

ENGINEERING CHANGE NOTICE

Page 1 of 7

1. ECN ~~XXXXXX~~

Proj. ECN B-714-60

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

3. Originator's Name, Organization, MSIN, and Telephone No.
HAL J. STEFFENS, KEH, E6-32, 6-6355

4. Date
10-10-90

5. Project Title/No./Work Order No.
SEE BLOCK 12

6. Bldg./Sys./Fac. No.
218-E-16

7. Impact Level
3

8. Document Number Affected (include rev. and sheet no.)
SEE BLOCK 12

9. Related ECN No(s).
B-714-49

10. Related PO No.
N/A

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

11b. Work Package Doc. No.
UNKNOWN

11c. Complete Installation Work

Cog. Engineer Signature & Date

11d. Complete Restoration (Temp. ECN only)

Cog. Engineer Signature & Date

12. Description of Change

Block 5: B-714, GROUT VAULT PAIR (218-E-16-102 & 103)(218-E-16-104 & 105)/ER8007

Block 8: SPECIFICATION B-714-C2, REV 0 (V-B714C2-003, REV 0)

SPECIFICATION B-714-P1, REV 0

SEE PAGE 3 & 4 FOR DESCRIPTION OF CHANGES TO SPEC B-714-C2

SEE PAGE 4 FOR DESCRIPTION OF CHANGES TO SPEC B-714-P1

<u>KEH DISTRIBUTION</u>	<u>WHC DIST. (con't)</u>		
Const Doc Cntl E2-50	O. A. Halverson	R3-09	STATION 10 A3-87
Engrg Doc Cntl E6-52	J. F. Hill [2]	H4-57	LUPE GARZA A3-80
	J. R. McGee	S1-54	
<u>WHC DISTRIBUTION</u>	D. B. Powell [4]	R4-03	
Project Files R1-28	J. E. Vanbeek	R3-27	
S. R. Briggs(PE R3-27			
J. K. Epperley S0-05	<u>DOE</u>		
	A. G. Lassila	A5-18	

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

13b. Justification Details

CC) Change from Safety Class 2 to 3 per WHC-SD-B714-W-QAPP-001, Rev 4 (item 6) DI) Loop resistance gives better check of thermocouple & leadwire integrity (item 4A); Clarification of relay operation & min conc temp (item 2 & 4B) FC) Tests required to show defective thermocouples. Identify defective thermocouples at terminal box (item 5). CHANGES DO NOT CAUSE ANY CHANGE IN FUNCTION OF FACILITY

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

<u>KEH DISTRIBUTION</u>	J. K. Epperley	50-03
G. R. Porter R3-46(WHC)	L. R. Hall	S1-54
Const Doc Cntl E2-50	A. P. Larrick	R1-51
Engrg Doc Cntl E6-52	K. J. Moss	R3-08
	E. J. Porter (PE)	R3-46
<u>WHC DISTRIBUTION</u>	J. D. Williams	H4-57
Project Files R1-28	R. B. Wurz	S5-15
D. E. Bowers SEE	<u>DOE</u>	
C. C. Cejka 80-25	A. G. Lassila	A5-18

BLOCK 12 ABOVE

Star 10/15/90

RELEASE STAMP

OFFICIAL RELEASE BY WHC

DATE OCT 15 1990

STATION #4

13

ENGINEERING CHANGE NOTICE

Page 2 of 4

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

B-714-60

15. Design Verification Required

Yes
 No

16. Cost Impact

ENGINEERING

Additional \$ 1050
Savings \$ _____

CONSTRUCTION

Additional \$ 1250
Savings \$ _____

17. Schedule Impact (days)

Improvement 0
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 <input type="checkbox"/> Functional Design Criteria <input type="checkbox"/> Operating Specification <input type="checkbox"/> Criticality Specification <input type="checkbox"/> Conceptual Design Report <input type="checkbox"/> Equipment Spec. <input type="checkbox"/> Const. Spec. <input type="checkbox"/> Procurement Spec. <input type="checkbox"/> Vendor Information <input type="checkbox"/> OM Manual <input type="checkbox"/> FSAR/SAR <input type="checkbox"/> Safety Equipment List <input type="checkbox"/> Radiation Work Permit <input type="checkbox"/> Environmental Impact Statement <input type="checkbox"/> Environmental Report <input type="checkbox"/> Environmental Permit <input type="checkbox"/>	Seismic/Stress Analysis <input type="checkbox"/> Stress/Design Report <input type="checkbox"/> Interface Control Drawing <input type="checkbox"/> Calibration Procedure <input type="checkbox"/> Installation Procedure <input type="checkbox"/> Maintenance Procedure <input type="checkbox"/> Engineering Procedure <input type="checkbox"/> Operating Instruction <input type="checkbox"/> Operating Procedure <input type="checkbox"/> Operational Safety Requirement <input type="checkbox"/> ICFD Drawing <input type="checkbox"/> Cell Arrangement Drawing <input type="checkbox"/> Essential Material Specification <input type="checkbox"/> Fac. Proc. Samp. Schedule <input type="checkbox"/> Inspection Plan <input type="checkbox"/> Inventory Adjustment Request <input type="checkbox"/>	Tank Calibration Manual <input type="checkbox"/> Health Physics Procedure <input type="checkbox"/> Spares Multiple Unit Listing <input type="checkbox"/> Test Procedures/Specification <input type="checkbox"/> Component Index <input type="checkbox"/> ASME Coded Item <input type="checkbox"/> Human Factor Consideration <input type="checkbox"/> Computer Software <input type="checkbox"/> Electric Circuit Schedule <input type="checkbox"/> ICRS Procedure <input type="checkbox"/> Process Control Manual/Plan <input type="checkbox"/> Process Flow Chart <input type="checkbox"/> Purchase Requisition <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/>
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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
<u>OPERATIONS AND ENGINEERING</u>		<u>ARCHITECT-ENGINEER</u>	
Cog./Project Engineer <u>LR Dwyer</u>	<u>10/15/90</u>	PE <u>KC Burgard</u>	<u>10/15/90</u>
Cog./Project Engr. Mgr. <u>DRD in PE Vostal</u>	<u>10/15/90</u>	QA <u>DR Rymans J. White</u>	<u>10-15-90</u> <u>10-15-90</u>
QA <u>Jack Torrance</u>	<u>10/15/90</u>	Safety <u>[Signature]</u>	<u>10-15-90</u>
Safety _____	_____	Other <u>PLE [Signature]</u>	<u>10/15/90</u>
Security _____	_____	<u>INSTM H. Stephens</u>	<u>10/12/90</u>
Proj. Prog./Dept. Mgr. _____	_____	<u>ELEC G.R. Snowwhite</u>	<u>10/15/90</u>
Def. React. Div. _____	_____	<u>ENVIR David Lyle Fort</u>	<u>10/15/90</u>
Chem. Proc. Div. _____	_____	<u>DEPARTMENT OF ENERGY</u>	
Def. Wst. Mgmt. Div. _____	_____	_____	_____
Adv. React. Dev. Div. _____	_____	_____	_____
Proj. Dept. _____	_____	<u>ADDITIONAL</u>	
Environ. Div. _____	_____	<u>KEH SPECS</u>	<u>P/15/90</u>
IRM Dept. _____	_____	<u>[Signature]</u>	<u>P/15/90</u>
Facility Rep. (Ops) _____	_____	_____	_____
Other _____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

CHANGES TO SPECIFICATION B-714-C2

- 1) SECTION 01027: Add new para 1.4.1.1a as follows
- a. Payment for materials stored at locations other than Project site may be authorized at discretion of KEH.
- 2) SECTION 03301, PARA 3.2.9.5: Change 3rd sentence to read as follows
- When freezing temperatures are likely to occur within 24 hours heat concrete materials so minimum temperature of concrete when deposited will be 40 F.
- 3) SECTION 13440: Add new para as follows
- 1.4 FURNISHED EQUIPMENT
- 1.4.1 Following items are furnished for Contractor installation. Upon request, one copy of approved vendor submittal data will be furnished. Deliver equipment delivery requirements 10 days before need.
- 1.4.1.1 Sheathed, Type K thermocouples for installation in conduit in walls and floor slab of vaults.
- 4) ECN B-714-49 (affects Section 13440 & 16400 respectively)
- A) Pg 6, item 11: Replace para 3.2.2 with the following
- 3.2.2 Test and record loop resistance of vault wall and slab thermocouple element, transition joint and leadwire before associated concrete lift or pour that will encase thermocouple element within wall or slab. Recorded loop resistance shall be plus or minus 2 percent (adjusted for ambient temperature) of value as recorded in furnished vendor submittal data, see paragraph 1.4.1. Replace defective or damaged thermocouples with spare and retest until unit passes. Place new heat shrinkable tubular plastic cable marker imprinted with thermocouple tag number and length on end of spare thermocouple extension leadwire cable.
- B) Pg 8, item 14D: Change to read
- g. Common alarm relay with 2 SPDT contacts, 24 V dc, energized in normal operation.
- 5) SECTION 16400
- A) Para 3.3.2.2: Change 2nd sentence to read
- Resistance, except thermocouple leads, shall not exceed 1 ohm on continuity checks.
- B) Renumber para 3.3.2.3 & 3.3.2.4 to 3.3.2.4 & 3.3.2.5 respectively

CHANGES TO SPECIFICATION B-714-C2 SECTION 16400 CONTINUED

C) Add new para 3.3.2.3 as follows

3.3.2.3 Thermocouple tests

a. Test and record vault wall and slab thermocouple loop resistance before cutting leadwire for connection to thermocouple terminal boxes. Loop resistance shall be plus or minus 2 percent (adjusted for ambient temperature) of value recorded in furnished vendor submittal data, see Section 13440, Paragraph 1.4.1 Before connection of thermocouples, imprint and install heat shrinkable tubular plastic cable markers on thermocouple cable with thermocouple tag number. In addition, thermocouples that test out of tolerance, imprint words: "faulty thermocouple" on cable marker.

b. Test and record loop resistance of all thermocouples in each thermocouple probe assembly at terminals in temperature element terminal box, see Section 13440, Data Sheet Y-102.

CHANGES TO SPECIFICATION B-714-P1

- 6) Table of Contents (pg i): Delete APPENDIX C CGI LISTING
- Para 5.3.4: Delete
- CGI Listing (pg 8): Delete