START

0035552

ENGINEERING CHANGE NOTICE

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1. ECN 198885

Proj. ECN

2. ECN Category (mark one)	3. Originator's Name, Organization, MSIN, and Telephone No.		4. Date
Supplemental [X] Direct Revision [ ] Change ECN [ ] Temporary [ ] Standby [ ] Supersedure [ ] Cancel/Void [ ]	C. M. Loll, 7C420, R1-51, 3-5039		June 28, 1993
	5. Project Title/No./Work Order No. 242-A Evaporator 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-078, Rev. 2	9. Related ECN No(s). 169265	10. Related PO No. N/A

11a. Modification Work	11b. Work Package No.	11c. Modification Work Complete	11d. Restored to Original Condition (Temp. or Standby ECN only)
[ ] Yes (fill out Blk. 11b) [X] No (NA Blks. 11b, 11c, 11d)	N/A	N/A Cog. Engineer Signature & Date	N/A Cog. Engineer Signature & Date

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

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

13b. Justification Details

The addition of analytical methods were made in order to allow more flexibility in chosing laboratories to perform the analyses.

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.

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

See Attached Distribution

RELEASE STAMP

OFFICIAL RELEASE
BY WHC
DATE AUG 31 1993
55
Sh. 4

APR 1994
RECEIVED
EDMC

A-7900-013-2 (06/92) GEF095

A-7900-013-1 (06/92)

9413206.1372

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15. Design Verification Required	16. Cost Impact		17. Schedule Impact (days)	
	ENGINEERING	CONSTRUCTION		
[] Yes	Additional Savings N/A [] $	Additional Savings N/A [] $	Improvement N/A	
[X] No			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/DD	[]	Seismic/Stress Analysis	[]	Tank Calibration Manual	[]
Functional Design Criteria	[]	Stress/Design Report	[]	Health Physics Procedure	[]
Operating Specification	[]	Interface Control Drawing	[]	Spares Multiple Unit Listing	[]
Criticality Specification	[]	Calibration Procedure	[]	Test Procedures/Specification	[]
Conceptual Design Report	[]	Installation Procedure	[]	Component Index	[]
Equipment Spec.	[]	Maintenance Procedure	[]	ASME Coded Item	[]
Const. Spec.	[]	Engineering Procedure	[]	Human Factor Consideration	[]
Procurement Spec.	[]	Operating Instruction	[]	Computer Software	[]
Vendor Information	[]	Operating Procedure	[]	Electric Circuit Schedule	[]
OM Manual	[]	Operational Safety Requirement	[]	ICRS Procedure	[]
FSAR/SAR	[]	IEFD Drawing	[]	Process Control Manual/Plan	[]
Safety Equipment List	[]	Cell Arrangement Drawing	[]	Process Flow Chart	[]
Radiation Work Permit	[]	Essential Material Specification	[]	Purchase Requisition	[]
Environmental Impact Statement	[]	Fac. Proc. Samp. Schedule	[]		[]
Environmental Report	[]	Inspection Plan	[]		[]
Environmental Permit	[]	Inventory Adjustment Request	[]		[]

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

20. Approvals

Signature	Date	Signature	Date
OPERATIONS AND ENGINEERING		ARCHITECT-ENGINEER	
Cog Engineer * CM Loll/CM Loll	6/30/93	PE	
Cog. Mgr. * R.D. Gustavson	6/30/93	QA	
QA * M J Warn	7/8/93	Safety	
Safety		Design	
Security		Environ.	
Environ.		Other	
Projects/Programs * W K Speer	7-20-93		
Tank Waste Remediation System			
Facilities Operations		DEPARTMENT OF ENERGY	
Restoration & Remediation		Signature or Letter No.	
Operations & Support Services			
IRM		ADDITIONAL	
Other			

Analyte List	Method of Analysis
Graphite furnace atomic absorption (AA) metals	
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
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 presevative 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.