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ENGINEERING CHANGE NOTICE

Page 1 of 4

1. ECN 166054

Proj. ECN

2. ECN Category (mark one)	Supplemental	[]	Change ECN	[]	Supersedure	[]
Cancel/Void []	Direct Revision	[X]	Temporary	[]	Discovery	[]

3. Originator's Name, Organization, MSIN, and Telephone No. G. T. Frater, Surveillance & Data Acquisition, R1-51, 3-1627		4. Date October 26, 1992
5. Project Title/No./Work Order No. Tank Farms Leak Detection Criteria	6. Bldg./Sys./Fac. No. Tank Farms	7. Impact Level 2 QS
8. Document Number Affected (include rev. and sheet no.) SD-WM-TI-357, REV 1C, Sheet 79/80	9. Related ECN No(s). N/A	10. Related PO No. N/A

11a. Modification Work [] Yes (fill out Blk. 11b) [X] 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

This change provides the specified Application Code for reducing the logging speed of the scintillation probe in the C-Farm drywells.

NOV 1992 RECEIVED EDMC

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

13b. Justification Details

The change is to comply with Tri-Party Agreement Milestone M-05-13-T3 commitment date of 10/31/92.

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

See attached distribution list

RELEASE STAMP

OFFICIAL RELEASE BY WHC

DATE NOV 02 1992

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A-7900-013-2 (11/88) (EF) GEF095
Engineering Change Notice

A-7900-013-1 (11/88)

ENGINEERING CHANGE NOTICE

1. ECN (use no. from pg. 1) 166054

15. Design Verification Required	16. Cost Impact N/A ENGINEERING	CONSTRUCTION	17. Schedule Impact (days)
☐ Yes	Additional ☐ $	Additional ☐ $	Improvement ☐
☑ No	Savings ☐ $	Savings ☐ $	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.

N/A

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
N/A		

20. Approvals

	Signature	Date		Signature	Date
OPERATIONS AND ENGINEERING			ARCHITECT-ENGINEER		
X Cog./Project Engineer	V. D. Mangin	10/27/92	PE		
X Cog./Project Engr. Mgr.	[signature]	10-27-92	QA		
X QA	[signature]	10/28/92	Safety		
X Safety	M. E. Heidt	10-28-92	Design		
Security			Other		
X Proj.Prog./Dept. Mgr.	AD Godfrey	10/28/92			
Def. React. Div.					
Chem. Proc. Div.					
Def. Wst. Mgmt. Div.			DEPARTMENT OF ENERGY		
Adv. React. Dev. Div.			[signature]		10/29/92
Proj. Dept.					
Environ. Div.			ADDITIONAL		
IRM Dept.					
X Facility Rep. (Ops)	[signature]	10/28/92			

93129 10266

RECORD OF REVISION	(1) Document Number WHC-SD-WM-TI-357 REV 1H

(2) Title

WASTE STORAGE TANK STATUS AND LEAK DETECTION CRITERIA

CHANGE CONTROL RECORD

(3) Revision	(4) Description of Change – Replace, Add, and Delete Pages	Authorized for Release (5) Cog./Proj. Engr.	(6) Cog./Proj. Mgr.	Date
	(7) Note: See previous Record of Revision	× Frater	× D Godfrey	8/21/91
RS 1E	Delete Pages 11 and 12, REV 1 Add Pages 11 and 12, REV 1E Add: This page change added action criteria for the notification and reporting requirements pages per ECN#15844. To: SD-WM-TI-357, REV 1 ECN#117951 dated 7/2/89 INC. ECN#158444 dated 8/19/91			
1F RS	Add: Revised Section 10.0 Tank Temperature Criteria per ECN#146235 To: SD-WM-TI-357 REV 1 ECN#117951 dated 7/2/89 INC: ECN#146235	× RK Welty	× GT Frater	
RS 1G	Replace page 175/176, REV 1 with page 175/176, REV 1G To: SD-WM-TI-357 REV 1 ECN #117951 dated 7/2/89 INC: ECN #164327	× GT Frater G. T. Frater	× D Godfrey S. D. Godfrey	11/6/91
1H RS	Replace page 79/80, REV 1C with page 79/80, REV 1H To: SD-WM-TI-357 REV 1 ECN #117951 dated 7/2/89 INC: ECN#166054	× GT Frater G. T. Frater	× D Godfrey S. D. Godfrey	10/28/92

9 3 1 2 9 1 0 2 6 7

SUPPORTING DOCUMENT

1. Total Pages 204

2. Title	3. Number	4. Rev No.
TANK FARMS LEAK DETECTION CRITERIA	WHC-SD-WM-TI-357	1H

5. Key Words

Leak detection
Underground waste storage tanks
High level liquid radioactive waste
Criteria

6. Author

Name: G. T. Frater

x G T Frater
Signature

Organization/Charge Code 7C244/N1294

7. Abstract

Since 1944, high level liquid radioactive wastes have been stored in underground tanks on the Hanford Site. Currently, 177 large tanks with greater than 50,000-gallon capacity contain radioactive waste. These tanks are grouped into 18 tank farms within a three-mile radius in the 200 East and 200 West exclusion areas.

Of the 177 tanks, 149 are of single-shell design; upright cylinders with mild steel walls and bases inside reinforced concrete topped by an ellipsoidal reinforced concrete dome.

An additional 28 tanks are of double-shell design; an inner upright dome cylinder of stress-relieved mild steel rests on a concrete pad within a second mild steel cylinder.

The documentation on these tanks was originally prepared as RHO-CD-253. In 1988, the document number was changed to SD-WM-TI-357 to reflect the present Operations and Engineering contractor document numbering system.

8. PURPOSE AND USE OF DOCUMENT - This document was prepared for use within the U.S. Department of Energy and its contractors. It is to be used only to perform, direct, or integrate work under U.S. Department of Energy contracts. This document is not approved for public release until reviewed.

APPROVED FOR PUBLIC RELEASE

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Legends removed per WHC Legal KMB 11/4/92

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9. Impact Level 2QS

10. RELEASE STAMP

OFFICIAL RELEASE BY WHC (5)
DATE NOV 02 1992
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C FARM DRYWELL MONITORING SCHEDULE

Drywell monitoring frequencies are an operational safety requirement (OSR).

Monitor by week ending _____

Drywell number	Frequency Week 1	2	4	12	52	Well depth ft.	Probe type reqd.	Date monitored	Comments
30-00-01 (56)				12		72	S		
03 (54)				12		120	S		
06 (55)					52	114	S		
09 (57)				12		56	S		
10 (53)					52	54	S		
11 (121)					52	60	S		
12 (52)					52	140	S		
13 (123)					52	60	S		
22 (120)					52	60	S		
24 (122)					52	60	S		
01-01 (60)			4			100	S		
06 (59)					52	100	S		
09 (58)					52	100	S		
12 (61)				12		100	S		
03-01 (74)	1					125	S		
03 (75)		2				100	S		
05 (76)		2				100	S		
07 (77)			4			100	S		
09 (78)		2				100	S		
04-01 (115)				12		50	S		
02 (67)					52	130	S		
03 (116)				12		50	S		
04 (79)				12		100	S		
05 (80)				12		100	S		
08 (66)				12		145	S		

Probe Type	CASS Number	Description
S	4	Scintillation
SS	14	Shielded Scintillation
GM-1	1	Green Geiger-Mueller
GM-2	2	Red Geiger-Mueller
N	3	Neutron

9 3 1 2 9 0 1 0 2 6 9

C FARM DRYWELL MONITORING SCHEDULE

Drywell monitoring frequencies are an operational safety requirement (OSR).

Monitor by week ending _____

Drywell number	Frequency Week 1	2	4	12	52	Well depth ft	Probe type reqd.	Date monitored	Comments
30-04-12 (65)				12		135	S		
05-02 (70)				12		126	S(05)*		
03 (81)				12		100	S(05)		
04 (69)				12		120	S(05)		
05 (82)				12		100	S(05)		
06 (119)				12		55	S(05)		
07 (118)				12		66	2-GM	XXX	
08 (117)				12		47	S(05)		
09 (83)				12		100	S(05)		
10 (68)				12		135	S(05)		
06-02 (72)		2				125	S(05)		
03 (84)		2				100	S(05)		
04 (73)		2				130	S(05)		
09 (85)		2				100	S(05)		
10 (71)		2				130	S(05)		
12 (86)	1					100	S(05)		
07-01 (87)				12		100	S		
02 (88)				12		100	S		
05 (89)				12		100	S		
07 (90)				12		99	S		
08 (91)				12		99	S		
10 (92)				12		100	S		
11 (93)				12		100	S		
08-02 (94)					52	100	S		
03 (51)					52	59	S		
08 (66)					52	100	S		

* (05) results in a speed of 0.13 ft/sec (7.8 ft/min)

Probe Type	CASS Number	Description
S	4	Scintillation
S(xx)	4	Scintillation with specified Application Code
SS	14	Shielded Scintillation
GM-1	1	Green Geiger-Mueller
GM-2	2	Red Geiger-Mueller
N	3	Neutron

NOTE: Shaded well is listed on the GM probe monitoring schedule sheet.

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DISTRIBUTION SHEET

To: Distribution

From: Surveillance & Data Acquisition

Date: 11/2/92

Project Title/Work Order:

WHC-SD-WM-TI-357 REV 1H

EDT No.: N/A

ECN No.: 166054

Name		MSIN	With Attachment	EDT/ECN & Comment	EDT/ECN Only
WHC					
CD ACREE	3702/4/300	L7-06	1		
JL AHRENS	272WA/25-3/200W	T4-01	1		
HK ANANDA	MO234/109/200E	S1-57	1		
PG ARBOGAST	2750E/C122	R1-01	1		
JJ BADDEN	MO268/1/200E	S5-12	1		
L BEDFOR	2101M/211C/200E	SO-01	1		
ML BELL	2704S/14/200W	T6-16	1		
TL BENNINGTON	345 HILLS/35/RCHN	T4-16	1		
SE BEVANS	272WA/2/200W	T4-01	1		
EK BEZUE-JAMES	2750E/D276/200E	R2-88	1		
BD BIDDLE	272AW/3/200E For: 271A Control Room	S1-04	2		
JE BJORKLUND	2750E/A122/200E	R1-62	1		
CM BOGGS	FED/475/700	A4-35	1		
VC BOYLES	2750E/D199	R1-49	1		
HR BRAGER	3763/TR 1/300	L5-65	2		
JR BRODEUR	1816TD/RCHC	G6-50	1		
DM CARSON	MO407/119/200E	SO-09	1		
RJ CASH	2750E/B210	R1-31	1		
JC CONNER	ETC1/67/RCHN	H5-31	1		
JE DEEGAN	2750E/B105 (CASS RM)		1		
RA DODD	2750E/A145	R1-51	1		
JE DREHER	222T/102/200W	T3-10	1		
GL DUNFORD	2750E/A107	R1-51	1		
BG ERLANDSON	HAPO/338/1100	B2-19	1		
GT FRATER	2750E/D123	R1-51	1		
JR FREEMAN-POLLARD	450 HILLS/7/RCHN	H4-55	1		
MS GARRETT	2750E/A131	R1-62	1		
EF GRAY	2750E/D260	R2-88	1		

9 3 1 2 9 1 0 2 7 1

DG HAMRICK	2750E/A107	R1-51	1
BM HANLON	2750E/C102	R1-80	1
GN HANSON (SHIFT OFC)	272AW/3/200E	S5-04	1
EI HUSA	2750E/B112	R1-80	1
EC HEUBACH	ETC 1/70/RCHN	H5-34	1
RC HILL	TCPC/500/RCHC	B4-53	1
BA HOLMBERG	1171/13/1100	G4-02	1
MN ISLAM	2751E/D110	R3-08	1
RW JACOBSON	272AW/12/200E 242S Evap. Control Room	S5-01	1
NW KIRCH	2750E/A210	R2-11	1
ME LAKES	2750E/A143	R1-51	1
EQ LE	2750/A145	R2-95	1
JS LEE	272WA/8/200W	T4-01	1
JD LUDOWISE	ETC 2/78/RCHN	H5-49	1
KF LUND	3702/14/300	L7-06	1
DL MARQUEZ	2750E/C106	R1-80	1
PJ MARTELL	2751E/C101	R3-08	1
VD MAUPIN	2750E/D152	R1-49	1
BL MERRILL	MO039/BAY/200W	T6-07	1
J MCCLEES	2750E/D230	R1-51	1
NJ MILLIKEN	ETC 1/62/RCHN	H5-34	1
SD MORALES	3200 G-WAY/RM E12/RCHN	H0-31	1
JE PERHAM	272WA/3/200W	T4-01	1
RK P'POOL	274W/3/200W	T1-30	1
DA PRAAST	GAO AUDITOR	A1-80	1
RK PRICE	1816TD/RCHC	G6-50	1
RE RAYMOND	2750E/C109	R1-80	1
RW REED	2750E/A111	R1-51	1
RR RIOS	2750E/C103	R1-80	1
L RUFFIN	2750E/D233	R1-51	1
CP SCHROEDER	3702/14A/300	L7-06	1
SM STAHL	ETC1/80/RCHN	H5-31	1
DJ STITELER	MO415/A7/100N	X5-34	1
AM TALLMAN	2704S/4/200W	H5-60	1
LE THOMAS	2751E/C100	R3-08	1
JM THURMAN	2750E/D131	R1-49	1
RK TRANBARGER	450 HILLS/27/RCHN	H4-55	1
TS VAIL	2750E/D188	R1-43	1

9 3 1 2 9 1 0 2 7 2

NJ VERMEULEN	2750E/C104	R1-80	1
RK WELTY	2750E/C100	R1-80	1
KA WHITE	2750E/D226	R1-51	1
JJ VERDERBER	MO234/105/200E	S1-57	1
BD WILLIAMSON	1100JAD/537/RCHC	B3-15	1
PF WILSON JR	FED/232H/700	A2-19	1
GP WOODWORTH	2753/A102/200E	R3-50	2
EDMC c/o SJ WRAY	350 HILLS/34A/RCHN	H4-22	1
CENTRAL FILES	3706/210/300	L8-04	4

OTHER

Y. AKSENIW		H5-72	1
WASH. DEPT OF ECOLOGY	C/O FRED RUCK III 450 HILLS/57/3000	H4-57	1

DOE - RL

RG HILDEBRAND	FED/544/700	A5-55	1
RF CHRISTENSEN	FED/420/700	R4-02	1
JE NEWSON	OS	R4-02	3
AD TOTH	2750E/C230/200E	R2-62	1

OFFSITE

COLIN DONAHOE	SAIC, MSII 10210 CAMPER PT DR SAN DIEGO, CA 92121	1
KENNETH RIDGEWAY	SAIC 1845 TERMINAL DR. SUITE 202 RICHLAND, WA 99352	1

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