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ENGINEERING DATA TRANSMITTAL

Page 1 of 1

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5. Proj./Prog./Dept./Div.:	**6. Cog. Engr.:**	**7. Purchase Order No.:**
C-018H	A. K. Vogt	NA
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1	~~WHC-SD-C018-WP-002~~ WHC-SD-C018H-WP-002 as. for A.K.V per Telecon 5/25/93.		0	C-018H Project "242-A Evaporator/PUREX Plant Process Condensate Treatment Facility" Waste Handling Plan	~~4~~ ~~NA~~ 3	3	1	

16. KEY

Impact Level (F)	Reason for Transmittal (G)	Disposition (H) & (I)
1, 2, 3, or 4 (see MRP 5.43)	1. Approval 2. Release 3. Information 4. Review 5. Post-Review 6. Dist. (Receipt Acknow. Required)	1. Approved 2. Approved w/comment 3. Disapproved w/comment 4. Reviewed no/comment 5. Reviewed w/comment 6. Receipt acknowledged

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(G) Reason	(H) Disp.	(J) Name	(K) Signature	(L) Date	(M) MSIN	(J) Name	(K) Signature	(L) Date	(M) MSIN	(G) Reason	(H) Disp.
1	1	Cog.Eng. A.K. Vogt	A. K. Vogt	5/5/93	L4-94						
1		Cog. Mgr. J.J. Noble	J. J. Noble	5/5/93	L4-94						
		QA									
		Safety									
		Env.									

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18.	19.	20.	21. DOE APPROVAL (if required)
A. K. Vogt 5/5/93 Signature of EDT Originator / Date	Authorized Representative for Receiving Organization / Date	J. J. Noble 5/5/93 Cognizant/Project Engineer's Manager / Date	Ltr. No. [] Approved [] Approved w/comments [] Disapproved w/comments

Date Received: 5/11/93 | MB

INFORMATION RELEASE REQUEST ORIGINAL

Reference: WHC-CM-3-4

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- [] Speech or Presentation
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- [] Controlled Document
- [x] Other

ID Number (include revision, volume, etc.)
~~WHC-SD-C018-WP-002 REV 0~~
WHC-SD-C018H-WP-002 REV 0
C.S. for A.K. per telecon of 5/3/93

List attachments.
NA

Date Release Required
5/10/93

Title: C-018H Project "242-A Evaporator/PUREX Plant Condensate Treatment Facility" Waste Handling Plan

Unclassified Category: UC-

Impact Level: 4

New or novel (patentable) subject matter? [X] No [] Yes
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[] No [] Yes Disclosure No(s).

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Will material be handed out? [] Yes [X] No

Title of Journal

CHECKLIST FOR SIGNATORIES

Review Required per WHC-CM-3-4	Yes	No	Reviewer - Signature Indicates Approval: Name (printed)	Signature	Date
Classification/Unclassified Controlled Nuclear Information	[]	[X]			
Patent - General Counsel	[X]	[]	S.W. Berglin	S.W. Berglin	5/24/93
Legal - General Counsel	[]	[]			
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Publication Services no edit	[X]	[]	C. Sprouse	C. Sprouse	5/24/93
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Information conforms to all applicable requirements. The above information is certified to be correct.

	Yes	No
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Author/Requestor (Printed/Signature) Date
A. K. Vogt A. K. Vogt 5/5/93

Intended Audience
[] Internal [] Sponsor [X] External

Responsible Manager (Printed/Signature) Date
J. J. Noble J. J. Noble 5/5/93

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APPROVED FOR RELEASE OFFICIAL DOCUMENT MB 5/24/93

Date Cancelled | Date Disapproved

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Part 1

SUPPORTING DOCUMENT

1. Total Pages 10

2. Title

C-018H Project "242-A Evaporator/PUREX Plant Process Condensate Treatment Facility" Waste Handling Plan

3. Number

~~WHC-SD-C-018-WP-002~~

WHC-SD-C018H-WP-002

4. Rev No.

0

5. Key Words

Waste Handling Plan, ETF, 242-A Evaporator, PUREX, Project C-018H

6. Author

Name: ~~A.~~ K. Vogt

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Organization/Charge Code 24350/APM18

7. Abstract

This document describes the responsibilities and methods in which waste generated by the C-018H Project will be handled and disposed.

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9. Impact Level 4

10. RELEASE STAMP

OFFICIAL RELEASE BY WHC

DATE MAY 25 1993

(*) LEGENDS REMOVED PER O.G.C (SW BERGLIN)

By M. Boston 5/24/93 IKA

APPROVED FOR PUBLIC RELEASE

A-6400-073 (11/91) (EF) WEF124

C-018H PROJECT
242-A EVAPORATOR/PUREX PLANT PROCESS CONDENSATE TREATMENT FACILITY
WASTE HANDLING PLAN

1.0 INTRODUCTION

1.1 Purpose

This plan describes the responsibilities and methods in which waste generated by the C-018H Project, 242-A Evaporator/Plutonium-Uranium Extraction (PUREX) Plant Process Condensate Treatment Facility (ETF) will be handled and disposed of.

1.2 Scope

The Waste Handling Plan, as described herein, applies only to that waste which is generated by the C-018H Project and its associated activities.

1.3 Facility Description

The C-018H Project will construct a Liquid Effluent Treatment Facility adjacent to the northeast corner of the 200 East Area. The construction site is outside the current 200 East Area fence line.

The ETF will treat the 242-A Evaporator Process Condensate. Producing a nearly pure water, with tritium, and a dry secondary waste containing ammonia salt, and a small amount of radioactive heavy metals. The liquid portion will be discharged to the soil column. Best available technology/all known and reasonable technology (BAT/AKART) will be initiated for tritium disposal, and the dry waste will be drummed and transferred to a radioactive mixed waste storage facility on the Hanford Site.

The ETF will consist of multi-staged treatment units. The units consist of: rough and fine filtration for suspended solids removal, Ultraviolet Oxidation (UV/OX) for destruction of organics, Reverse Osmosis (RO) for removal of dissolved solids, Ion Exchange (IX) for final polishing of the liquid, and pH adjustment. Secondary wastes, which will occur mainly from the backwash of the filters rejected from the RO and regeneration of the IX columns, will be sent to collection tanks. The waste will be sampled and analyzed for disposal, concentrated by evaporation, dried to a powder in a thin film dryer, and drummed for disposal.

During construction some waste may be generated. The exact amount or characterization of the waste is not known, however, preliminary investigations and historical data have shown that the actual building site does not appear contaminated. To support operation of the facility, certain utilities are required to be extended to the project site. They are sanitary water, raw water, electrical, and communications. Investigations and historical data was used in the routing of the utilities. This information provided utility routings which minimized the generation of waste.

1.4 Facility Waste Management Strategy

C-018H Project will be constructed in a manner as to minimize the volume of waste generated. Waste generated by C-018H Project will be characterized and packaged per Kaiser Engineers Hanford Company (KEH) procedures or Hanford Site Solid Waste Acceptance Criteria (WHC-EP-0063) for low level and mixed waste.

2.0 ORGANIZATION

2.1 Description of the Facility Organization

This plan applies only to the C-018H Project until completion of the Acceptance Test Procedure (ATP) and turnover of the project to the operations organization. At that time, the Waste Handling Plan for the facility will take precedence over, and, replace this plan.

C-018H Project is a Line Item project managed by Westinghouse Hanford Company (WHC) for U.S. Department of Energy (DOE). This project utilizes the Integrated Management Team (IMT) concept, between WHC and KEH, to complete the project tasks. The breakdown of project responsibilities within the IMT is as follows:

- Project Integrator — WHC
- Programs — WHC
- Operations — WHC
- Engineering — KEH
- Construction — KEH
- Quality/Performance Assessment — WHC

IMT participants significant to this plan are discussed below.

2.1.1 Project Integrator

The Project Integrator (PI) has overall responsibility for project implementation and is the ultimate decision making authority within the IMT. Approval of this plan for the project will be by the PI. All communications regarding this plan will be through the PI, or his designee(s). Any designee(s) will be assigned by the PI through signature to this Waste Handling Plan.

2.1.2 Program and Operations

The WHC sponsoring program is the Liquid Effluent Program. At this time, the operations organization is being formed. After completion of construction and ATP's, the facility will be turned over to the operations organization and this plan will be superseded by the facility specific Waste Handling Plan.

2.1.2 Construction

KEH is responsible for all construction and construction management associated with this project. This plan specifically addresses the waste generated during the construction phase of the project.

2.2 Duties and Responsibilities

During the construction of the ETF, waste generated by the project will be accumulated and prepared for shipment to a treatment, storage, or disposal facility by KEH as described in section 2.1.2. In the event that waste is generated, packaged, and requires shipment, the following agreements have been reached for the handling of that waste.

2.2.1 Kaiser Engineers Hanford Company

Waste that is generated during the construction phase of the project, through the activities of KEH or its subcontractors, will be identified, designated, accumulated, and prepared for shipment by KEH in behalf of DOE. Potential waste categories include radioactive-mixed waste, low-level waste, dangerous waste, asbestos or Toxic Substance Control Act waste, and nonregulated waste. KEH responsibilities will vary depending on the category of waste produced during construction.

Waste Identification

KEH will determine if substances used or generated during construction are solid waste as defined by Dangerous Waste Regulations, WAC 173-303. If the substance is determined to be solid waste, KEH will further categorize the waste as nonregulated[1], low-level[2], radioactive mixed[3], dangerous[4], asbestos, or polychorinated biphenyl (PCB). WHC will be responsible for providing information concerning the presence of radionuclides and other site characterization data. Waste designations will be made in accordance with the regulations governing the category of waste involved.

Nonregulated Waste Management

Construction debris and other nonregulated solid wastes will be accumulated by KEH in accordance with applicable KEH policies and procedures. KEH will transport such wastes to the Hanford Central Landfill. Wastes identified by the responsible WHC Project organization as salvageable will be shipped to WHC Excess after receipt of documentation in accordance with established KEH procedures. Nonregulated spoils and similar debris will be disposed in accordance with direction provided by the responsible WHC Project organization.

Low Level Waste

Wastes that are radioactive, or that may be radioactive, due to generation within radioactive materials management areas will be accumulated by KEH in a manner consistent with the characterization provided by health physics and facility operations personnel. Such wastes will be inventoried, segregated, handled, and packaged in accordance with the waste acceptance criteria contained in Hanford Site Solid Waste Acceptance Criteria, WHC-EP-0063. WHC Tank Farm Operations will provide direction on packaging and shipping requirements for all radioactive wastes generated by the construction activities of the C-018H Project. If at anytime during this project KEH becomes certified to ship

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[1] Solid waste that is not regulated due to the presence of radionuclides, dangerous waste designation, or the presence of polychorninated biphenyls or asbestos containing material.

[2] Radioactive wastes that are not transuranic (TRU) wastes or high-level wastes.

[3] Radioactive wastes that would also designate as dangerous wastes.

[4] Wastes that are regulated under WAC 173-303.

radioactive waste, KEH will assume the responsibility of shipper for the waste, and WHC will sign in behalf of DOE as the generator of the waste.

Mixed Waste

Mixed wastes (including moratorium controlled wastes) will be accumulated by KEH in the same manner as low-level wastes. In addition, the waste will be managed in accordance with WAC 173-303. Such wastes will be transferred to the Central Waste Complex within 90 days of the accumulation start date as defined in WAC 173-303.

Dangerous Waste

KEH will evaluate solid waste for designation as dangerous waste. The designation will be based on process knowledge or sample analysis. Waste will be accumulated in accordance with KEH procedures and will be shipped to an authorized Treatment, Storage, or Disposal facility as part of the project. KEH will act as the DOE agent in signing the manifest for such shipments.

2.2.2 Tank Farms Operations

WHC Tank Farm Operations will provide materials and direction on packaging and shipping, as required, for all radioactive waste (radioactive-mixed, low-level, high-level, TRU) generated by the construction activities of the C-018H Project. KEH will be requested to inventory, segregate, characterize, handle, package, and co-sign the waste inventory sheets prior to shipment. Shipment of the waste will be as directed by Tank Farms Operations.

2.2.3 Steam and Water Utilities

After the completion of ATP, an Acceptance of Completed Work (ACW) form will be signed. At that time, the extended raw and sanitary water lines will be released to the authority of Steam and Water Utilities. The exact boundaries between Steam and Water Utilities and Liquid Effluent Operations responsibilities will be determined at the time of the ACW by Memorandum of Understanding (MOU).

Any waste generated from the operation or maintenance of the water line extension after the time of the ACW, will be the responsibility of the organization determined in the MOU.

2.2.4 Electrical Utilities and Maintenance

After the completion of ATP for the electrical utility extension, an ACW form will be signed. At that time, the extended electrical lines will be released to the authority of Electrical Utilities and Maintenance. The exact boundaries between Electrical Utilities and Maintenance, and Liquid Effluent Operations responsibilities will be determined at the time of the ACW by an MOU.

Any waste generated from the operation or maintenance of the electrical line extension after the time of the ACW, will be the responsibility of the organization determined in the MOU.

2.2.5 Communications

After the completion of an ATP for the communications system extension (telephone and Hanford Local Area Network), an ACW form will be signed. At that time, the communications system will be released to the authority of WHC/Information Resource Management (IRM). The exact boundaries between Communication Systems and Liquid Effluent Operations responsibilities will be determined at the time of the ACW.

Any waste generated from the operation or maintenance of the communication extension after the time of the ACW, will be the responsibility of WHC/IRM.

2.3 Principle Interfaces

All interfaces with the C-018H Project will be through the PI, or his designee(s). C-018H Project personnel will interface with the Office of Sample Management for chemical and radiological analyses. Waste Management, Operations, and Engineering groups will be contacted to assist in the resolution of questions concerning waste certification. Tank Farms Operations, Steam and Water Utilities, Electrical Utilities and Maintenance, and Operation Support Services transportation organizations will be utilized, as required, to ship waste to accumulation areas or disposal facilities.

3.0 WASTE HANDLING PLAN

3.1 Plan Description

This plan for waste handling is designed to ensure that all waste generated by C-018H Project has been minimized as much as practicable and meets the appropriate waste acceptance criteria for treatment, storage, and disposal. This criteria is established in various portions of Environmental

Compliance, WHC-CM-7-5, Hanford Site Solid Waste Acceptance Criteria, WHC-EP-0063, or applicable KEH procedures.

3.2 Requirements

3.2.1 Waste Reduction (minimization and volume reduction) Plans and Procedures

C-018H Project waste reduction techniques may include, but are not limited to, the following:

- Design of facility and utilities to minimize waste production
- Alternative routing and siting evaluated to minimize the possibility of encountering known waste sites
- Material handling techniques to minimize waste generated
- Segregation of waste streams for lower waste classification
- Material changes to use a non-hazardous product in place of a hazardous product
- Recycling
- Employee or training awareness of waste minimization
- Equipment inspections to detect leaks

3.2.2 Methods Used to Identify and Segregate Hazardous Materials from Radioactive Waste and Non-hazardous Wastes

Identification and segregation for hazardous materials may include, but is not limited to, one or more of the following:

- Project specific sampling/characterization plan
- Control of facility access and control of materials entering the facility
- Waste minimization and segregation, as required by the C-018H Project specifications and contract documents

3.2.3 Characterization Methods Used to Determine Radioactive Material Content of the Waste

- Project specific sampling/characterization plan, in accordance to all applicable WHC and KEH procedures

3.2.4 Characterization Methods Used to Determine the Physical and Chemical Properties of the Waste

- Project specific sampling/characterization plan, in accordance to all applicable WHC and KEH procedures

3.2.5 Waste Handling and Packaging Activities from Waste Generation through Shipment

All waste generated will be packaged and handled in accordance with Dangerous Waste Regulations, WAC 173-303, Hanford Site Solid Waste Acceptance Criteria, WHC-EP-0063, Hazardous Material Packaging and Shipping, WHC-CM-2-14, and all applicable KEH procedures.

4.0 Concurrence

J W Kelly For J J Noble — 3/26/93
J. J. Noble, Project Integrator — Date
Evaporator Condensate Treatment Project
Westinghouse Hanford Company

F M Kloer — 3.26.93
F. H. Kloer, Project Manager — Date
Waste Storage and Handling Projects
Kaiser Engineers Hanford Company

J T Lilly — 3/30/93
J. T. Lilly, Manager — Date
Environmental Restorations
Kaiser Engineers Hanford Company

D A Harrow — 4-1-93
D. A. Harrow, Manager — Date
Environmental Waste Operations
Westinghouse Hanford Company

Kip A. George for J. C. Biagini — 3/26/93
J. C. Biagini, Manager — Date
Tank Farms Solid Waste Engineering
Westinghouse Hanford Company

D R Herman — 3/30/93
D. R. Herman, Environmental Engineer — Date
Steam and Water Utilities
Westinghouse Hanford Company

D L Barron — 04/02/93
D. L. Barron, PCB Administrator — Date
Electrical Utilities
Westinghouse Hanford Company

A K Vogt — 3/26/93
A. K. Vogt, Project Engineer — Date
Evaporator Condensate Treatment Project
Westinghouse Hanford Company