

START

0034409

ENGINEERING CHANGE NOTICE

Page 1 of 4

1. ECN **198883**

Proj. ECN

2. ECN Category (mark one) <input type="checkbox"/> Supplemental <input checked="" type="checkbox"/> Direct Revision <input type="checkbox"/> Change ECN <input type="checkbox"/> Temporary <input type="checkbox"/> Standby <input type="checkbox"/> Supersedure <input type="checkbox"/> Cancel/Void	3. Originator's Name, Organization, MSIN, and Telephone No. C. M. Loll, 7C420, R1-51, 3-5039		4. Date June 28, 1993
	5. Project Title/No./Work Order No. 244-AR Vault Cooling Water Sampling and Analysis Plan	6. Bldg./Sys./Fac. No. N/A	7. Impact Level 3Q
	8. Document Numbers Changed by this ECN (includes sheet no. and rev.) WHC-SD-WM-EV-076, Rev. 2	9. Related ECN No(s). 169263	10. Related PO No. N/A

11a. Modification Work <input type="checkbox"/> Yes (fill out Blk. 11b) <input checked="" type="checkbox"/> No (NA Blks. 11b, 11c, 11d)	11b. Work Package No. N/A	11c. Modification Work Complete N/A <hr/> Cog. Engineer Signature & Date	11d. Restored to Original Condition (Temp. or Standby ECN only) N/A <hr/> Cog. Engineer Signature & Date
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12. Description of Change
 Section G.1, The following analytical method changes were made:

EPA Method 6010 was added for the analysis of tin and lead.
 EPA Method 365.4 was added for the analysis of phosphorus.
 EPA Method 335.2 was added for the analysis of total cyanide.
 EPA Method 350.3 was added for the analysis of ammonia.
 The analytical methods for bromide, chloride, and fluoride were changed to EPA Method 300.0
 Analysis for Tin (Sn113) was deleted from required analyses.

13a. Justification (mark one)	Criteria Change <input checked="" type="checkbox"/>	Design Improvement <input type="checkbox"/>	Environmental <input type="checkbox"/>
As-Found <input type="checkbox"/>	Facilitate Const. <input type="checkbox"/>	Const. Error/Omission <input type="checkbox"/>	Design Error/Omission <input type="checkbox"/>

13b. Justification Details

The addition of analytical methods were made in order to allow more flexibility in choosing laboratories to perform the analyses. *and 8/30/93*

The change from previously specified methods to method 300.0 for chloride, bromide, and fluoride was made because the original methods which were called out were not available on contract.

Sn-113 was deleted because it was supposed to be run in order to check routine sampling on the 241-A Tank Farm cooling water stream not the 244-AR Vault cooling water stream. *th 8/30/93*

14. Distribution (include name, MSIN, and no. of copies) See Attached Distribution	RELEASE STAMP OFFICIAL RELEASE BY WHC DATE AUG 31 1993 55 <i>Sta. 4</i>
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ENGINEERING CHANGE NOTICE

15. Design Verification Required <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	16. Cost Impact <table style="width: 100%;"> <tr> <td style="text-align: center;">ENGINEERING</td> <td style="text-align: center;">CONSTRUCTION</td> </tr> <tr> <td>Additional Savings <input type="checkbox"/> \$</td> <td>Additional Savings <input type="checkbox"/> \$</td> </tr> <tr> <td style="text-align: center;">N/A</td> <td style="text-align: center;">N/A</td> </tr> </table>	ENGINEERING	CONSTRUCTION	Additional Savings <input type="checkbox"/> \$	Additional Savings <input type="checkbox"/> \$	N/A	N/A	17. Schedule Impact (days) Improvement Delay <input type="checkbox"/> N/A <input type="checkbox"/>
ENGINEERING	CONSTRUCTION							
Additional Savings <input type="checkbox"/> \$	Additional Savings <input type="checkbox"/> \$							
N/A	N/A							

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/DD	N/A	<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
N/A		

20. Approvals

Signature	Date	Signature	Date
OPERATIONS AND ENGINEERING		ARCHITECT-ENGINEER	
Cog Engineer * <i>Craig M. Loll / Craig M. Loll</i>	6/30/93	PE	
Cog. Mgr. * <i>R.D. Gustawan</i>	6/30/93	QA	
QA * <i>M. J. Oram</i>	7/8/93	Safety	
Safety		Design	
Security		Environ.	
Environ.		Other	
Projects/Programs * <i>L. Roper</i>	7-20-93		
Tank Waste Remediation System			
Facilities Operations			
Restoration & Remediation		DEPARTMENT OF ENERGY	
Operations & Support Services		Signature or Letter No.	
IRM			
Other		ADDITIONAL	

9413199-06/9

AUG 31 1993
 Date Received: 6/29/93 7/26/93 KMB

INFORMATION RELEASE REQUEST

Reference: WNC-CM-3-4

Complete for all Types of Release

Purpose		ID Number (include revision, volume, etc.) ENG198883 ECN- List attachments. SD-WM-EV-076 Rev 2 Date Release Required
<input type="checkbox"/> Speech or Presentation <input type="checkbox"/> Full Paper (Check only one suffix) <input type="checkbox"/> Summary <input type="checkbox"/> Abstract <input type="checkbox"/> Visual Aid <input type="checkbox"/> Speakers Bureau <input type="checkbox"/> Poster Session <input type="checkbox"/> Videotape	<input type="checkbox"/> Reference <input checked="" type="checkbox"/> Technical Report <input type="checkbox"/> Thesis or Dissertation <input type="checkbox"/> Manual <input type="checkbox"/> Brochure/Flier <input type="checkbox"/> Software/Database <input type="checkbox"/> Controlled Document <input type="checkbox"/> Other	

Title 244-AR Vault Cooling Water Sampling and Analysis Plan	Unclassified Category UC-	Impact Level 3Q
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New or novel (patentable) subject matter? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If "Yes", has disclosure been submitted by WHC or other company? <input type="checkbox"/> No <input type="checkbox"/> Yes Disclosure No(s).	Information received from others in confidence, such as proprietary data, trade secrets, and/or inventions? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes (Identify)
Copyrights? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If "Yes", has written permission been granted? <input type="checkbox"/> No <input type="checkbox"/> Yes (Attach Permission)	Trademarks? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes (Identify)

Complete for Speech or Presentation	
Title of Conference or Meeting	Group or Society Sponsoring

Date(s) of Conference or Meeting	City/State	Will proceedings be published? <input type="checkbox"/> Yes <input type="checkbox"/> No	Will material be handed out? <input type="checkbox"/> Yes <input type="checkbox"/> No
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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	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Patent - General Counsel	<input checked="" type="checkbox"/>	<input type="checkbox"/>	OGC Memo 2/4/93
Legal - General Counsel	<input checked="" type="checkbox"/>	<input type="checkbox"/>	OGC Memo 2/4/93
Applied Technology/Export Controlled Information or International Program	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
WHC Program/Project	<input checked="" type="checkbox"/>	<input type="checkbox"/>	D. R. Speer <i>D. R. Speer</i> 7-20-93
Communications	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
RL Program/Project	<input checked="" type="checkbox"/>	<input type="checkbox"/>	RL HIGGINS <i>R. L. Higgins</i> 7/27/93
Publication Services	<input checked="" type="checkbox"/>	<input type="checkbox"/>	MK Oldfield <i>MK Oldfield</i> 7-22-93
Other Program/Project	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Information conforms to all applicable requirements. The above information is certified to be correct.

References Available to Intended Audience <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Transmit to DOE-HQ/Office of Scientific and Technical Information <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Author/Requestor (Printed/Signature) Date C. M. Loll / <i>Craig M Loll</i> 6/30/93	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2" style="text-align: center;">INFORMATION RELEASE ADMINISTRATION APPROVAL STAMP</td> </tr> <tr> <td colspan="2" style="text-align: center;">Stamp is required before release. Release is contingent upon resolution of mandatory comments.</td> </tr> <tr> <td style="text-align: center;">  </td> <td style="text-align: center;">  </td> </tr> <tr> <td>Date Cancelled</td> <td>Date Disapproved</td> </tr> </table>	INFORMATION RELEASE ADMINISTRATION APPROVAL STAMP		Stamp is required before release. Release is contingent upon resolution of mandatory comments.				Date Cancelled	Date Disapproved
INFORMATION RELEASE ADMINISTRATION APPROVAL STAMP									
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Date Cancelled	Date Disapproved								
Intended Audience <input type="checkbox"/> Internal <input type="checkbox"/> Sponsor <input checked="" type="checkbox"/> External Responsible Manager (Printed/Signature) Date R. D. Gustavson <i>R. D. Gustavson</i> 6/30/93									

F.2 Routine Samples

The routine process sampling shall be completed by the Tank Farm Facility operators trained to comply with WHC Procedure TO-080-320, "Sample 244-AR Vault Cooling Water."

The samples will be labeled with a sample tag containing sample point identification, a unique sample number, date and time. The samples shall be taken to the designated on-site laboratory for analysis.

G. SAMPLE HANDLING AND ANALYSIS

G.1 Liquid Effluent Characterization Samples

Liquid effluent characterization samples will be analyzed for the following:

<u>Analyte List</u>	<u>Method of Analysis</u>
Sulfides	EPA method 9030
Semi-volatile organics (semi-VOA)	EPA method 8270
Volatile organics (VOA)	EPA method 8240
Total organic halides (TOX)	EPA method 9020
Herbicides	EPA method 8150
Organophosphorus Pesticides	EPA method 8140
Polychlorinated biphenyls (PCB) /organochlorine pesticides	EPA method 8080
Inductive coupled plasma metals (ICP)	EPA method 6010
<u>Graphite furnace atomic absorption (AA) metals</u>	
Arsenic	EPA method 7060
Lead	EPA method 7421/6010
Mercury	EPA method 7470 (cold vapor)
Selenium	EPA method 7740
Tin	EPA method 7870/6010
Total cyanide	EPA method 9010/9012/335.2
Hexavalent Chromium	EPA method 7196
Bromide	EPA method 300.0
Chloride	EPA method 300.0
Fluoride	EPA method 300.0
Total oil and grease	EPA method 9070
Total phenols	EPA method 9065/9066/9067
Biological oxygen demand (BOD)	EPA method 405.1
Chemical oxygen demand (COD)	EPA method 410.1, .2, .3, .4

Analyte List

Method of Analysis

Total organic carbon (TOC)	EPA method 9060
Phosphorus	EPA method 365.2, .3, .4
Nitrogen, nitrate, nitrite	EPA method 353.1, .2, .3
Ammonia	EPA method 350.1, .2, .3
Total dissolved solids (TDS)	EPA method 160.1
Total suspended solids (TSS)	EPA method 160.2
Alkalinity	EPA method 310.1/310.2
pH	EPA method 9040
Conductivity	EPA method 9050
Total alpha/beta	WHC approved laboratory method

Radionuclides

WHC approved laboratory method

Plutonium-238, 239, 241
Americium-241
Strontium-89, 90
Cesium-137
Ruthenium-103
Ruthenium-Rhodium-106

The handling and preparation of samples will comply with the procedures found in the Environmental Investigations and Site Characterization Manual, WHC-CM-7-7. When an analysis requires that a preservative be added to the sample bottle, the preservative is added in a clean laboratory environment prior to traveling to the sampling site. At the time of sample bottle preparation a chain of custody (COC) form will be initiated and will accompany the sample bottle into the field. A COC form will accompany each liquid effluent characterization sample, which may consist of several containers. The COC will account for each container. The sample bottles are stored in a cooler sealed with tamper evident tape and all custody transfers are noted on the bottle COC form.

Once a liquid effluent characterization sample has been drawn it must be in the physical control or view of the custodian, locked in an area where it can not be tampered with, or prepared for shipping with tamper-proof tape applied. Physical control includes being in the sight of the custodian, being in a room which will signal an alarm when entered, or locked in a cabinet.

When more than one person is involved in sampling, one person shall be designated and only that person signs as sampler. This person is the custodian until the samples are transferred to another location or group and shall sign when releasing the samples to the designated receiver.

The preparation of either a single or a group of samples for shipment to a laboratory shall comply with the procedure EII 5.11 "Sample Packaging and Shipping." Samples going off-site for analysis will conform to all federal regulations governing shipment.

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