100-BC-2. The 100-BC-2 OU FFS has been placed on hold pending comments and decisions made on the 100-BC-1 OU FFS, Process Document, and Sensitivity Analysis. The 100-BC-2 PP will be initiated following the FFS.

118-B-1 Burial Ground Excavation Treatability Study. During the month of February, additional Ground Penetrating Radar was performed on pit five to obtain better subsurface data prior to stabilizing the excavated area. Stabilization of pit five was completed on February 7. Site restoration activities were completed on February 17. The test report structure was developed by the project team consisting of ERC, DOE, and Mactec staff, and a detailed schedule for report preparation was prepared. Draft submittal of the test report to the regulators will be May 1, 1995. This target date is 30 days ahead of the TPA Milestone for draft report submittal.

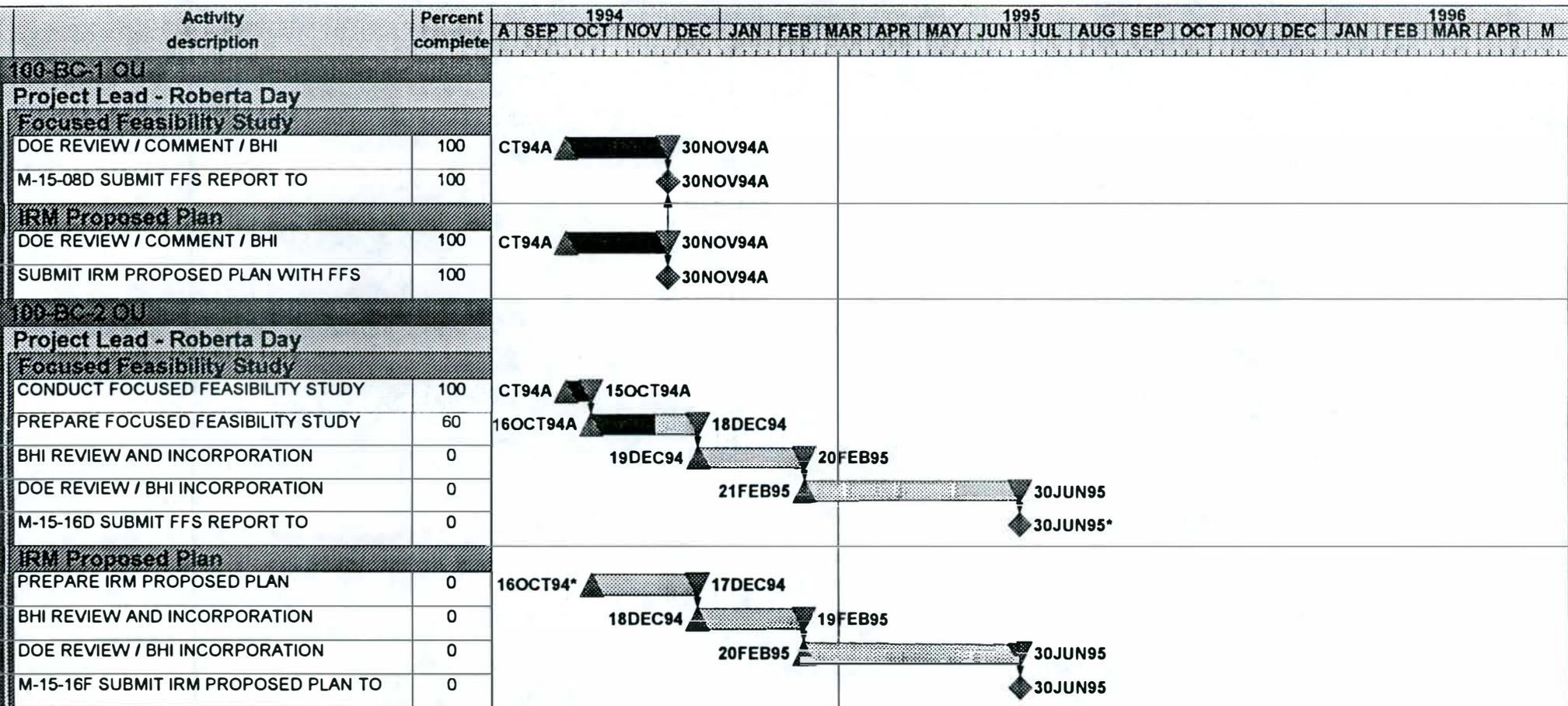
D Area

100-DR-1

- The FFS and Proposed Plan is currently being revised to reflect ongoing negotiations between the Tri-Parties. The Proposed Plan is scheduled to be available for the next Hanford Advisory Board meeting in April.

100-DR-2

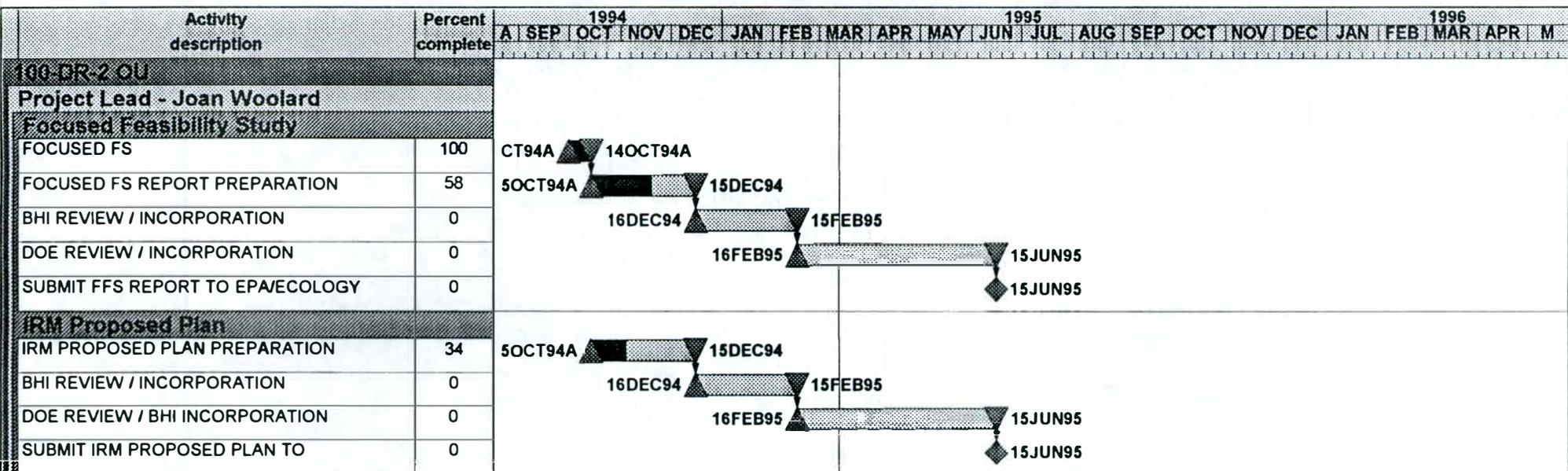
- The focus sheet for the work plan has been issued announcing the public review period. The LFI/QRA is still undergoing regulator review. A TPA target date of May 1, 1995 has been established for submittal of the work plan to the regulatory agencies after public review and including an addendum with the substantive portion of both the LFI/QRA report.



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#5/Page 5 of 12

		1994				1995				1996											
A	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	M
Project Start	01OCT94	▲		Early Bar																	
Project Finish	29DEC96	▲		Progress Bar																	
Date Date	13MAR95																				
Plot Date	13MAR95																				
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Sheet 1 of 1		Date	Revision	Checked	Approved																



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#5/Page 6 of 12



Project Start: 01OCT94
 Project Finish: 28DEC98
 Date Date: 13MAR95
 Plot Date: 13MAR95



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 FY 1995 Unit Managers Meeting
 February 1995

Sheet 1 of 1

Date	Revision	Checked	Approved

H AREA**100 HR-1**

- FFS REPORT and the IRM Proposed Plan: The content and format of 100 Area FFS reports and IRM PPs is continues to be developed by DOE using 100-HR-1, 100-BC-1, and 100-DR-1 OU documents as models. Much discussion with the regulators during February revolved around the issue of assumed land use. These discussions resulted in the adopting an assumed residential land use exposure scenario based on MTCA and the EPA's 15 mrem/yr radiation exposure limit for use in 100 Area FFS reports and IRM PPs. Plans call for revisions to the 100-HR-1 IRM Proposed Plan, the 100 Area Source FFS Report and its appendices (which, among other reports, includes the FFS report for 100-HR-1) to incorporate the new information. Revisions will be completed during March and April.

100 HR-2

- LFI/QRA REPORT: The 100-HR-2 LFI/QRA Report (single document), DOE/RL-94-53, Draft A, remains in regulatory review. Comments are expected during March 1995.
- FOCUSED FEASIBILITY REPORT AND IRM PROPOSED PLAN: Following submittal of the FFS and PP to the regulators at the end of January, the content and format of 100 Area focused feasibility study reports and IRM proposed plans continue being developed using 100-BC-1, 100-DR-1, and 100-HR-1 OU documents as models. Additionally, a strategy for future FFSs and PPS and Records of Decision is currently being developed by DOE for discussion and agreement with the regulators. Upon agreement at some later date, the 100-HR-2 FFS report and PP will be revised in a manner to be compatible with the corresponding documents for 100-BC-1, 100-DR-1, and 100-HR-1. At the time of submittal, DOE recommended that regulator review efforts be reserved for possible future updated versions of the 100-HR-2 FFS report and IRM PP that will reflect the new content and format that is under development at this time.

100 IU-4 and 5

- DOE approval of carryover funds was received in February to allow ERC staff to resume completion of proposed plans for independent units IU-4 (Sodium Dichromate Barrel Disposal Landfill) and IU-5 (White Bluffs Pickling Acid Cribs). These documents are being revised in conjunction with the 100-IU-1 Proposed Plan (100-BC Area).

Activity description	Percent complete	1994												1995												1996				
		A	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	M							
100-HR-2 OU																														
Project Lead Chuck Hedel																														
Focused Feasibility Study																														
DOE REVIEW / BHI INCORPORATION	100	CT94A												31 JAN 95A																
M-15-18B SUBMIT FFS REPORT TO	100													31 JAN 95A																
IRM Proposed Plan																														
DOE REVIEW / BHI INCORPORATION	100	CT94A												31 JAN 95A																
M-15-18C SUBMIT IRM PROPOSED PLAN TO	100													31 JAN 95A																

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#5/Page 8 of 12

1994												1995												1996				
A	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	M							

Project Start	01OCT94	
Project Finish	28DEC98	
Date Date	13MAR95	
Plot Date	13MAR95	

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FY 1995 Unit Managers Meeting
February 1995

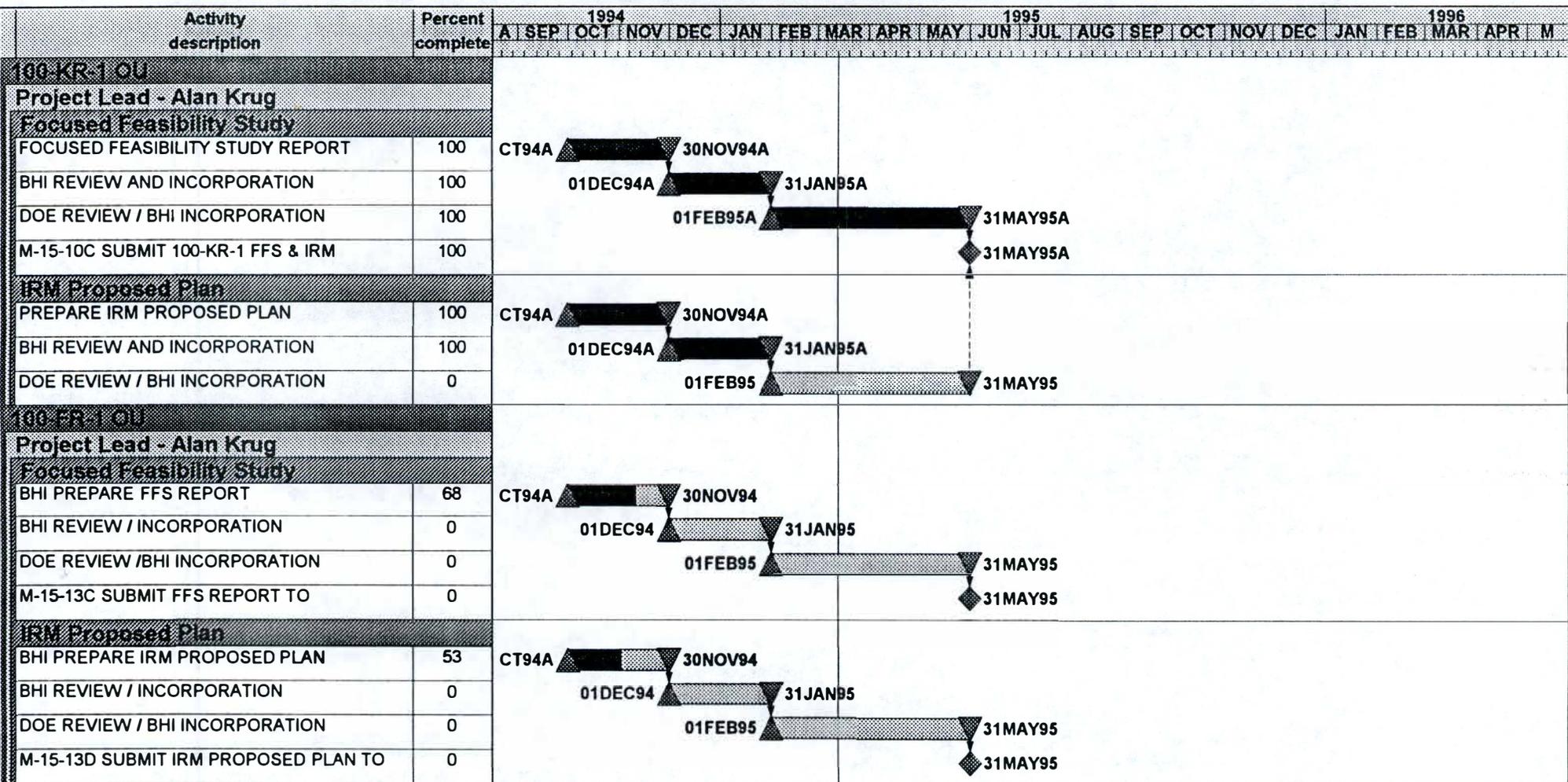
Date	Revision	Checked	Approved

K AREA

- The 100-KR-1 Focused Feasibility Study was delivered to DOE on November 17, 1994, partially fulfilling the requirements of Milestone M-15-10C. Regulator comments on this FFS were received in late January. Further work on this FFS has been halted, pending resolution of the 100-HR-1 FFS. Because all issues relating to the FFS were not resolved by January 31, 1995, a TPA Change Request was prepared to change the April milestone date.
- 100-KR-2 Planning - The 100-KR-2 Focus Package is undergoing public review February 27 through March 31, 1995.
- 100-KR-1 IRM Proposed Plan - Work on the PP has been halted, pending ongoing discussions with DOE and the Regulators. Because all issues relating to the FFS were not resolved by January 31, 1995, a TPA Change Request was prepared to change the April milestone date.

F AREA

- 100-FR-1 IRM Proposed Plan - Work on the PP has been halted, pending ongoing discussions with DOE and the Regulators. Because all issues relating to the FFS were not resolved by January 31, 1995, a TPA Change Request was prepared to change the May milestone date.
- 100-FR-1 FFS - The FFS has undergone ERC review and dispositions prepared, but not incorporated. Further work on the FFS has stopped, pending ongoing discussions with DOE and the Regulators. Because all issues relating to the FFS were not resolved by January 31, 1995, a TPA Change Request was prepared to change the May milestone date.
- 100-FR-1 LFI/QRA - Regulator comments on the 100-FR-1 LFI/QRA were received in early March. Work is on hold, pending agreement on a strategy to combine the remaining K Area and F Area LFI activity into one document.
- 100-FR-2 Work Plan - An DOE/Regulator site walkover for the 100-FR-2 Operable Unit was conducted on January 19, 1995. In subsequent meetings, it was agreed to follow the streamline process adopted for the 100-KR-2 Operable Unit. A Focus Package will substituted for the Work Plan and the results of the LFI/QRA will be incorporated into the FFS, rather than be reported in separate documents.



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#5/Page 10 of 12



Project Start 01OCT94
 Project Finish 26DEC95
 Data Date 13MAR95
 Plot Date 13MAR95

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Legend

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FY 1995 Unit Managers Meeting
February 1995

Sheet 1 of 1

Date	Revision	Checked	Approved

Ground Water

100-BC-5, 100-FR-3, 100-HR-3 AND 100-KR4 OU's

100-BC-5, HR-3 & KR-4

The Focused Feasibility Studies (FFS) and IRM Proposed Plans are on hold per the DOE and regulator request to enable these entities to focus on the source area FFSs and Proposed Plans. Regulatory comments are now expected in March.

100-HR-3

Round 8 groundwater sampling activities at D reactor were completed in January (H reactor area in December) and the samples are currently at the lab.

100-FR-3

Soil gas equipment has been used during multiple trips to the field in an attempt to locate TCE upgradient of the OU. Low levels of TCE have been found but work to date has not been able to discern the source. Cold and/or unstable weather has shut down further efforts at this time (cannot obtain reliable data). A data quality objectives review was conducted to help focus the TCE investigation process. Meeting with DOE and the regulators are planned for mid-march to provide a status and review future plans and schedule.

100-BC-5, HR-3, KR-4 and FR-3

Rebaselining of the above OUs for a completion schedule of FY 2018 continued through February. The ADS cost estimating was initiated in late February for completion in early March.

Activity description	Percent complete	1994				1995				1996												
		A	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR
100-BC-5 GROUNDWATER OU																						
Project Lead - Richard Biggerstaff																						
Focused Feasibility Study																						
DOE REVIEW / BHI INCORPORATION	100	CT94A	[Bar]				31OCT94A															
M-15-09C SUBMIT FFS REPORT TO	100						31OCT94A															
IRM Proposed Plan																						
DOE REVIEW / BHI INCORPORATION	100	CT94A	[Bar]				31OCT94A															
M-15-09D SUBMIT IRM PROPOSED PLAN TO	100						31OCT94A															
100-KR-4 GROUNDWATER OU																						
Project Lead - Richard Biggerstaff																						
Focused Feasibility Study																						
DOE REVIEW / BHI INCORPORATE	100	CT94A	[Bar]				31OCT94A															
M-15-11C SUBMIT FFS REP ORT TO EPA/ECO	100						31OCT94A															
DOE REVIEW / BHI INCORPORATION	100	CT94A	[Bar]				31OCT94A															
M-15-11D SUBMIT IRM PROPOSED PLAN TO	100						31OCT94A															
100-FR-3 GROUNDWATER OU																						
Project Lead - Richard Biggerstaff																						
Focused Feasibility Study																						
DOE REVIEW / BHI INCORPORATION	100	CT94A	[Bar]				14DEC94A															
M-15-13G SUBMIT FFS REPORT TO	100						14DEC94A															
IRM Proposed Plan																						
DOE REVIEW / BHI INCORPORATION	100	CT94A	[Bar]				14DEC94A															
M-15-13H SUBMIT IRM PROPOSED PLAN TO	100						14DEC94A															

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#5/Page 12 of 12

1994				1995				1996													
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Project Start	01OCT94	[Bar]	Early Bar
Project Finish	28DEC95	[Bar]	Program Bar
Date Data	13MARS		
Plot Date	13MARS		

Bechtal Hanford Inc.
 FY 1995 Unit Managers Meeting
 February 1995

Sheet 1 of 1	Date	Revision	Checked	Approved

SAFER Pilot Project

Objective: Initiate and accelerate remedial design and remedial action activities that are cost effective, protective of human health and the environment, and that meet Tri-Party expectations.

Define Remedial Design tasks

Identify extended project team for each task

Define involvement of extended project team

Internal strawman

Early status/discussion meetings

Periodic status/discussion meetings throughout tasks

Tasks include:

Remediation Goals

Site Prioritization Strategy

Flexible ROD Support

Remedial Design/Remedial Action Strategy

Design

REMEDIATION GOALS**Objectives:**

- * Obtain remediation goals that facilitate remediation and are protective of human health and the environment and achieve ARARs.
- * Modify risk-based, or dose-based goals to address background, analytical capabilities, and operational considerations (in accordance with EPA and DOE guidance)
- * Establish process for developing remediation goals for use in RD/RA

Progress to Date:

- * Developed process, flow chart, and draft of white paper.
- * Discussed process and flow chart with DOE and Agencies on December 28, January 3, and January 11.

Near Term Activities:

- * Schedule presentation of process and provide white paper for concurrent DOE and Agency review in late March.

- * Incorporate process into ROD
- * Apply process in initial remedial design and remedial action activities.

SITE PRIORITIZATION STRATEGY

Objectives:

- * Develop process for prioritizing remedial actions within a reactor area.
- * Implement process to prioritize waste sites within the 100-BC reactor area initially, and remaining areas in the out years.

Progress to Date:

- * Developed process and prepared draft white paper.

Near Term Activities:

- * Schedule discussion of process with agencies.
- * Provide draft of white paper for agency review early/mid April.
- * Initiate prioritization of 100-BC waste sites in support of remedial design and remedial action.

FLEXIBLE ROD SUPPORT

Objectives:

- * Provide an outline of the ROD with annotation that addresses the issues and uncertainties.
- * Provide support in preparation of the Proposed Plans.
- * Provide support to the Agencies in development and preparation of the ROD.

Progress to Date:

- * Defined issues and uncertainties and provided support to Proposed Plans.

Near Term Activities:

- * Initiate activities on defining the ROD outline and annotation.

REMEDIAL DESIGN/REMEDIAL ACTION STRATEGY**Objectives:**

- * Provide a 100 Area strategy for streamlining remedial design and remedial action.
- * Define the primary and secondary deliverables consistent with the Tri-Party Agreement.

Progress to Date:

- * Process and draft white paper have been developed.
- * SAFER concepts have been incorporated into the streamlined process.

Near Term Activities:

- * Provide draft of white paper to agencies for review early/mid April
- * Initiate early discussions with agencies to support design activities.

DESIGN**Objectives:**

- * Implement the above strategy for the near term interim action sites within 100-BC-1, 100-DR-1, and 100-HR-1.

Near Term Activities:

- * Initiate activities to support conceptual design.
- * Initiate conceptual design by the end of March.

100 AREA OPERABLE UNIT/ ERDF INTERFACE

Key Interface Areas

- Transportation
- Waste Acceptance Criteria
- Waste Volume Projections
- Data Management

Transportation

ERDF Team has Responsibility for Providing Transportation from Reactor Area Boundary to ERDF

- Current Status - Evaluation of Existing Roads, Possible Haul Routes Underway. Recommendations Expected 8-10 Weeks

Coordination Items

- Equipment type and size
- Size of payload
- Decontamination
- Loads per day
- Type and Number of Active Excavations
- Transportation Plan

Waste Acceptance Criteria

Current Status

- ERDF Draft WAC in Preparation
- ERDF/OU Regulatory Compliance Personnel (ERC) Reviewing Criteria Against Waste Site Data to Identify Potential Problem Areas

Coordination Items

- Identify any Regulatory Language or Waivers Needed in OU ROD's to Facilitate Waste Acceptance
- Identify Constraints on Wastes Acceptance

Waste Volume Projections

Current Status

- Volume Projections for BC, D, and H for Next Five (5) Years Provided to ERDF Team
- Projections based on Recent Baseline Effort
- Estimate for Out-Years by Reactor Area to be Developed

Coordination Items

- Transportation Issues
- Shipment per day
- Dispatching and Receiving
- Future Trench Construction

Preliminary Volume Projections (5 year forecast)
Cubic Yards

Reactor Area	<u>FY95</u>	<u>FY96</u>	<u>FY97</u>	<u>FY98</u>	<u>FY99</u>	<u>FY00</u>
100 B/C	1,000	12,000	120,000	240,000	260,000	270,000
100 D		4,500	3,500	6,000	25,000	80,000
100 H		2,000	5,000	6,000	0	0
Total:	1,000	18,000	128,500	251,000	285,000	350,000

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Data Management

100 Area Team is Responsible for Developing Analytical System, Data Acquisition, and Data Management System to Support Remedial Actions. Goal is Cradle to Grave Tracking of Waste.

Current Status

- Development of Goals, Objectives, Hardware and Software Requirements, and Criteria in Process
 - Near Term Focus on Supporting First Remediation Activities at 100 B/C
 - Longer Term Focus on Process Control and Automation.

Coordination Items

- Transmittal of Waste Data to ERDF
- Recording of Disposal Data from ERDF

W025 Negotiations

Current Status

- Project W025 and W025A Completed FY95 (Trenches 31 and 34)
- Solid Waste Management has Requested Forecast of Volume and Waste Type Prior to Price Commitment

Planned Activities

- Develop 100 Area Forecast for Disposal in Conjunction with Remedial Design
- Initiate Planning with Waste Management
- Utilize Existing ERC Field Services Procedures for Wastes Shipments Interface Prior to ERDF

Job No. 22192

Written Response Required? NO
Closes CCN: N/A
OU: 100-HR-3
TSD: N/A
ERA: N/A
Subject Code: 8240

U.S. Department of Energy
Richland Operations Office
J. K. Erickson, Director
River Sites Restoration Division
P.O. Box 550, MSIN H4-83
Richland, Washington 99352

Dear Ms. Erickson:

Subject: Contract No. DE-AC06-93RL12367
**INITIAL RESULTS FROM SALMON REDD WATER QUALITY SAMPLING
EFFORT**

The first interstitial water samples from riverbed substrate potentially used by fall chinook salmon for nesting were collected on March 10, 1995. These samples were obtained from a total of 4 sampling locations along two transect lines in the Columbia River adjacent to the 100-H Area. The transects are located 100 and 300 feet downstream of the concrete apron associated with the 100-H outfall structure. The samples were extracted from polyvinyl chloride well points installed in the riverbed, with screen openings at a depth of 18 inches. The samples were filtered and analyzed for hexavalent chromium, using field screening equipment (HACH Kit) and laboratory methods.

Based on aerial and underwater observations of substrate types (gravel composition/size) known to be used as spawning habitat by the salmon, it is uncertain if the substrate pore water sampled at the first four locations occurred in gravels typical to those found upstream that are known to be used as spawning habitat. Gravels observed upstream do not appear to have the coarse gravel/sand complex that is apparent at the locations downstream of the concrete apron. The original protocol for sampling called for sampling at two points on a transect line, 30 and 70 feet from the waters edge at a 60,000 cfs river flow rate. Following this criteria it was soon apparent that the substrate gravel complex was quite sandy and compact indicating that it was not suitable as spawning habitat. Beyond 50 feet out the gravel complex changed to a larger grain size which appeared to be a more suitable spawning habitat. Thus, sampling occurred at points 70 and 100 feet out from the waters edge. However, these gravels still may not be suitable spawning habitat. Further observations of substrate in known areas of spawning activity are needed.

J. K. Erickson
Page 2

Hexavalent chromium concentrations in samples from the transect, located 300 feet downstream of the outfall structure, were 100 and 130 ug/L. Concentrations in samples from the transect, closer to the outfall structure, were <0.2 ug/L. Ambient water quality criteria for the protection of aquatic life is 11 ug/L for chromium. The U.S. Environmental Protection Agency drinking water standard for chromium is 100 ug/L.

Previous sampling of riverbank seepage along the 100-H Area included collecting samples of nearshore river water adjacent to the seepage area. Chromium was not detected in these nearshore river water samples at the sample quantitation limit of 6 ug/L.

On March 11, two additional transects were completed at distances of 100 and 300 feet upstream of the outfall structure. Hexavalent chromium concentrations in these samples ranged from <0.3 to 9.0 ug/L. Sampling operations were stopped early because of increasing wind conditions.

Groundwater underlying the 100-H Area contains a chromium plume with concentrations up to several hundred ug/L. This plume is presumed to be entering the river, since hydraulic gradients indicate that the river gains water from the aquifer. The characteristics of the interface between groundwater and river water are not fully known. The amount of mixing and/or chemical changes that might occur at this interface, which includes the riverbed substrate where salmon form redds, are important factors in evaluating receptor exposure to contaminants, and in assessing wider impacts to the Columbia River ecosystem.

The initial water quality results described above are insufficient for final conclusions regarding water quality conditions in salmon redds. Numerous factors may influence the occurrence of chromium-bearing interstitial water in riverbed substrate. These include preferential pathways for groundwater to follow into the river channel; the dimensions of the interface zone where groundwater and river water meet; and past-practices modifications to the near shore river environment due to reactor construction and operations.

The two sampling events completed thus far represent the start of a planned 25 transect survey in the 100-HR-3 operable unit. This survey includes 3 transects to be conducted upstream of the Hanford Site near Vernita Bar, which will provide background data. The analytical results from this survey are expected to provide a measure of the exposure to chromium-bearing water experienced by salmon eggs and alevin. The results will also provide comprehensive information on where chromium-bearing groundwater is entering the river along the 100-HR-3 operable unit.

J. K. Erickson
Page 3

For further information on these initial results, please contact Steve Hope, Fisheries Scientist and Lead Diver for the project at 372-9578, or me at 375-4650.

Sincerely,

G. R. Eidam
100 Area Remedial Action Manager

GRE:tll

cc: K. M. Thompson (DOE-RL) H4-83
R. F. Birch (DOE-RL) H4-83

J. K. Erickson
Page 4

Letter, subject Nitial Results from Salmon Redd Water Quality Sampling Effort, G. R. Eidam, ERC to J K. Erickson, RL.

bcc:

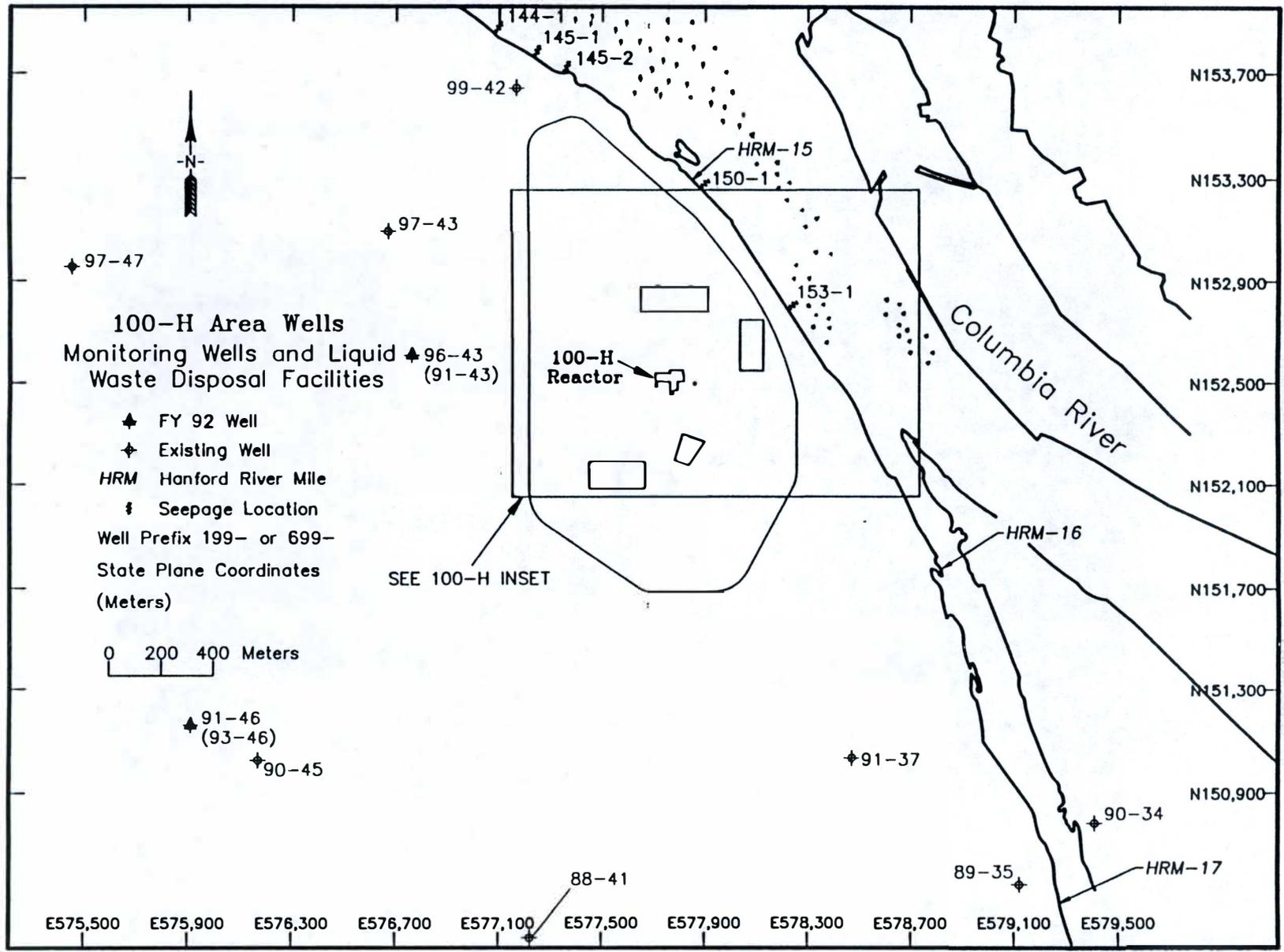
W. W. Ballard H4-79
R. L. Biggerstaff H4-91
D. G. Glenn H4-79
S. J. Hope H4-92
T. D. LeFrancois H6-02
S. D. Liedle H4-84
T. E. Logan H4-84
J. F. Nemecek H4-81
R. W. Ovink H4-92
W. L. Pamplin H4-86
R. E. Peterson H4-89
W. J. Winter H4-79

100-HR-3 RIVERBED SUBSTRATE INTERSTITIAL WATER SAMPLING: WATER QUALITY WITHIN SALMON REDD ENVIRONMENT

- **Salmon redd areas in the Columbia River along the 100-H Area**
- **Interaction between aquifer and riverbed substrate**
- **Chromium plume in 100-H Area: Sources, plume boundaries, sampling locations, and initial results**

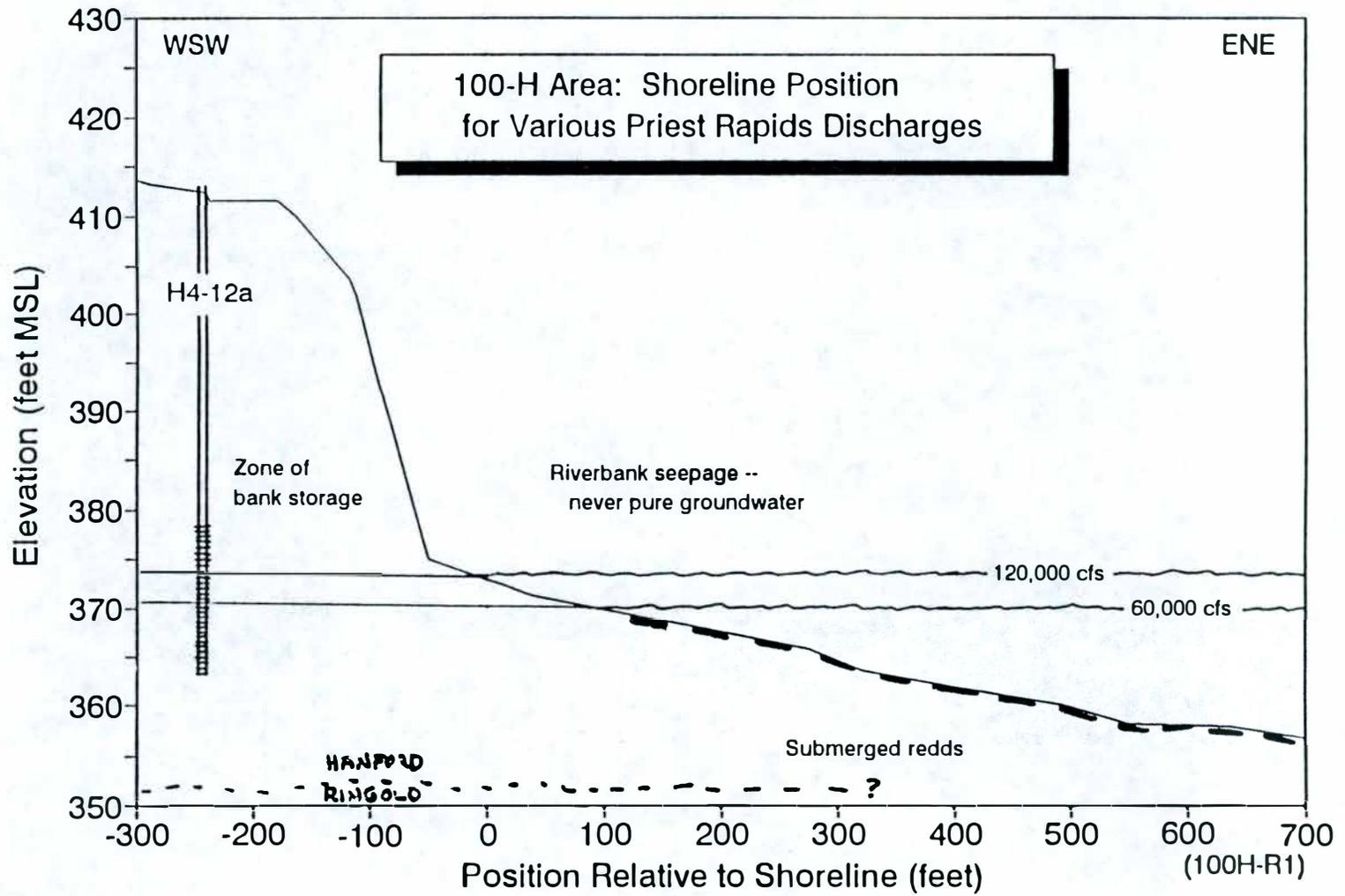
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#8/Page 5 of 9



WHC: JJA: WELLMAPS:1H-REGN1

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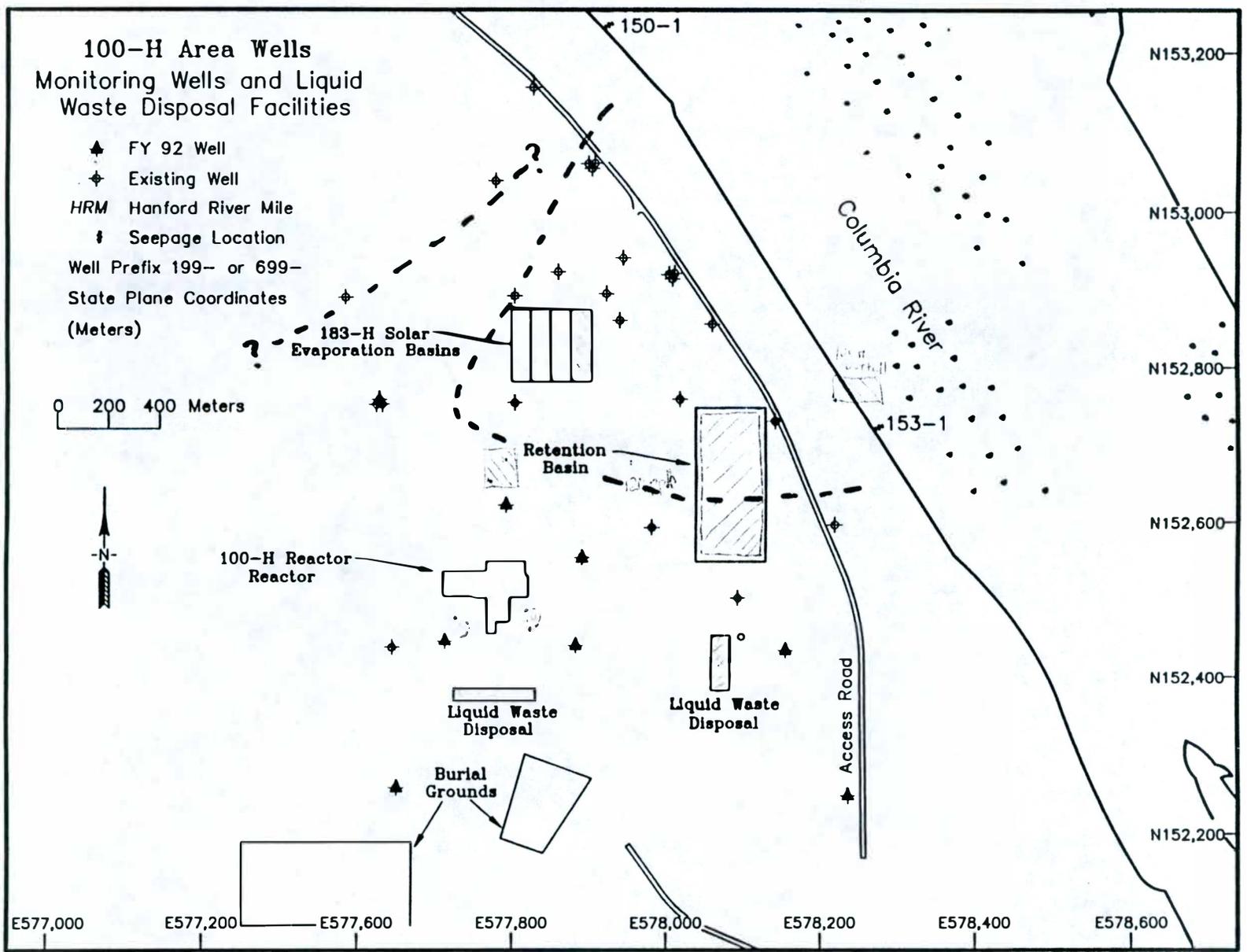
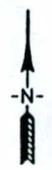


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100-H Area Wells
Monitoring Wells and Liquid
Waste Disposal Facilities

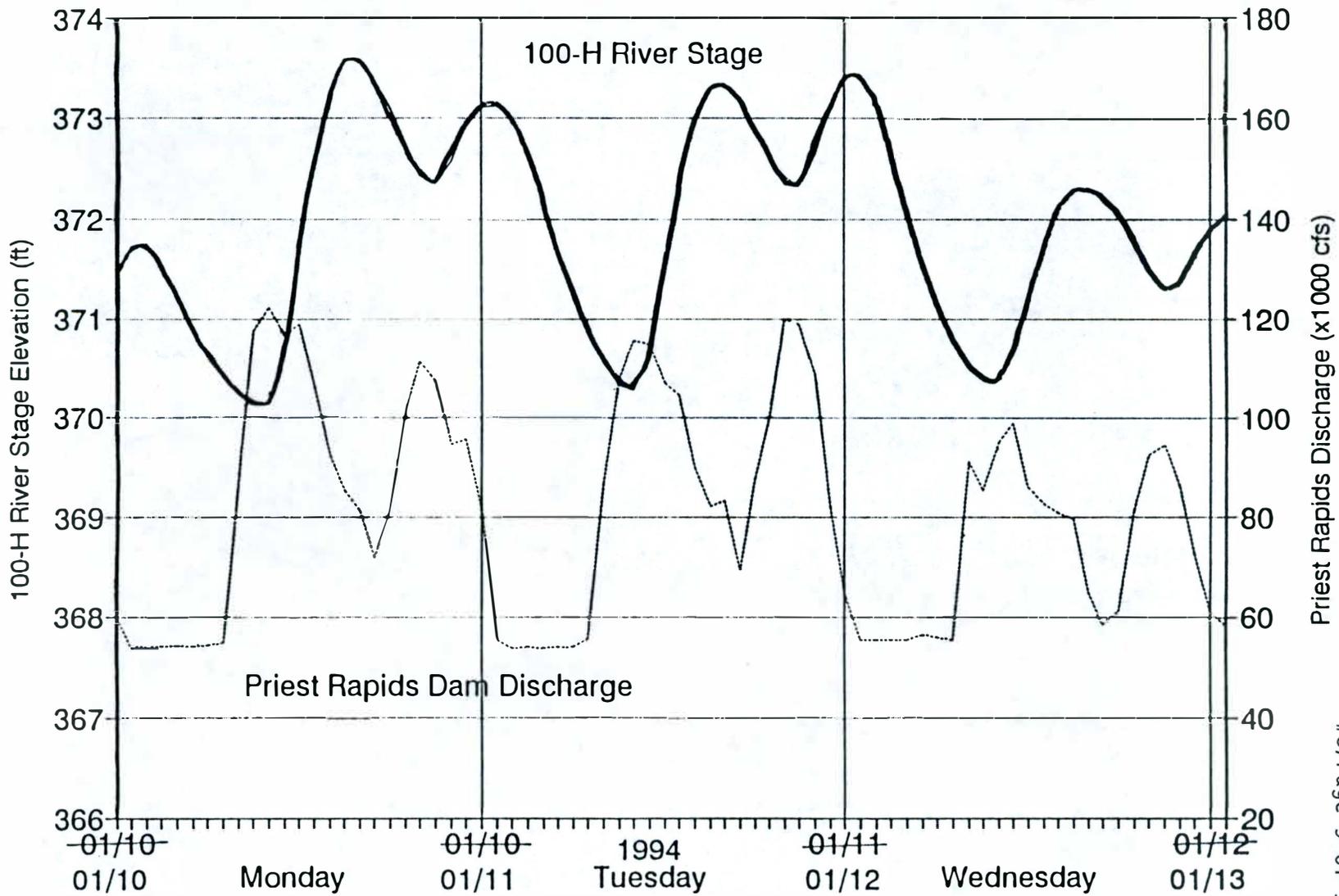
- ▲ FY 92 Well
- ◆ Existing Well
- HRM Hanford River Mile
- † Seepage Location
- Well Prefix 199- or 699-
- State Plane Coordinates
- (Meters)

0 200 400 Meters



WHC: JJA: WELLMAPS: 1H-REGN2

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N Deactivation

Fuel Spacers Disposal



Overview

March 16, 1995

9513339.1599

Attachment #9

Page 1 of 14

Objective :

Remove fuel spacers using a safe, low-cost, minimal risk disposal method that can meet regulatory criteria and can be accomplished by September 30, 1995

Scope:

Remove and dispose of all spacers in Silos 2 and 3

Major Considerations:

- Schedule: 9/30/95 (TPA Milestone M-16-01E-T1)
- Budget: \$1.1 M
- Transportation and burial acceptance
- Regulatory compliance

Numbers:

Silos: 17 ft dia x 35 ft tall

Spacers: ~ 70,000 spacers/ 8000 cubic ft

Loading: Silo 1: Empty

Silo 2: 1/2 full; 67 tons spacers

Silo 3: 2/3 full; 100 tons spacers

Radiation levels: 6 rem on contact

Curies: 305 *est.* Cobalt-60

Regulatory Criteria:

- Environmental Assessment (EA)
- Airborne contamination control (DOH)
- DOE nuclear safety
- Transportation and burial acceptance

Options Considered:

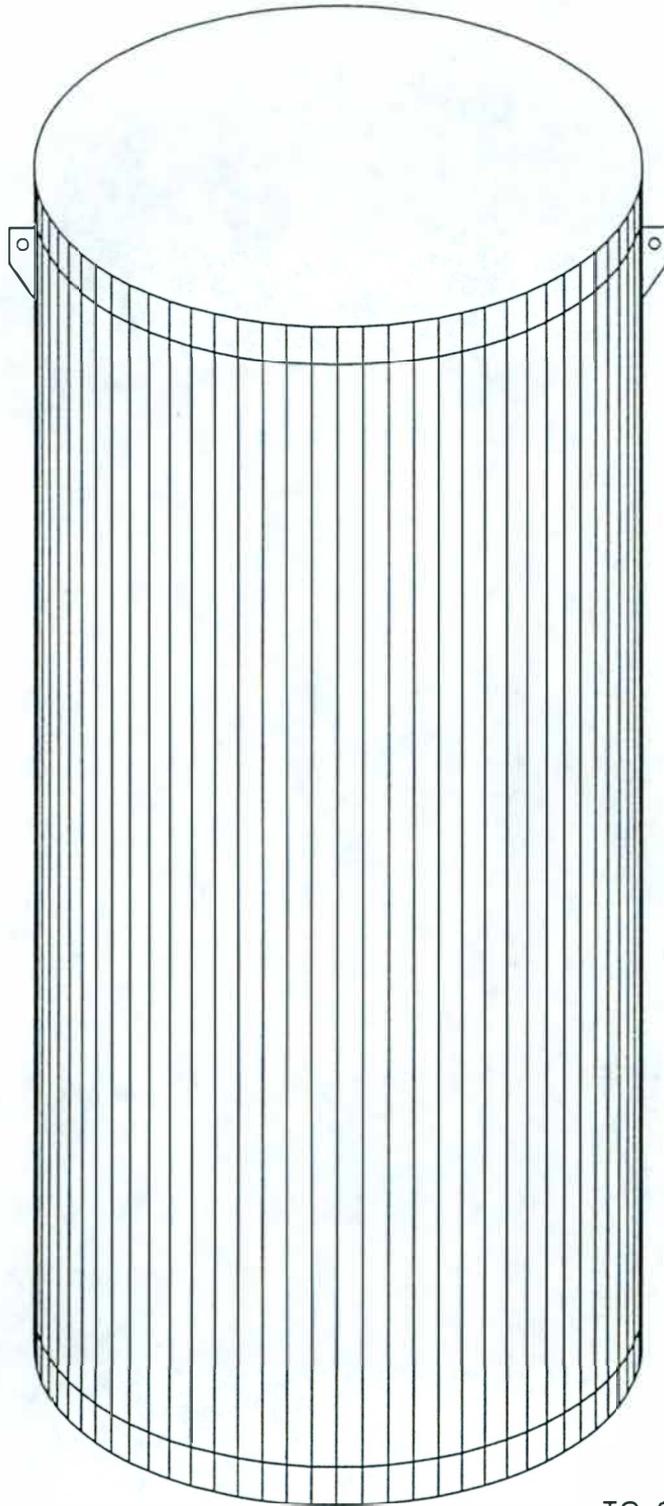
- Magnetic removal:
 Box or pipe container

- One-piece removal:
 Silo as container

Selected Approach:

- Use magnetic removal from silos
- Use scrap pipe for the containers
- Grout pipes at site
- Ship via rail

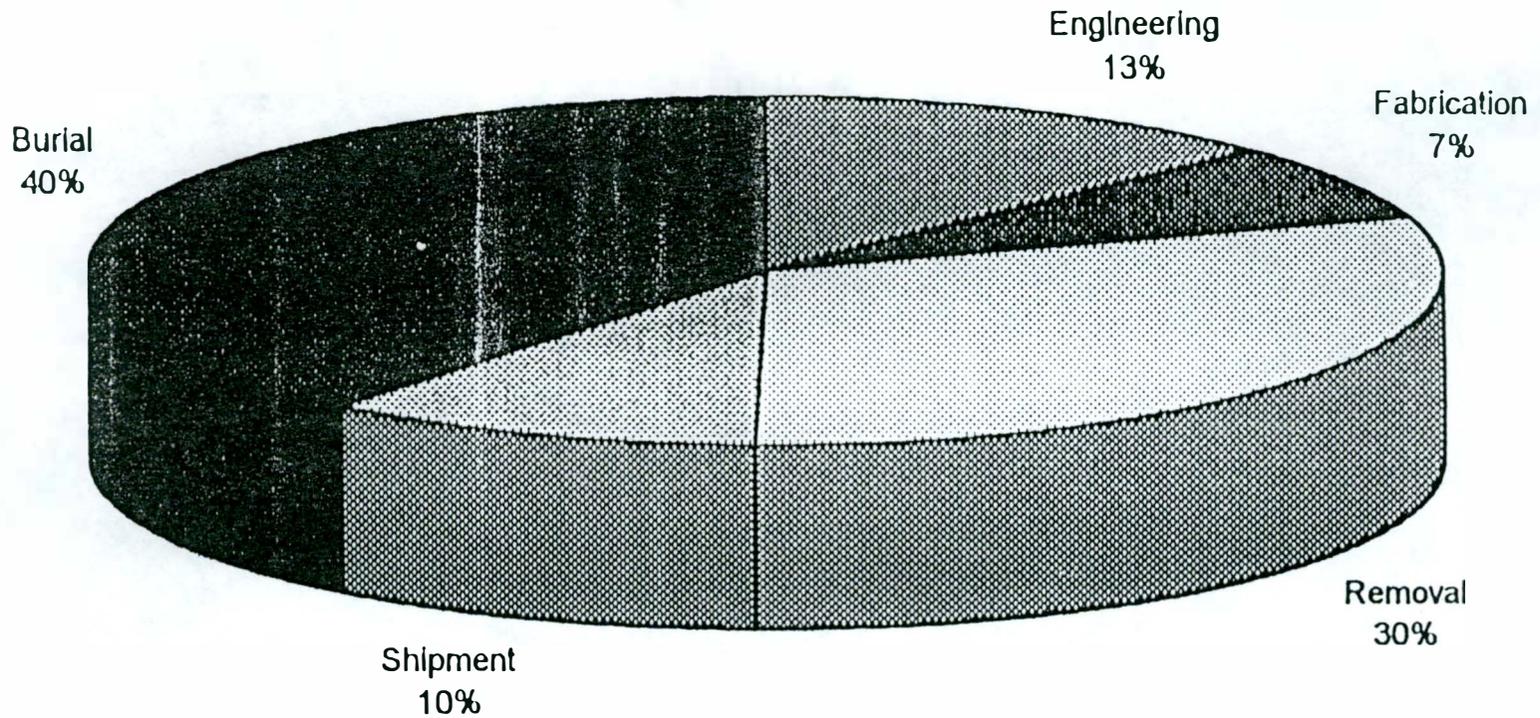
SCRAP PIPE



TO SCALE

Cost Breakdown:

MAGNETIC REMOVAL - PIPE CONTAINER



Major Activities:

- Design/fabricate Containers
- Get air permit/do safety analyses
- Prepare site:
 - Crane with magnet
 - Rail car/pipe placement
 - Paint equipment
 - Wind speed detectors, CAMs

Major Activities - continued:

- Load spacers
- Grout pipes and seal top
- Ship pipes to burial ground

Schedule:

- Start design/permitting: 2/17
- Start loading: 8/1
- Last load shipped to burial: 8/31
- Float: 30 days

Activity Description	Orig Dur	%	Early Start	Early Finish	1995												
					J	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	D	
3600 - N REACTOR DEACTIVATION PROJECTS																	
1UN311 BUILDING & SYSTEM DEACTIVATION																	
FUEL SPACER REMOVAL, ELECTRO MAGNET-SUMMARY	158	11	01FEB95A	15SEP95													
FUEL SPACER, WDOH/EPA, NOC - DRAFT	19	5	01FEB95A	22MAR95													
MILESTONE - DECISION ON PREFERRED MOTHOD	0	100		16FEB95A													
FUEL SPACER ENG. DESIGN - PIPES	20	0	27FEB95	24MAR95													
FUEL SPACER SAFETY ASSESS.DRAFT, IN HOUSE REVIEW	18	0	27FEB95	22MAR95													
PACKAGING DESIGN CRITERIA (PDC) DRAFT	18	0	27FEB95	22MAR95													
SPEC.-PIPE FABRICATION	20	0	13MAR95	07APR95													
FUEL SPACER, NOC - SUBMIT DRAFT TO RL	15	0	23MAR95	12APR95													
FUEL SPACER, SAFETY ASSESSMENT TO DOE-RL	22	0	23MAR95	21APR95													
FUEL SPACER, PDC - FINAL DESIGN	22	0	23MAR95	21APR95													
DESIGN - SHIPPING CRADLE	10	0	27MAR95	07APR95													
FUEL SPACER ENG. DESIGN - FILL FUNNEL	6	0	10APR95	17APR95													
FUEL SPACER, SPEC.- FILL GROUT	15	0	10APR95	28APR95													
PIPE CONTAINERS PROCUREMENT - BID	25	0	10APR95	12MAY95													
FUEL SPACER, NOC - FINAL TO RL	14	0	13APR95	02MAY95													
FUEL SPACER, COMPLETE SAFETY ASSESSMENT	11	0	24APR95	08MAY95													
FUEL SPACER, RA RECOMMENDATION TO DOE	1	0	24APR95	24APR95													
FUEL SPACER, SARP - DRAFT / SUBCONTRACTS	21	0	24APR95	22MAY95													

◆ MILESTONE, COMPLETE 2/17/95

9513339.1611

#9/Page 13 of 14

Project Start	12SEP94	 Early Bar	FEB5:DEAK
Project Finish	30SEP97	 Progress Bar	
Data Date	26FEB95		
Plot Date	15MAR95		

ERC TEAM
N REACTOR DEACTIVATION PROJECT
FUEL SPACER REMOVAL ONLY

Sheet 1 of 2

Date	Revision	Checked	Approved

9513339.1612

#9/Page 14 of 14

Activity Description	Orig Dur	%	Early Start	Early Finish	1995																	
					J	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	D						
FUEL SPACER, PLANNING - PERSONNEL SHIELDING	11	0	01MAY95	15MAY95																		
FUEL SPACER, NOC - SUBMIT TO DOH	5	0	03MAY95	09MAY95																		
FUEL SPACER, NOC - APPROVAL FROM DOH	20	0	10MAY95	09JUN95																		
PIPE CONTAINERS PROCUREMENT - AWARD	1	0	15MAY95	15MAY95																		
PIPE CONTAINERS PROCUREMENT - FABRICATION	41	0	16MAY95	14JUL95																		
FUEL SPACER READINESS ASSESSMENT	34	0	22MAY95	11JUL95																		
FUEL SPACER, SARP - FINALIZE	16	0	23MAY95	14JUN95																		
FUEL SPACER, SARP - APPROVAL	20	0	15JUN95	14JUL95																		
PIPE CONTAINERS, SHIPPING	19	0	05JUL95	31JUL95																		
FUEL SPACER, CRANE SET UP, DIVERter CHUTE	8	0	05JUL95	14JUL95																		
FUEL SPACER, EXCAVATE TOP OF SILO	8	0	17JUL95	26JUL95																		
FUEL SPACER, SET UP CONTAMINATION CONTROL	8	0	17JUL95	26JUL95																		
FUEL SPACERS, REMOVE LIDS / INSTALL TEMP. COVERS	3	0	27JUL95	31JUL95																		
POSITION 1st PIPE / START OFFLOADING	2	0	01AUG95	02AUG95																		
TRANSPORT FULL CONTAINER TO 200E	2	0	03AUG95	04AUG95																		
POS. EMPTY CONT. / FILL / TRANSPORT	20	0	07AUG95	01SEP95																		
DEMOBILIZE	9	0	05SEP95	15SEP95																		
MILESTONE - COMPLETE FUEL SPACER REMOVAL	0	0		29SEP95																		

◆ M1601ET1
TPA MILESTONE

Project Start 12SEP94
 Project Finish 30SEP97
 Data Date 26FEB95
 Plot Date 15MAR95

Early Bar
 Progress Bar

FEBS:DEAK

ERC TEAM
N REACTOR DEACTIVATION PROJECT
FUEL SPACER REMOVAL ONLY

Sheet 2 of 2

Date	Revision	Checked	Approved

Distribution**Unit Manager's Meeting: 100 Aggregate Area/100 Area Operable Units
March 16, 1995**

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 Bill Lum, USGS Support to EPA
 Jim Pankanin, PRC Support to EPA

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 Andrea Hopkins BHI (H6-07)
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Cheryl Thornhill PNL (K9-14)	Steve Slate PNL (K9-14)
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Roy Gephart PNL (K9-70)	Ben Johnson PNL (K9-70)

Original Sent to: ADMINISTRATIVE RECORD: 100 AAMS; Care of EDMC, WHC (H6-08)

Please inform Kay Kimmel (946-3692) of Mactec/Dames & Moore
of deletions or additions to the distribution list.