

ENGINEERING CHANGE NOTICE

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1. ECN 119506

Proj. ECN

4. Date
12/16/92

7. Impact Level
4

10. Related PO No.
N/A

- ECN Category (mark one)
- Supplemental
 - Direct Revision
 - Change ECN
 - Temporary
 - Supersedeure
 - Discovery
 - Cancel/Void

3. Originator's Name, Organization, MSIN, and Telephone No.
D.E. SCULLY, 86330, R3-45, 372-3592

5. Project Title/No./Work Order No.
C-018H

6. Bldg./Sys./Fac. No.
200 Area

8. Document Number Affected (include rev. and sheet no.)
WHC-SD-C018H-QAPP-002, Rev 2

9. Related ECN No(s).
N/A

- 11a. Modification Work
- Yes (fill out Blk. 11b)
 - No (NA Blks. 11b, 11c, 11d)

11b. Work Package Doc. No.
N/A

11c. Complete Installation Work
N/A
Cog. Engineer Signature & Date

11d. Complete Restoration (Temp. ECN only)
N/A
Cog. Engineer Signature & Date

12. Description of Change

Replace the last sentence on page 1-1 with the following: "The waste is designated dangerous due to the presence of spent solvents (F001, F002, F003, and F005) and the concentration of ammonia (WT02).



- 13a. Justification (mark one)
- Criteria Change
 - Design Improvement
 - Environmental
 - As-Found
 - Facilitate Const.
 - Const. Error/Omission
 - Design Error/Omission

13b. Justification Details

Recent information has indicated the presence of certain halogenated solvents (F001, F002) in underground storage tank waste.

14. Distribution (include name, MSIN, and no. of copies)

D.E. Scully	2 + 2	advance	R3-45
D.J. Sommer	1		R1-48
R. Speer	1		R1-48
...A	1		R1-08

RELEASE STAMP

OFFICIAL RELEASE BY WHC

DATE DEC 17 1992

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ENGINEERING CHANGE NOTICE

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1. ECN (use no. from pg. 1)

119506

15. Design Verification Required

- Yes
 No

16. Cost Impact

ENGINEERING

NA

CONSTRUCTION

Additional \$ _____
Savings \$ _____

Additional \$ _____
Savings \$ _____

17. Schedule Impact (days)

NA

Improvement _____
Delay _____

18. Change Impact Review: Indicate the related documents (other than the engineering documents identified on Side 1) that will be affected by the change described in Block 12. Enter the affected document number in Block 19.

SDD/OD <u>None</u>	<input type="checkbox"/>	Seismic/Stress Analysis	<input type="checkbox"/>	Tank Calibration Manual	<input type="checkbox"/>
Functional Design Criteria	<input type="checkbox"/>	Stress/Design Report	<input type="checkbox"/>	Health Physics Procedure	<input type="checkbox"/>
Operating Specification	<input type="checkbox"/>	Interface Control Drawing	<input type="checkbox"/>	Spares Multiple Unit Listing	<input type="checkbox"/>
Criticality Specification	<input type="checkbox"/>	Calibration Procedure	<input type="checkbox"/>	Test Procedures/Specification	<input type="checkbox"/>
Conceptual Design Report	<input type="checkbox"/>	Installation Procedure	<input type="checkbox"/>	Component Index	<input type="checkbox"/>
Equipment Spec.	<input type="checkbox"/>	Maintenance Procedure	<input type="checkbox"/>	ASME Coded Item	<input type="checkbox"/>
Const. Spec.	<input type="checkbox"/>	Engineering Procedure	<input type="checkbox"/>	Human Factor Consideration	<input type="checkbox"/>
Procurement Spec.	<input type="checkbox"/>	Operating Instruction	<input type="checkbox"/>	Computer Software	<input type="checkbox"/>
Vendor Information	<input type="checkbox"/>	Operating Procedure	<input type="checkbox"/>	Electric Circuit Schedule	<input type="checkbox"/>
OM Manual	<input type="checkbox"/>	Operational Safety Requirement	<input type="checkbox"/>	ICRS Procedure	<input type="checkbox"/>
FSAR/SAR	<input type="checkbox"/>	IEFD Drawing	<input type="checkbox"/>	Process Control Manual/Plan	<input type="checkbox"/>
Safety Equipment List	<input type="checkbox"/>	Cell Arrangement Drawing	<input type="checkbox"/>	Process Flow Chart	<input type="checkbox"/>
Radiation Work Permit	<input type="checkbox"/>	Essential Material Specification	<input type="checkbox"/>	Purchase Requisition	<input type="checkbox"/>
Environmental Impact Statement	<input type="checkbox"/>	Fac. Proc. Samp. Schedule	<input type="checkbox"/>	_____	<input type="checkbox"/>
Environmental Report	<input type="checkbox"/>	Inspection Plan	<input type="checkbox"/>	_____	<input type="checkbox"/>
Environmental Permit	<input type="checkbox"/>	Inventory Adjustment Request	<input type="checkbox"/>	_____	<input type="checkbox"/>

19. Other Affected Documents: (NOTE: Documents listed below will not be revised by this ECN.) Signatures below indicate that the signing organization has been notified of other affected documents listed below.

Document Number/Revision

Document Number/Revision

Document Number/Revision

None _____

20. Approvals

Signature	Date	Signature	Date
<u>OPERATIONS AND ENGINEERING</u>		<u>ARCHITECT-ENGINEER</u>	
Cog./Project Engineer <u>[Signature]</u>	<u>12/16/92</u>	PE _____	_____
Cog./Project Engr. Mgr. <u>[Signature]</u>	<u>12/16/92</u>	QA _____	_____
QA _____	_____	Safety _____	_____
Safety _____	_____	Design _____	_____
Security _____	_____	Other _____	_____
Proj. Prog./Dept. Mgr. _____	_____	_____	_____
Def. React. Div. _____	_____	_____	_____
Chem. Proc. Div. _____	_____	_____	_____
Def. Wst. Mgmt. Div. _____	_____	<u>DEPARTMENT OF ENERGY</u>	
Adv. React. Dev. Div. _____	_____	_____	_____
Proj. Dept. _____	_____	_____	_____
Environ. Div. _____	_____	<u>ADDITIONAL</u>	
IRM Dept. _____	_____	_____	_____
Facility Rep. (Ops) _____	_____	_____	_____
Other _____	_____	_____	_____

1.0 INTRODUCTION

Waste waters have been generated as result of operations conducted at the Hanford Facility for over 40 years. These waste waters were previously discharged to cribs, ponds, or ditches. Examples of such waste waters include steam condensates and cooling waters that have not been in contact with dangerous or mixed waste and process condensates that are derived from dangerous or mixed waste.

Many measures have been taken to reduce the amount of contamination being discharged in these effluents. However, some of these waste waters still require additional treatment before release to the environment. Systems are being designed and built to treat these waste waters along with any future waste waters resulting from remediation activities on the Hanford Facility.

The waste waters typically contain trace levels of radionuclides and stable chemicals. Both organic and inorganic constituents normally are present and can be suspended solids or dissolved solids. While there is a wide variety of contamination in the waste waters, the level of contamination is very low. For example, the non-contact cooling water closely resembles the composition of Columbia River water; and the composition of the steam condensates and process condensate closely resembles that of distilled water.

Several treatment systems will be built on the Hanford Facility to treat waste waters. Before the treatment systems are constructed, the systems will need to be tested to verify that the treatment methods selected are effective. Usually this testing will be performed on a small-scale and is termed "pilot testing." Some testing will be conducted at the 2703E Chemical Engineering Laboratory and other onsite support laboratories. A room in the 1706-KE Engineering and Environmental Demonstration Laboratory (EEDL) (an existing structure in the 100K Area) has been selected as the site for most of the testing. Some testing (to support Project C-018H) will also be performed at the Liquid Effluent Retention Facility (LERF) located in the 200 East Area. Testing usually will be performed in two testing programs; the first program will use synthetic waste and the second program will use actual dangerous or mixed waste.

One of the first treatment systems to be constructed will treat the process condensate from the 242-A Evaporator. This will be part of the pilot plant treatability testing required to support Project C-018H, "242-A/PUREX Plant Condensate Treatment Facility." The 242-A Evaporator concentrates various liquid waste generated on the Hanford Facility. The liquid waste is stored in underground double-shell tanks (DSTs). The liquid waste in the DSTs is piped to the 242-A Evaporator, concentrated through evaporation, and returned to the DSTs for storage until final disposal. The condensate derived from this evaporation process, called "242-A Evaporator process condensate," is the waste water that will be tested. This waste water is a dangerous waste as defined by WAC 173-303. The waste is designated dangerous due to the presence of spent solvents (F003, and F005) and the concentration of ammonia (WT02).

DELETE "FOO1 FOOZ"

THE WAC SYSTEM REQUIRES THAT THE ECU BE USED FOR A PAGE CHANGE.

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