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ENGINEERING DATA TRANSMITTAL

Page 1 of 1

1 EDT

624868

2 To (Receiving Organization) DISTRIBUTION S		3 From (Originating Organization) INTERIM STABILIZATION ENGINEERING		4 Related EDT No N/A	
5 Proj /Prog /Dept /Div 241-S & SX		6 Design Authority/Design Agent/Cog Engr W F ZUROFF / J E LAMPHERE		7 Purchase Order No N/A	
8 Originator Remarks APPROVAL AND RELEASE OF DESIGN REVIEW REPORT				9 Equip /Component No N/A	
11 Receiver Remarks 11A Design Baseline Document? <input checked="" type="radio"/> Yes <input type="radio"/> No				10 System/Bldg /Facility 241-S-102	
				12 Major Assm Dwg No N/A	
				13 Permit/Permit Application No N/A	
14 Required Response Date					

15 DATA TRANSMITTED					(F)	(G)	(H)	(I)
(A) Item No	(B) Document/Drawing No	(C) Sheet No	(D) Rev No	(E) Title or Description of Data Transmitted	Approval Designator	Reason for Transmittal	Originator Disposition	Receiver Disposition
1	HNF-4065	1-21	0	DESING REVIEW REPORT FOR S AND SX FARM LEAK DETECTORS	N/A	2	1	1

16 KEY					
Approval Designator (F)		Reason for Transmittal (G)		Disposition (H) & (I)	
E S Q D O R N/A (See WHC-CM 3 5 Sec 12 7)		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

17 SIGNATURE/DISTRIBUTION (See Approval Designator for required signatures)											
(G) Reason	(H) Disp	(J) Name	(K) Signature	(L) Date	(M) MSIN	(G) Reason	(H) Disp	(J) Name	(K) Signature	(L) Date	(M) MSIN
		Design Authority W F ZUROFF		1/27/00	57-29						
		Design Agent									
2	1	Cog Eng J E LAMPHERE		1/27/00	57-29						
2	1	Cog Mgr M R KOCH		1/27/00	57-29						
		QA									
		Safety									
		Env									

18 J E LAMPHERE Signature of EDT Originator Date 1/27/00		19 M R KOCH Authorized Representative for Receiving Organization Date 1/27/00		20 W F ZUROFF Design Authority/ Cognizant Manager Date 1-27-00		21 DOE APPROVAL (if required) Ctrl No _____ <input type="radio"/> Approved <input type="radio"/> Approved w/comments <input type="radio"/> Disapproved w/comments	
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DESIGN REVIEW REPORT FOR S AND SX FARM LEAK DETECTORS (ECN-649594)

J E Lamphere

CH2M HILL

Richland WA 99352

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241-S LEAK DETECTORS DESIGN REVIEW REPORT

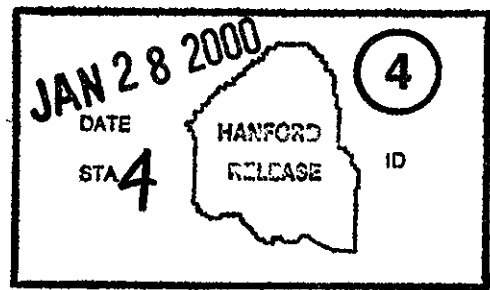
Abstract

The design for S & SX Farm Leak Detector ECN (649594) provides leak detection for valve pits S-A & S-B the Over Ground Transfer (OGT) conduit installation for the leak detection in COB #10 between #10 and PICS at 241-S-106 The Design Review was held 11/20/98 All comments received on RCR forms during the meeting are recorded on the meeting minutes were resolved and incorporated to the satisfaction reviewers

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Approved For Public Release

HNF-4065, Revision 0

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HNF-4065, Revision 0**1.0 SCOPE**

A design review meeting was conducted to review ECN-649594 on November 20, 1998. During the review meeting all RCR's were reviewed and dispositioned to the satisfaction of the reviewers. The review encompassed S and SX Farm Leak Detector design considerations. The TWRS Facility Safety Equipment List (SEL) HNF-SD-W SEL-040, Revision 1 classifies Leak Detection Elements as component safety class. The reason being that if the pit cover were not in place, undetected leakage could result in potential environmental releases which exceed the on-site or off-site risk assessment criteria. A Radiological design review is required (per 10CFR835 and DOE Policy as indicated in HSRM-1, Revision 2) to determine if the modifications collectively change the dose rate by impacting radiological sources, contamination control, or shielding.

Documents Reviewed

- 1) ECN-649594, 241-S & SX Leak Detectors. The ECN Provides leak detection for Valve Pit S-A and S-B, the Over Ground Transfer (OGT) at Valve Pits S-B and S-D to support Saltwell Pumping activities. Also provided are conduit installation for leak detection in COB # 10 between COB # 10 and PICS at 241-S-106.
- 2) USQ-TF-98-0832, Revision 1. The USQ proposed activity consists of the Saltwell Equipment in preparation for the Saltwell campaign for 241-S-102. This tank has been identified as Facility Group 2 (BIO Appendix E, Page B-18). The activity includes installation of the Jet Pump, Pumping and Instrumentation and Control (PIC) Skid, Flammable Gas Monitor (FGM), modification of power supply and the installation of Leak Detection Station. This activity includes electrical cable routing from the pump pit and leak detector elements. The USQ specifically includes the installation of a Mini Power Zone Wiring from new Leak Detector Station to the Mini Power Zone and connecting DH-485 cable to the leak station. The leak detector probes for 241-S-A and 241-S-B valve pits will also be installed in the new leak detection station with their individual circuits. The USQ provides that the screening for activities involved in implementing ECN-649594 did not warrant a Determination. A revision 1 prepared to address the new ECN.
- 3) Radiological Design Review Screening. The Radiological Design Review Screening provides documentation that the dose rate, due to ECN-649594 activities would not collectively change the dose rate by impacting radiological sources, contamination control or shielding.

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2.0 SUMMARY

The design review meeting was conducted on November 20, 1998. The meeting minutes are attached in Appendix A. Comments were recorded on Review Comment Records, Appendix B, in the meeting minutes. No further comments were made. The conclusion of the meeting is that with all RCR comments dispositions within the ECN, that the design met or exceeded the requirements for leak detection.

No outstanding action items remain on the design for ECN-649594.

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DOCUMENTATION

3 0 **DOCUMENTATION**

3 1 Meeting Minutes

3 2 Review Comment Records

MEETING MINUTES

SUBJECT DESIGN REVIEW MEETING ECN 649594

TO DISTRIBUTION		BUILDING 2704 HV		
FROM Interim Stabilization Engineering		CHAIRMAN W F Zuroff		
DEPARTMENT OPERATION COMPONENT ISE	AREA 200E	SHIFT	DATE OF MEETING 11/20/98	NUMBER ATTENDING 9

Design Review Committee Members

G P Janicek* Design Authority
 W F Zuroff* Cognizant Manager - ISE
 J E Lamphere* Cognizant Engineer - ISE
 T H Nguyen* Electrical Engineer - ISE
 O M Jaka* Nuclear Engineer
 B R Johns* Electrical Engineer - ISE
 J N Doeler* Facility Cognizant Engineer
 K J Hull* Facility Cognizant Engineer
 M J Bryden* Electrical Engineer

*** Meeting Attendees**

This Design Review Meeting was called to determine if ECN-649594, S and SX Farm Leak Detectors meet and/or exceeded the requirements of Basis for Interim Operation (BIO), HNF-SD-WM-BIO-001 and TWRS Facility Safety Equipment List (SEL), HNF-SD-WM-SEL-040. A general description of the lead detection operation was presented. Comments were received in the form of Review Comment Records (RCR) and these comments were dispositioned to the satisfaction of the reviewers. Additional comments were noted during the meeting and are reported as follows:

- 1) DH-485 references should be deleted from scope of this ECN and remain scoped within a separate ECN. This revision may have extensive impact on the scope of ECN-649594, therefore, scope revision will be accomplished in subsequent meeting(s) between designer and Design Authority.
- 2) PM/S presently listed as Recall Basis 3 should be revised to Recall Basis 1. New cards will be generated as TF-FT-479-004 is revised.
- 3) Present Dome Loading is at 72,300#. Contributions per this ECN would be 4500#.
- 4) Preparation for a Work Plan was requested. This Work Plan would articulate the functional aspects of the PLC control Ladder Diagram and HMI Interface. The Work Plan would also include how the present system complies with mandated expectations. It was noted that the PM/S cards need to be revised from Recall 3 to Recall 1 by T H Nguyen. W F Zuroff requested that a work plan be prepared.

The Design Review will be closed by completion of the RCR's and signature of approval on the Engineering Change Notice ECN-649594.

REVIEW COMMENT RECORD (RCR)

1 Date 11/20/98		2 Review No	
3 Project No		4 Page 1 of 2	

5 Document Number(s)/Title(s)	6 Program/Project/ Building Number	7 Reviewer J Doelen	8 Organization/Group	9 Location/Phone
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17 Comment Submittal Approval	10 Agreement with indicated comment disposition(s)	11 CLOSED
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Organization Manager (Optional)	12/14/98	J Doelen	12/14/98	J Doelen
	Date	Reviewer/Point of Contact	Date	Reviewer/Point of Contact
		Author/Originator		Author/Originator

12 Item	13 Comment(s)/Discrepancy(s) (Provide technical justification for the comment and detailed recommendation of the action required to correct/resolve the discrepancy/problem indicated)	14 Hold Point	15 Disposition (Provide justification if NOT accepted)	16 Status
1)	Need a plan to coordinate shutdown of powerline pumping 5-103/5-106 during work that PM5 can do to be modified and generated		NOT INCORPORATED TO PREPARE	C
2)	More leak detector stations for power center off 5-102 preferably outside of enclosure		INCORPORATED COMMENTS	C
3)	Indicates operating procedure needed for pumping 5-102		INCORPORATED COMMENTS	C
4)	Pg 6 indicates ECN for 5-103 PICS shed and that COB #10 leak detector to be removed from 5-106 PICS		INCORPORATED COMMENTS	C
5)	General I cannot find mention of the OGT leak detectors		IDENTIFIED OGT LEAK DETECTORS MORE CLEARLY	C
6)	Pg 57- OGT leak detector in 5-D put not shown		IDENTIFIED OGT LEAK DETECTOR IS S-D PUT	C

REVIEW COMMENT RECORD (RCR)		1	Date	2	Review No
		3	Project No	4	Page
		2 of 2			

12 Item	13 Comment(s)/Discrepancy(s) (Provide technical justification for the comment and detailed recommendation of the action required to correct/resolve the discrepancy/problem indicated)	14 Hold Point	15 Disposition (Provide justification if NOT accepted)	16 Status
8)	pg 6 - indicate junc box is for OGT leak detector in 241-S-B pit		INCORPORATED COMMENT	C
9)	pg 6 - what is SN-213		SN 213 RELATED TO IDENTIFY IT AS A DISCONNECT SUBJECT	C
10)	pg 12, 13, & 14 could you indicate which leads is pined from LD1, LD2, LD3, LD4		INCORPORATED COMMENT	C

REVIEW COMMENT RECORD (RCR)

1	Date	2	Review No
	11/20/98		1eak-1
3	Project No	4	Page
	649594		1 of 2

5	Document Number(s)/Title(s)	6	Program/Project/ Building Number	7	Reviewer	8	Organization/Group	9	Location/Phone
	ECN 649594/S AND SX FARM LEAK DETECTORS		241-S AND -SX		B R JOHNS		INTERIM STABILIZATION		2704HV/DI11/373- 3429

17 Comment Submittal Approval 10 Agreement with indicated comment disposition(s) 11 CLOSED

Organization Manager (Optional)

Reviewer/Point of Contact

Date

Reviewer/Point of Contact

Author/Originator

12 Item	13 Comment(s)/Discrepancy(s) (Provide technical justification for the comment and detailed recommendation of the action required to correct/resolve the discrepancy/problem indicated)	14 Hold Point	15 Disposition (Provide justification if NOT accepted)	16 Status
✓ 1	Pages 3 and 4 ECN page references are one page off		INCORPORATED COMMENT	S
✓ 2	Page 3 Under Description of Change, the last sentence should include COB #'s 19, 21, and 22 besides 25		COB #'s 19, 21 AND 22 ARE NOT BEING COVERED WITH PLASTIC AND CARBUREL PER THIS ECN	C
✓ 3	Page 3 Under Description of Change, third paragraph, "PB-S103-1" change to "PB-S103-I"		INCORPORATED COMMENT	✓C
✓ 4	Page 6 Add note to sketch for drafting not to incorporate ECN references on drawing		ECN REFERENCES REMOVED FROM DRAWING OK	C
✓ 5	Page 10 For switch, #3 label, do the COB #'s need to be reference as on page 11, switch #4?		INCORPORATED COMMENT	YES C
6	Page 12 Need consistency in wire numbering. Some wire labels indicate destination, others do not. See my marked up drawing for reference.		INCORPORATED COMMENT	✓C
7	Page 12 Some wire routing is confusing. Recommend neutral to strobe light come from the neutral block. The SL-H wire from the strobe should go to LD2-4 terminal 5 rather than the middle of the wire. See my mark up.		INCORPORATED COMMENT	✓C
8	Pages 13 and 14 Same comments as on page 12		INCORPORATED COMMENT	✓C

REVIEW COMMENT RECORD (RCR)

REVIEW COMMENT RECORD (RCR)					
1		Date		2	Review No
3		Project No		4	Page
649594		11/20/98		leak-1	
2 of 2					
12 Item	13 Comment(s)/Discrepancy(s) (Provide technical justification for the comment and detailed recommendation of the action required to correct/resolve the discrepancy/problem indicated)	14 Hold Point	15 Disposition (Provide justification if NOT accepted)	16 Status	
9	Pages 15, 16 and 17 The "See Connector Wiring Diagram" designation, where is the connection diagram May need to reference location?		WHEN DRAWING IS CREATED THE CONNECTOR WIRING DIAGRAM WILL APPEAR ON THE SAME SHEET AS THE DIAGRAMS SHOWN ON PAGE 15 16 & 17 Shown on pg 15 Self	C	
10	Page 26 The 799 value for watts of the MPC-E seems low Looks like the value was left over from the heat trace that was there previously I would recommend at least a 1000 watts per phase be used The subtotals and totals will have to be changed		INCORPORATED COMMENTS	✓ C	
11	Pages 13 and 14 Why are these pages being added to the drawing? Didn't previous ECN's create these wiring diagrams? Seems these pages should be just reflecting changes		INCORPORATED COMMENTS	✓ C	

REVIEW COMMENT RECORD (RCR)

1	Date	11/19/98	2	Review No
3	Project No		4	Page
		1 of 2		

5	Document Number(s)/Title(s)	6	Program/Project/ Building Number	7	Reviewer	8	Organization/Group	9	Location/Phone
	ECN-649594 S AND SX FARM LEAK DETECTORS		241-S & SX		J E LAMPHERE		INTERIM STABILIZATION		373-5378

17 Comment Submittal Approval

10 Agreement with indicated comment disposition(s) 11 CLOSED

Organization Manager (Optional)

12/14/98 Date

12/14/98 Date

Reviewer/Point of Contact

Author/Originator

12 Item	13 Comment(s)/Discrepancy(s) (Provide technical justification for the comment and detailed recommendation of the action required to correct/resolve the discrepancy/problem indicated)	14 Hold Point	15 Disposition (Provide justification if NOT accepted)	16 Status
1	INCLUDE FACILITY ENGINEER, JEFF DOELER TO PAGE 1, LIST BLOCK 15 OF ECN 649594 ISN'T ECN-638490L SIGNED OFF AS "WORK COMPLETE"?	JL	INCORPORATED COMMENT	✓
2	BLOCK 14b, PAGE 1 OF ECN-649594 NEEDS TO BE MORE DESCRIPTIVE OF ACTUAL WORK TO BE ACCOMPLISHED	JL	INCORPORATED COMMENT	✓
3	ARE THERE PM/S SHEETS INVOLVED? IF SO THEY SHOULD BE LISTED IN BLOCK 20, PAGE 2, OF ECN-649594	JL	INCORPORATED COMMENT	✓
4	PAGE 6 OF ECN-649594 REDUCE CLOUD SIZE TO INDICATE ONLY NEW WORK ITEMS WHERE IS SN-213	JL	INCORPORATED COMMENT	✓
5	PAGE 7 OF ECN-649594 REDUCE CLOUD SIZE TO INDICATE ONLY NEW WORK ITEMS IS THERE A DETAIL OF EXACT LOCATION OF SKID, LEAK DETECTOR STATION, ETC DOME LOADING CALCULATIONS MAY LOCATE THEM BETTER	JL	INCORPORATED COMMENT	✓
6	PAGE 3 OF ECN-649594 PAGE NUMBERING PROBLEM	JL	INCORPORATED COMMENT	✓
7	PAGE 9, 10, & 11 OF ECN-649594 THE ONLY SIGNIFICANT DIFFERENCE BETWEEN THESE PAGES ARE THE CONDUITS AND WIRE INFORMATION DO ALL THREE PAGES NEED TO BE ADDED TO H-2-46477, SH 1?	JL	INCORPORATED COMMENT	✓
8	PAGE 12, 13, 14 OF ECN-649594 ADD BONDING OF CONTROLLER ENCLOSURE DO ALL THREE PAGES NEED TO BE ADDED TO H-2-46477, SH 1?	JL	INCORPORATED COMMENT SEE ITEM 7 ABOVE	✓

REVIEW COMMENT RECORD (RCR)

		1 Date	2 Review No		
		11/19/98			
		3 Project No	4 Page		
			2 of 2		
12 Item	13 Comment(s)/Discrepancy(s) (Provide technical justification for the comment and detailed recommendation of the action required to correct/resolve the discrepancy/problem indicated.)	14 Hold Point	15 Disposition (Provide justification if NOT accepted.)	16 Status	
9	PAGE 19 OF ECN-649594 REDUCE CLOUD SIZE TO INDICATE ONLY NEW WORK ITEMS	JL	INCORPORATED COMMENTS	✓C	
10	PAGE 21 OF ECN-649594 INDICATE POINT OF ATTACHMENT, DRIP LOOP, POLE, & GROUNDING INFORMATION ARE YOU COORDINATING THIS WITH SITE UTILITIES? ARE YOU GOING TO ADD DETAILS?	JL	FACILITIES WORK UTILITIES IS NOT REQUIRED	C	
11	PAGE 25 OF ECN-649594 ADD PARTS INFORMATION FOR UTILITY POLE WORK	JL	NO UTILITIES POLE WORK	C	

REVIEW COMMENT RECORD (RCR)

1 Date November 19 1998		2 Review No 1075-98	
3 Project No 241-S and SX		4 Page 1 of 1	

5 Document Number(s)/Title(s) ECN 649594/S and SX Farm Leak Detectors	6 Program/Project/ Building Number Saltwell Pumping	7 Reviewer Omar Jaka	8 Organization/Group TWRS-Safety Services	9 Location/Phone 2704HV/F100D/2-2322
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10 Agreement with indicated comment disposition(s) 11 CLOSED	
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Organization Manager (Optional) m. J. Jaka	Reviewer/Point of Contact Date 12/14/98	Reviewer/Point of Contact Date 12/14/98	Author/Originator m. J. Jaka
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12 Item	13 Comment(s)/Discrepancy(s) (Provide technical justification for the comment and detailed recommendation of the action required to correct/resolve the discrepancy/problem indicated)	14 Hold Point	15 Disposition (Provide justification if NOT accepted)	16 Status
1	USQ screening is not attached to the ECN to complete the review	OJ	PROVIDED OWNER WITH A COPY OF THE USQ SCREENING	S
2	ECN item 14b is not very clear. Also the reason for this change is not very well described	OJ	INCORPORATED COMMENT	S
3	ECN sheet no 5 is not reflecting the current rev of the Drawing H-2-46477	OJ	INCORPORATED COMMENT	S
4	On sheet 3 calls out to provide plastic sheet and bury it with 8" of gravel. I would like to see more description of this plastic sheet cover	OJ	PROVIDED OWNER WITH A ENGINEERING CALC FOR THIS	C
5	On several pages (page 7 22 etc) same symbol for ground and concrete is used which is not very correct	OJ	INCORPORATED COMMENT	S

REVIEW COMMENT RECORD (RCR)

1 Date 11/20/98		2 Review No	
3 Project No		4 Page 1 of 2	
5 Document Number(s)/Title(s) ECN 649594		6 Program/Project/ Building Number S/SX LEAK DET	7 Reviewer TJ VOLKMAN
8 Organization/Group QA		9 Location/Phone 240444/113 323.5345	
10 Agreement with indicated comment disposition(s) 11 CLOSED			
12 Comment Submittal Approval		13 Reviewer/Point of Contact Date 12/14/98	
14 Organization Manager (Optional)		15 Author/Originator	

12 Item	13 Comment(s)/Discrepancy(s) (Provide technical justification for the comment and detailed recommendation of the action required to correct/resolve the discrepancy/problem indicated)	14 Hold Point	15 Disposition (Provide justification if NOT accepted)	16 Status
1	STANDARDIZE/SPECIFY COB COVERS		INCORPORATED COMMENT	C
2	P9C SPECIFY GROUND ROD SIZE & INSTALLATION CRITERIA (INCLUDING LOCATION)		INCORPORATED COMMENT	S
3	P9 24425 - COMPLETE MATERIAL LIST		INCORPORATED COMMENT	C

REVIEW COMMENT RECORD (RCR)

5 Document Number(s)/Title(s) ECN 649594		6 Program/Project/ Building Number	7 Reviewer WF ZURRFF	8 Organization/Group	9 Location/Phone
17 Comment Submittal Approval		11 CLOSED			
Organization Manager (Optional)		Date 2/15/98			
10 Agreement with indicated comment disposition(s)		Reviewer/Point of Contact 2/15/98 Date			
13 Comment(s)/Discrepancy(s) (Provide technical justification for the comment and detailed recommendation of the action required to correct/resolve the discrepancy/problem indicated)		14 Hold Point		15 Disposition (Provide justification if NOT accepted)	
12 Item				16 Status	
1	Work Plan should be developed to describe the entire L/D process for the S/SX Farm Complex			Incorporated comment	
2	Pg 12 - inconsistent will label designations component pointers not consistent			Incorporated comment	
3	Pg 6 show the OST Leak probes. - consistent			Incorporated comment	
4	Resolove the issue of ECN 6384902 which is work complete to remove from current ECN			Incorporated comment	
5	Pg 2 - Add formal Review block per ECN procedure.			Incorporated comment	

REVIEW COMMENT RECORD (RCR)				
1	Date	2	Review No	
3	Project No	4	Page	2 of 2
12 Item	13 Comment(s)/Discrepancy(s) (Provide technical justification for the comment and detailed recommendation of the action required to correct/resolve the discrepancy/problem indicated.)	14 Hold Point	15 Disposition (Provide justification if NOT accepted)	16 Status
6	Pgt 2 and 3 - Purge out anything to do with superseded ECM		interrogated comments	C/
7	Remove			

[illegible]