

### MEETING MINUTES

Subject: Expedited Response Action Weekly Interface

TO: Distribution

BUILDING: 740 Stevens Center

FROM: W. L. Johnson

CHAIRMAN: G. C. Henckel *GC*

Dept-Operation-Component	Area	Shift	Meeting Dates	Number Attending
Environmental Engineering	RCHN	Day	July 26, 1993	10

#### Distribution

State of Washington Department of Ecology

- J. Donnelly\*
- G. Freedman\*
- L. Goldstein
- D. Goswami\*
- R. L. Hibbard
- D. Holland\*
- J. Phillips
- D. D. Teel
- N. Uziemblo
- J. Yobel
- T. Wooley\*

U.S. Environmental Protection Agency

- P. R. Beaver B5-01
- D. R. Einan
- D. A. Faulk
- L. E. Gadbois\*
- P. S. Innis\*
- D. R. Sherwood

Westinghouse Hanford Company

- L. D. Arnold B2-35
- M. V. Berriochoa B3-30
- S. L. Bradley G1-20
- H. D. Downey H6-27
- W. F. Heine B3-63
- G. C. Henckel\* H6-04
- W. L. Johnson H6-04
- J. K. Patterson H6-27
- T. M. Wintczak H6-27
- EDMC H6-08
- ERAG Route H6-04
- GCH File

U.S. Army Corps of Engineers

- Walter Perro A3-61

U.S. Department of Energy

- H. L. Chapman A5-19
- J. K. Erickson A5-19
- B. L. Foley\* A5-19
- E. D. Goller A5-19
- R. G. McLeod A5-19
- D. E. Olson\* A5-19
- P. M. Pak A5-19
- R. K. Stewart A5-19

#### \*Attendees

The weekly interface meetings on the expedited response actions (ERAs) was held to status the ERAs for the U.S. Department of Energy, Richland Operations Office, the U.S. Environmental Protection Agency, and the State of Washington Department of Ecology. The meeting was conducted in accordance with the attached agenda.

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START

Distribution  
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Attachments:

1. Agenda
2. Action Item List
3. Decisions, Agreements & Commitments
4. Expedited Response Action Weekly Reports, week ending 07/23/93

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WEEKLY ERA INTERFACE AGENDA

SUBJECT: STATUS OF THE EXPEDITED RESPONSE ACTIONS

DATE: July 26, 1993

- GENERAL ISSUES
  - ERA Interface Action Item Review
- INDIVIDUAL PROJECT STATUS
  - Riverland
    - o Status of Field Activities
  - Sodium Dichromate
    - o Waste Disposal, results are back, disposal is scheduled 7/26/93
  - Pickling Acid Crib
    - o ERA Proposal out for Public Review
  - N-Springs
    - o Draft Proposal Status
  - North Slope
    - o Revising Proposal
  - 200-W Carbon Tetrachloride
    - o Operational Readiness Issues
  - 618-11
    - o Draft EE/CA is ongoing
- OTHER ISSUES
- SUMMARY OF ACTION ITEMS
- SIGN-OFF ON ANY DECISIONS, AGREEMENTS, OR COMMITMENTS

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EXPEDITED RESPONSE ACTION INTERFACE MEETING

-ACTION ITEMS-  
July 26, 1993

ORGANIZATION

ACTION ITEM

WHC

Supply information on Riverland for EPA to provide to Washington Department of Health. (open)

WHC

Provide date for final Sodium Dichromate Report. (closed)

RL

Provide a briefing on N-Springs. (open)

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EXPEDITED RESPONSE ACTION INTERFACE MEETING

-DECISIONS, AGREEMENTS, & COMMITMENTS-  
July 26, 1993

DECISIONS:

AGREEMENTS:

*No significant items*

COMMITMENTS:

\_\_\_\_\_  
DOE Representative

\_\_\_\_\_  
EPA Representative

\_\_\_\_\_  
ECOLOGY Representative

*C. [Signature]*  
\_\_\_\_\_  
WHC Representative

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Weekly Report, Period Ending July 23, 1993  
EXPEDITED RESPONSE ACTIONS  
Technical and Management Contact - Wayne L. Johnson, 376-1721  
Environmental Division

TEXT HAS BEEN REVISED

North Slope Expedited Response Action - Initiated dispositioning and incorporating RL, EPA, Ecology, and U.S. Fish and Wildlife comments on the draft ERA proposal. The revised document will be provided to RL for review the week of August 13, 1993. A tour of the area was provided to RL management. The safety assessment for performing the remedial alternatives identified in the ERA proposal was completed. Surveys for threatened and endangered flora and fauna at sites being effected by physical hazard remediation will be initiated as soon as possible.

N-Springs Expedited Response Action - Continue to incorporate comments received from RL on ERA proposal.

White Bluffs Pickling Acid Crib Expedited Response Action - Document is undergoing public review. A tour for Native Americans is scheduled for July 28, 1993.

618-11 Burial Ground Expedited Response Action - The proposal is being revised and should be ready for DOE-HQ Review Team on August 2, 1993.

Environmental Monitoring - WPPSS is now sampling quarterly at 618-11. WHC, WPPSS and the WDOH are coordinating sample collection at 618-11 and 618-10. WHC is planning on four soil samples and one vegetation sample from each site.

NEPA - RL does not believe an EA or EIS will be required for ERA alternatives identified in the draft EE/CA.

Riverland Expedited Response Action - Cleanup activities were temporarily put on hold when various solvents (carbon tetrachloride) were discovered in the concrete. Abrasive blasting was not effective in removing diesel contamination on concrete surfaces. A two-inch layer of finish cement (in pits) were found to be saturated with diesel. Solvents apparently are also in the concrete.

The SRM Soil-Gas Team has been requested to field screen several concrete and soil samples for volatile organic compounds. The samples will be collected and analyzed at the Riverland site on July 22, 1993, and July 23, 1993. In addition, about ten soil-gas probes are planned for installation at each of the soil/concrete sampling locations. The soil-gas probes will be installed at a later date and will be used to provide information concerning the potential vertical distribution of detected contaminants.

Samples have been collected for offsite analysis. Samples will undergo TCLP organics analysis to determine if the concrete will be a regulated material. The Environmental Remedial Action Group will be at the site to analyze sample with GC.

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Cleanup at pesticide site is on hold. Depth of contamination has been greater than expected. Waiting on filed screening kits to arrive to complete the job.

Debris removal at the fish farm is scheduled to begin Monday, July 26, 1993.

CCl<sub>4</sub> ERA

A. Vapor Extraction System (VES) Operations

**Status of Operations:** All three vapor extraction systems at the 200 West Area carbon tetrachloride ERA have been shut down as a result of the overheating of the primary granular activated carbon (GAC) canister at the 1500 cfm unit that occurred on June 3, 1993. The systems have been locked and tagged to prevent extraction operations until the approval to proceed is received through the restart process. During the restart process the VES systems will be temporarily operated on ambient air to perform limited testing of the units and facilitate waste handling of the impacted GAC canister. During this time there will be no extraction of carbon tetrachloride from the wellfield.

**Anticipated Restart:** A draft letter, "Justification for Continued Operation at 216-Z-1A/Z-18," will be completed by weekend. Contingent upon the approval of the letter, restart of the 1,000 cfm VES at the Z-1A/Z-18 ERA site is scheduled to begin by August 6, 1993. Restart of operations at Z-9 is anticipated by the end of August.

**Restart Actions Completed:** The complete restart strategy, with status as of July 21, 1993, is attached. Major actions completed since June 3, 1993 include:

- 24-hour initial Off Normal Occurrence Report submitted 6/4/93
- occurrence entered into Quality, Environmental, Safety Tracking (QUEST) database 6/15/93
- 10-day Off Normal Occurrence Report submitted 6/17/93
- 10-day Off Normal Occurrence Report Update submitted 7/17/93
  
- Initial Background Summary Report completed 6/14/93
- Revised Background Summary Report completed 7/2/93  
includes Occurrence Report; Hanford Fire Dept. Report; General Specifications and Properties of GAC; VES Operational Data; Notes of Discussions with GAC vendors and experts, with Savannah River personnel, and with EPA contact.
  
- Initial References Report completed 7/12/93
  
- Initial Heat Balance Scenario completed 6/18/93
- Revised Heat Balance Scenario completed 6/30/93
  
- Initial Phosgene Analysis completed 7/7/93
  
- GAC sampling completed 6/27/93
- GAC water sampling completed 6/27/93
- GAC analysis by Envirotrol completed 7/2/93

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- Initial Summary Analysis Report completed 6/18/93
- Updated Initial Summary Analysis Report completed 6/24/93
- Priority Planning Grid (PPG) risk value determined 6/12/93
- Root cause analysis interviews completed 6/28/93
- Root Cause analysis final report completed 7/20/93
- Unreviewed Safety Question evaluation completed 6/16/93
- Hazards evaluation completed 6/24/93
- Basis for Justification for Continued Operation at Z-1A/Z-18 determined 7/6/93
- Presentation to WHC Level 2 Management completed 7/16/93
- Initial GAC thermocouple testing completed 6/28/93

**Activities Planned for Next Week:** Additional testing of the GAC canister thermocouple tree began July 20, 1993. The test is similar to the first test, but over a longer period allowing the temperatures to reach steady state. Additionally, the inlet flow and inlet and exit humidity will be monitored continuously. Use of thermocouples to monitor the GAC temperatures is still being considered as a corrective action, but in conjunction with other types of monitors.

A test to measure GAC ignition temperature, ignition by-products, and heat of adsorption will be conducted by the Plutonium Process Support Laboratory. The test involves thermogravimetric/calorimetric testing of virgin GAC and GAC loaded with carbon tetrachloride and is expected to be completed July 30, 1993.

The revised Summary Analysis Report: GAC Overheating Incident was completed on July 22, 1993. This report includes the heat transfer calculations, consequence and accident scenarios, shutdown analysis, phosgene analysis, and GAC canister and well analyses.

The revised heat balance scenario will be completed July 23, 1993.

A site visit by a leading GAC expert, Dr. Murty Hari, President of Superior Adsorbents, Inc., is planned for July 26-30, 1993.

**1500 cfm VES Procurement** - Resolution of the accurate functioning of the Sierra flowmeters is the last remaining item to be completed in the procurement contract. A procedure and schedule to resolve this problem has been proposed by Barnebey & Sutcliffe and is being evaluated by the ERA team.

**Power Installation at Z-9** - Permanent power is scheduled to be installed at 216-Z-9 between July 26-28, 1993.

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## B. Well Field Design

### Baseline Monitoring

Baseline monitoring on July 16, 1993, produced few VOC detections. Barometric pressure was 29.17 inches of Hg. Three wellhead detections (maximum 210 ppm at 299-W15-95) and four soil gas detections (maximum 1025 ppm at SG 15-6) were recorded.

Monitoring on July 20, 1993, produced many more detections. Barometric pressure was 29.13 inches of Hg. Eighteen wellheads had detections (maximum 271 ppm at 299-W15-217) and sixteen soil gas detections were recorded (maximum 203 ppm at SG 15-6) were recorded.

It is interesting to note that both of the above monitoring dates fell within separate maximum VOC emission dates as predicted by Quadrel Services for the upcoming Emflux passive sampling.

### Wellfield Design

Drilling of vapor extraction well 299-W15-219, northwest of 216-Z-9, began April 26, 1993, and reached total depth May 25, 1993. This well is being completed with two screened intervals. The well was completed on July 19, 1993.

Drilling of vapor extraction well 299-W15-220 east of 216-Z-9 began June 2, 1993. On July 16, 1993, at 8:30 am, a radiological hot spot of 400-1000 dpm beta was detected under the equipment trailer by the HPT. Work was stopped, and personnel were surveyed out of the area with no detectable contamination. All tools and equipment were surveyed and were clean. A Radiologically Controlled Area/Surface Contamination Area was established around the hot spot, and clean up was attempted. Further investigation by the HPTs discovered a round cap, approximately 2 inches in diameter, at a depth of 18 inches (6 inches below the gravel stabilization fill) which read 105 mR/hr. An Off Normal Occurrence report was filed, and the site was secured for the weekend. On July 19, 1993, the surface exposure was reduced to zero with use of a lead shield, and drilling resumed. After the well is completed, the hot spot will be excavated. On July 21, 1993, total depth (201 ft) was reached. Groundwater was tagged at 193 ft July 21, 1993. Water sampling and geophysical logging will be conducted July 23, 1993. Analysis of SEAMIST samples collected at 182 ft depth indicated carbon tetrachloride concentration of 49-50 ppm, chloroform at 1.4 to 1.6 ppm; 12 DCA at 0.006 to 0.45 ppm, and an unknown at 0 to 0.02 ppm (range in values is result of duplicate samples).

Drilling of vapor extraction well 299-W18-252, midway between 216-Z-1A and 216-Z-12, began May 3, 1993. As of June 11, 1993, total depth (228 ft) had been reached and groundwater sampling had been completed. Completion of this well began July 20, 1993.

The tentative schedule for sonic drilling at the carbon tetrachloride site is: August 16, 1993 - September 7, 1993, drill one angled vapor extraction well under the parking lot north of the 216-Z-9 trench;

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September 20, 1993 - October 5, 1993 and October 6, 1993 - October 20, 1993, drill two vertical vapor extraction wells near the 216-Z-9 trench. Cone penetrometer (CPT) well installation began May 3, 1993, in the vicinity of the three disposal sites by Applied Research Associates (ARA). The ARA field crew was gone June 3, 1993 to July 7, 1993; field work resumed July 8, 1993. Work is continuing on installation of an additional 4 extraction wells and 12 buried tubing wells.

C. Site Characterization (with VOC-Arid ID)

Soil Gas Surveys

Preparations continue for upcoming passive soil gas sampling using Quadrel Service's EMFLUX technology. Emplacement locations were staked and a health physics survey of each emplacement site has been completed. Passive sampling equipment has been received on site and emplacement of samplers during a period of predicted minimal VOC emissions will begin in the evening of July 21, 1993. Retrieval of this round of samplers will occur the evening of July 24, 1993.

Transducers were installed in wells 299-W15-6 (7/15) and W15-4 (7/19) to record water levels during this sampling period.

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200 WEST AREA CCL4 VAPOR EXTRACTION ERA  
RESTART STRATEGY  
Rev. 7/21/93

STATUS OF OPERATIONS

All three vapor extraction systems have been locked and tagged to prevent operations until the approval to proceed is received through the restart process.

During the restart process the VES systems will be temporarily operated on ambient air to perform limited testing of the units and facilitate waste handling of the impacted GAC canister. During this time there will be no extraction of carbon tetrachloride from the wellfield.

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<u>ACTION</u>	<u>TARGET DATE</u>	<u>ASSIGNEE</u>	<u>STATUS</u>
1. OFF NORMAL OCCURRENCE REPORTING		Hagood	
o 24-hour initial occurrence	6/4/93	Hagood	Complete
o QUEST database entry	6/15/93	Hagood	Complete
o 10-day report	6/17/93	Hagood	Complete
o 10-day update	7/17/93	Hagood	Complete
o Final occurrence reporting	7/30/93	Hagood	

## 2. INCIDENT ANALYSIS

Rohay

## o gather background information

- interview lead engineer	6/8/93	Johnson/Dippre	Complete
- review procurement files	6/8/93	Dippre	Complete
- discussions with vendors/consultants	7/2/93	Dippre	Complete
- SRS event			
collect/analyze data	6/11/93	Dippre	Complete
followup with SRS	7/2/93	Dippre	Complete
- review INEL safety analysis	7/23/93	Rohay	
- confer with EPA contact	7/2/93	Cameron	Complete
- hydrocarbon/ketone char. - wells			
sampling	6/14/93	Swett	Complete
inorganic/methane analysis at PNL	6/16/93	Bartley	Complete
organic analysis at HEHF	6/18/93	Bartley	Complete
- hydrocarbon/ketone char. - GACs			
(primary overheated GAC			
secondary GAC behind overheated GAC			
uninvolved saturated GAC)			
Sampling Analysis Form to HASM	6/18/93	Havenor	Complete
Sampling Analysis Form Finalized	6/22/93	Havenor	Complete
Job Hazard Analysis for airdry	6/21/93	Gale	Complete
Air dry GAC	6/26/93	Gale	Complete
Sampling	6/27/93	Gale	Complete
inorganic/methane analysis at PNL	7/23/93	Swett	
organic analysis at HEHF	7/23/93	Swett	
- obtain fireman's report	6/8/93	Gale	Complete
- provide references report	7/12/93	Dippre	Complete
- provide background summary report			
Rev. 0	6/14/93	Dippre	Complete
Rev. 1	7/9/93	Dippre	Complete

## o analyze cause of occurrence

- heat balance scenarios			
Rev. 0	6/18/93	Dengler	Complete
Rev. 0 update	6/25/93	Dengler	Complete
Rev. 1	6/30/93	Dengler	Complete
Rev. 2	7/23/93	Dengler	
- shutdown analysis	TBD	Gale/Tuttle	
- phosgene analysis			
Rev. 0	7/7/93	Prinzing	Complete
Rev. 1	TBD	Prinzing	
- thermogravimetric/calorimetric analysis	7/30/93	Peters	
- Consult with GAC expert			
onsite visit by expert	7/26-30/93	Cameron	
- GAC physical and chemical props.			
primary GAC center and margin samples			
Sampling Analysis Form to HASM	6/18/93	Havenor	Complete
Sampling Analysis Form Finalized	6/22/93	Havenor	Complete
Job Hazard Analysis for airdry	6/21/93	Gale	Complete
Air dry GAC	6/26/93	Gale	Complete
Sampling	6/27/93	Gale	Complete

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	inorganic/methane analysis at PNL	7/23/93	Swett	
	organic analysis at HEHF	7/23/93	Swett	
- GAC	analysis at Envirotrol			
	sample received at Envirotrol	6/29/93	Gale	Complete
	analysis by Envirotrol	7/2/93	Dippre	
- GAC	water analysis			
	Sampling Analysis Form to HASM	6/18/93	Havenor	Complete
	Sampling Analysis Form Finalized	6/22/93	Havenor	Complete
	Sampling	6/27/93	Havenor	Complete
	Analysis	7/21/93	Havenor	Complete
- GAC	drummed water			
	Treatment Plan to Indep. Safety	6/22/93	Havenor	Complete
	Treatment	7/30/93	Gale	
- coupon testing for GAC canister corros.				
	coupons received	7/8/93	Cameron	Complete
	testing completed		Cameron	
- Gas Membrane Separations System				
	Sample condensate	7/20/93	King	Complete
	Analyze condensate	7/23/93	Rohay	
- provide summary analysis report				
	Rev. 0	6/18/93	Dippre	Complete
	Rev. 0 update	6/24/93	Dippre	Complete
	Rev. 1	7/22/93	Dippre	
o Priority Planning Grid (PPG) and "Root Cause" analysis			Driggers	
- determine PPG risk value		6/12/93	Galgoul	Complete
- "Root Cause" Analysis				
	kickoff meeting	6/14/93	Dieffenbacher	Complete
	interviews	6/28/93	Dieffenbacher	Complete
	final report	7/20/93	Dieffenbacher	Complete
o Unreviewed Safety Question (USQ) process			Driggers	
- USQ initial screening		6/11/93	Lehrschall	Complete
- USQ evaluation		6/16/93	Lehrschall	Complete
- hazards evaluation		6/24/93	Lehrschall	Complete
- accident credibility determination		7/30/93	Lehrschall	
- accident scenario consequence analysis				
	phosgene creation	7/30/93	Lehrschall	
	HCl production	7/30/93	Lehrschall	
	CO production	7/30/93	Lehrschall	
- controls/corrective actions determin.		7/30/93	Lehrschall	
o Distribute incident information		TBD	Rohay	
- Hanford				
- VES operations at other DOE sites				

## 3. INTERIM RESTART STRATEGY FOR Z-1A/Z-18

Rohay

- |  |          |          |          |
|--|----------|----------|----------|
| o Determine interim corrective actions                 | 7/15/93  | Driggers | Complete |
| o Provide Justification for Continued Operations (JCO) |          |          |          |
| - determine basis for JCO                              | 7/6/93   | Driggers | Complete |
| - draft JCO  | 7/12/93  | Driggers | Complete |
| - JCO review   | 7/13/93  | Driggers | Complete |
| - presentation to WHC level 2 management               | 7/16/93  | Johnson  | Complete |
| - JCO approval   | 7/23/93* | Hagood   |          |
| o Rev. to controlling documents                        |          |          |          |
| - Pre-fire plan  | 6/17/93  | Tuttle   | Complete |
| - field operating procedures                           | 7/30/93  | Driggers |          |
| - HWOP   | 7/30/93  | Tuttle   |          |
| o Safety Meeting                                       | 8/4/93   | Tuttle   |          |
| o Brief DOE-RL on restart operations                   | 7/30/93* | Rohay    |          |
| o Brief regulators on restart operations               | 8/2/93*  | Rohay    |          |
| o Z-1A/Z-18 VES Startup (1000 cfm)                     | 8/6/93*  | Gale     |          |

## 4. INTERIM RESTART STRATEGY FOR Z-9

Rohay

- |  |          |          |          |
|--|----------|----------|----------|
| o Determine interim corrective actions                 | 8/9/93   | Driggers |          |
| o Provide Justification for Continued Operations (JCO) |          |          |          |
| - determine basis for JCO                              | 8/9/93   | Driggers |          |
| - draft JCO  | 8/10/93  | Driggers |          |
| - JCO review   | 8/12/93  | Driggers |          |
| - presentation to WHC level 2 management               | 8/13/93  | Johnson  |          |
| - JCO approval   | 8/16/93* | Driggers |          |
| o Rev. to controlling documents                        |          |          |          |
| - TI-010   | 8/23/93  | Driggers |          |
| - Pre-fire plan  | 6/17/93  | Tuttle   | Complete |
| - operating procedures                                 | 8/23/93  | Driggers |          |
| - HWOP   | 8/23/93  | Tuttle   |          |
| o Safety Meeting                                       | 8/25/93  | Tuttle   |          |
| o Brief DOE-RL on restart operations                   | 8/23/93* | Rohay    |          |
| o Brief regulators on restart operations               | 8/30/93* | Rohay    |          |
| o Z-9 VES Startup (1500 cfm, 500 cfm)                  | 8/31/93* | Gale     |          |

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## 5. UPGRADED VES OPERATIONS

Rohay

- |   |          |                   |          |
|---|----------|-------------------|----------|
| o Evaluate potential system design/<br>engineering controls   | 8/23/93* | Driggers/ERA team |          |
| - provide airflow through GAC canisters<br>at shutdown to remove heat   |          |                   |          |
| - prewet GAC before adsorption operations   |          |                   |          |
| - install thermocouple trees  |          |                   |          |
| deliver clean GAC to 306 building   | 6/16/93  | Gale              | Complete |
| site visit by 306 bldg. staff   | 6/22/93  | Gale              | Complete |
| develop and fabricate   | 6/25/93  | Gale              | Complete |
| initial testing   | 6/28/93  | Gale              | Complete |
| followup testing  | 7/30/93  | Peters            |          |
| - install carbon monoxide monitors<br>downstream of GACs to detect combustion   |          | Fisler            |          |
| - install HCl monitors  |          | Fisler            |          |
| - limit total carbon tetrachloride<br>loading to reduce heat buildup  |          |                   |          |
| - internal GAC water shower   |          |                   |          |
| - provide extra moisture-laden ambient<br>air through GACs during operations to remove more heat                            |          |                   |          |
| - utilize parallel treatment trains to<br>split total carbon tetrachloride loading<br>in canisters to mitigate heat buildup |          |                   |          |
| o Evaluate Alternative Treatments   |          |                   |          |
| - install off-the-shelf condenser to reduce<br>carbon tetrachloride loading on GAC  |          |                   |          |
| determine cost/technical feasibility of<br>off-the-shelf condenser  | 7/30/93  | Cameron           |          |
| check WHC excess list   | 7/30/93  | Smearman          |          |
| procure and install condenser   | TBD      | Gale/Driggers     |          |
| recycle condensed carbon tet  |          | Driggers/Cameron  |          |
| convert condensate to TCA and recycle<br>load condensate into GAC/ship offsite  |          | Driggers/Cameron  |          |
|   |          | Rohay             |          |
| - install catalytic oxidation unit  |          |                   |          |
| - use different GAC material  |          |                   |          |
| - establish onsite treatment  |          |                   |          |
| o Impact on existing GAC contract   |          |                   |          |
| o Procurement/delivery of equipment   | TBD      | Gale              |          |
| o Equipment installation  | TBD      | Gale              |          |
| o Determine regulatory constraints on system  | TBD      | Cameron           |          |
| o Revision of controlling documents   | TBD      |                   |          |
| - TI-010  |          | Driggers          |          |
| - Safety Analysis   |          | Lehrschall        |          |
| - HWOP  |          | Tuttle            |          |
| - operating procedures  |          | Driggers          |          |

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