START

ATTACHMENT 7

0012008 14

# ENGINEERING CHANGE NOTICE

Page 1 of 5 / 6

1. ECN 112851

Proj. ECN

| 2. ECN Category (mark one) | 3. Originator's Name, Organization, MSIN, and Telephone No. | | 4. Date |
|---|---|---|---|
| Supplemental [X]<br>Direct Revision [ ]<br>Change ECN [ ]<br>Temporary [ ]<br>Supersedure [ ]<br>Discovery [ ]<br>Cancel/Void [ ] | L. V. Feigenbutz, 82921, R1-48, 3-5802 | | April 5, 1990 |
| | 5. Project Title/No./Work Order No.<br>B-714 Grout Disposal Facility | 6. Bldg./Sys./Fac. No.<br>218-E-16 | 7. Impact Level<br>2 |
| | 8. Document Number Affected (include rev. and sheet no.)<br>SD-714-FDC-001, Revision 2 | 9. Related ECN No(s).<br>103639, 112890 | 10. Related PO No.<br>NA |

| 11a. Modification Work | 11b. Work Package Doc. No. | 11c. Complete Installation Work | 11d. Complete Restoration (Temp. ECN only) |
|---|---|---|---|
| [ ] Yes (fill out Blk. 11b)<br>[X] No (NA Blks. 11b, 11c, 11d) | NA | NA<br>Cog. Engineer Signature & Date | NA<br>Cog. Engineer Signature & Date |

12. Description of Change

Change description begins on Page 3.

DEC 1990 RECEIVED EDMC

| 13a. Justification (mark one) | 13b. Justification Details |
|---|---|
| Criteria Change [X]<br>Design Improvement [ ]<br>Environmental [ ]<br>As-Found [ ]<br>Facilitate Const. [ ]<br>Const. Error/Omission [ ]<br>Design Error/Omission [ ] | See Page 3 through 6 for justification. |

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

| | | | |
|---|---|---|---|
| S. R. Briggs | R3-27 | T. W. Staehr | R3-27 |
| W. C. Carlos | S2-03 | A. R. Tedeschi | R1-48 |
| R. D. Claghorn | R1-48 | J. E. Van Beek | R3-27 |
| O. A. Halvorson | R3-09 | G. F. Williamson | R1-48 |
| J. R. McGee | S1-54 | D. D. Wodrich | R1-48 |
| R. L. Moxin | S4-43 | M. W. Cline | R1-48 |
| D. R. Nunamaker | S5-04 | J. S. Hill (2) | H4-57 |
| W. J. Powell | R1-48 | D. B. Powell (2) | R1-48 |
| D. R. Pratt | T1-30 | | |

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DATE JUL 02 1990

Sta #4

A-7900-013 (11/88)

# ENGINEERING CHANGE NOTICE

Page 2 of 5

1. ECN (use no. from pg. 1): 112851

| 15. Design Verification Required | 16. Cost Impact | | 17. Schedule Impact (days) |
|---|---|---|---|
| | ENGINEERING | CONSTRUCTION | |
| ☐ Yes | Additional ☐ $ NA | Additional ☐ $ NA | Improvement ☐ NA |
| ☒ 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.

| | | | | | |
|---|---|---|---|---|---|
| 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 |
|---|---|---|
| DOE/RL 88-27 GROUT TREATMENT FACILITY DANGEROUS WASTE PERMIT APPLICATION, PART B PERMIT | | |
| GROUT TREATMENT FACILITY SAFETY ANALYSIS REPORT WHC-SD-WM-SAR-042 | | |

20. Approvals

| | Signature | Date | | Signature | Date |
|---|---|---|---|---|---|
| OPERATIONS AND ENGINEERING | | | ARCHITECT-ENGINEER | | |
| X Cog./Project Engineer | [signature] | 5/18/90 | PE | | |
| X Cog./Project Engr. Mgr. | [signature] | 5-21-90 | QA | | |
| X QA | [signature] | 5-18-90 4/9/90 | Safety | | |
| X Safety | [signature] | 5/21/90 | Design | | |
| Security | | | Other | | |
| Proj.Prog./Dept. Mgr. | | | | | |
| Def. React. Div. | | | | | |
| Chem. Proc. Div. | | | | | |
| Def Wst. Mgmt. Div. | | | DEPARTMENT OF ENERGY | | |
| Adv. React. Dev. Div. | | | X CHANGE REQUEST NO. B-714-025 | | |
| X Proj. Dept. | [signature] | 5/21/90 | | | |
| X Environ. Div. | R.O. Beginning received Telecon approval D.R. Pratt Per telecon approval by D. Pratt on 5/29/90 L.V.B. | 4/9/90 | ADDITIONAL | | |
| IRM Dept. | | | | | |
| X Facility Rep. (Ops) | [signature] | 4/10/90 | [signature] | 5/29/90 | |
| X Other | [signature] Sponsor Limited | 5/21/90 | | | |
| Affected Cog. Engineers | | 4-9-90 | Received Telecon approval by D. Nunamaker 5/29/90 L.V.B. | | |
| L.V. Beginning received D.R. Nunamaker Telecon approval | | | | | |
| [signature] | [signature] 5-30-90 | 4-10-90 | | | |
| [signature] | [signature] 5-24-90 | 4-10-90 | | | |

A-7900-013R (11/88

1. Change the wording "Project B-714" to "Project B-714 and W-125" in the title on page A; in the title on the Initial Release and Change Control Record page; in Section 1.1, paragraph 1, 2, and 6; in Sections 1.2, 2.1.7, and 2.6.1.

   Justification: The Grout Disposal Facility program will provide disposal vaults in a series of specific contracts during the 20-25 year life of the program. The DOE-RL approved Project Management Plan for Project W-125 specifies the technical objectives are described in the Project B-714 Functional Design Criteria, SD-714-FDC-001, Rev. 2. This ECN provides the traceability for FDC requirements for Project W-125 vaults 106-109.

2. Change the name "Transportable Grout Equipment" and acronym "TGE", to "Grout Processing Facility" and to acronym "GPF", in: Section 1.1, paragraph 1; Section 2.3.1; Section 2.7, fifth bullet. Do not change the name in Section 1.1 paragraph 2 and Section 2.1.8 which refers to the title of approved documents.

   Justification: Grout Facility changed the name to emphasize the GPF mission and remove the image of a transportable system.

3. Section 2.2.9, revise paragraph to read:

   2.2.9 The grout disposal vault shall limit air inleakage to a maximum of 600 cubic feet per minute at 0.5 in. water gage vacuum. Grout processing shall be automatically shutdown, with appropriate alarms; at a vault pressure greater than negative 0.3 in. (-0.3 in.) water gage, after a time delay to eliminate pressure spikes.

   Justification: DOE Order 6430.1A and Westinghouse policy documents, WHC-CM-7-5 and WHC-CM-4-11, requires that effluent released to the environment be reduced to ALARA levels using the best technology economically available at the time of design. The Preliminary Safety Evaluation, WHC-SD-WM-DA-036, January 16,1990, for the vault shows that reduction of air inleakage to the vault will reduce effluent to the environment. The reduction of air infiltration may be accomplished by a careful installation of the vault structure and surrounding asphalt barrier, and proper sealing of the vault covers and air pathways in the covers. Exhaust system analysis (WHC memo, R. R. Wyer to W. J. Powell, "Allowable Grout Disposal Vault Air Inleakage", February 9, 1990) shows that the allowable inleakage is 600 scfm.

4. Section 2.3.7 (Section 2.3.6 in FDC Revision 2, supplemental ECN No. 103639 renumbered this section to 2.3.7), revise paragraph to read:

   2.3.7 The maximum operating pressure for the grout and the main excess-water distribution pipelines, from the Grout Processing Facility (GPF) mixer module wall to each central vault pit, will be 800 psig. For all other pipelines, except encasements, the maximum operating pressure will be 150 psig.

   Justification: Clarification of which lines are required to operate at 800 psig and to specify the required operating pressure for the excess-water pipeline jumpers and pumps in the vault pits. The excess-water lines within the central vault pit to the four excess-water vault pits and the leachate pit are not required to operate at 800 psig. The lower operating pressure will be required to allow the use of jumper assemblies within the vault pits in order to allow removal of pump equipment before vault closure.

5. Section 2.3.9 (Section 2.3.8 in FDC Revision 2, supplemental ECN No. 103639 renumbered this section to 2.3.9), revise paragraph to read:

   2.3.9 The main grout pipeline distribution system from the GPF to the branch point shall have a minimum operating life of 20 years and deliver a minimum of 64 million gallons of grout, each branch pipeline distribution system shall have a minimum operating lifetime of 20 years and deliver a minimum of 36 million gallons, and the pipeline to each vault from the branch distribution system shall have a minimum operating lifetime of 5 years and deliver a minimum of 1.5 million gallons. WHC shall provide the pipe specification for the distribution system design, which will be based on an engineering evaluation to determine which single pipe or system of pipes can be used to attain this lifetime and total flow requirements. The main excess-water pipeline distribution system shall have the same lifetime and grout flow capability as the grout pipeline distribution system. Cathodic protection is required to assure a 20 year operating life for the grout and main excess-water distribution system.

   Justification: Clarification as a result of a Grout Engineering review and KEH design verification review.

6. Add a new Section 2.3.10 as follows and renumber succeeding paragraphs:

   2.3.10 The excess-water pipelines on each vault from the central vault pit to the four excess-water vault pits and to the leachate pit shall have a minimum operating life of 5 years. The design of these pipelines shall be in accordance with the current section on design and installation of new tank systems or components in Chapter 173-303-640 WAC. If the short life of these pipelines do not justify the use of cathodic protection, ensure they are protected from stray currents from the cathodic protection system installed on grout pipelines and main excess water pipelines and on the leachate collection system.

   Justification: Omissions corrected as a result of a Grout Engineering review. The excess-water pipelines are ancillary equipment to the Liquid Collection Tank in the Grout Processing Facility.

7. Add to Section 4.0 the following Westinghouse document:

   - WHC-CM-1-3, "Management Requirements and Procedures," MRP 5.46, Safety Classification of Systems, Components and Structures, Revision 1, May 5, 1989.

   Justification: Correct an omission in ECN 112890 which added the safety classification of structures, components, and systems to the FDC.

# ENGINEERING CHANGE NOTICE

Page 1 of 2

1. ECN ~~142194~~
Proj ECN B-714-40

| 2. ECN Category (mark one) | 3. Originator's Name, Organization, MSIN, and Telephone No | | 4 Date |
|---|---|---|---|
| Supplemental [X]<br>Direct Revision [ ]<br>Change ECN [ ]<br>Temporary [ ]<br>Supersedure [ ]<br>Discovery [ ]<br>Cancel/Void [ ] | Gary L. Koci, KEH, E6-31, 376-6049 | | 05-14-90 |
| | 5. Project Title/No./Work Order No.<br>See Block 12 | 6. Bldg./Sys./Fac. No.<br>218-E-16 | 7. Impact Level<br>3 |
| | 8. Document Number Affected (include rev and sheet no.)<br>See Item 12 | 9. Related ECN No(s)<br>B-714-22 | 10. Related PO No<br>N/A |

| 11a. Modification Work | 11b. Work Package Doc. No. | 11c. Complete Installation Work | 11d. Complete Restoration (Temp ECN only) |
|---|---|---|---|
| [ ] Yes (fill out Blk. 11b)<br>[ ] No (NA Blks. 11b, 11c, 11d)<br>Unknown | Unknown | Cog. Engineer Signature & Date | Cog Engineer Signature & Date |

12. Description of Change

Block 5: B-714, Grout Vault Pair (218-E-16-102 thru 105)/ER8007

**********

Block 8: H-2-77593, Sh. 2, Rev. 0
H-2-78455, Sh. 2, Rev. 0

---

H-2-77593, Sh. 2, Rev. 0 ZN E2
a. Change "Grout" to "Grout all sump bearing areas with less than 1 1/2" clearance".

H-2-78455, Sh. 2, Rev. 0 ZN E2
a. Change "Grout" to "Grout all sump bearing areas with less than 1 1/2" clearance".

| 13a. Justification (mark one) | 13b. Justification Details |
|---|---|
| Criteria Change [ ]<br>Design Improvement [ ]<br>Environmental [ ]<br>As-Found [ ]<br>Facilitate Const. [X]<br>Const. Error/Omission [ ]<br>Design Error/Omission [ ] | Clarification for contractor installation. |

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

KEH DISTRIBUTION

| | |
|---|---|
| Const Doc Cntl | E2-50 |
| Engrg Doc Cntl | E6-52 |

WHC DISTRIBUTION

| | |
|---|---|
| Project Files | R1-28 |
| S. R. Briggs(PE | R3-27 |
| O. A. Halverson | R3-09 |
| J. F. Hill [2] | H4-57 |

WHC DIST. (con't)

| | |
|---|---|
| J. R. McGee | S1-54 |
| D. B. Powell | R1-48 |
| W. J. Powell [4] | R1-48 |
| J. E. Vanbeek | R3-27 |
| D. D. Wodrich | R1-48 |
| A. E. Young | S0-05 |

DOE

| | |
|---|---|
| A. G. Lassila | A5-18 |
| station #10 | A3-87 |

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OFFICIAL RELEASE BY WHC
DATE MAY 29 1990
Station #1
54

A-7900-013 (11/88)

# ENGINEERING CHANGE NOTICE



1. ECN (use no. from pg 1): B-714-40

| 15. Design Verification Required | 16. Cost Impact | | 17. Schedule Impact (days) |
|---|---|---|---|
| | ENGINEERING | CONSTRUCTION | |
| ☒ Yes | Additional ☒ $ 260 | Additional ☐ $ | Improvement ☐ NA |
| ☐ No | Savings ☐ $ | Savings ☒ $ 4000 | 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./Project Engineer | LR Burgan | 5/18/90 | PE | K C Burgard | 5/18/90 |
| Cog./Project Engr. Mgr. | LRB for DE VanDeh | 5/18/90 | QA | H. W. [illegible] for L.A. [illegible] | 5/18/90 5-18-90 |
| QA | Jack [illegible] | 5/18/90 | Safety | C D [illegible] | 5/18/90 |
| Safety | | | Design | [illegible] | 5/17/90 |
| Security | | | Other | R D Hollenbach | 5/18/90 |
| Proj.Prog./Dept. Mgr. | | | | | |
| Def. React. Div. | | | | | |
| Chem. Proc. Div. | | | | | |
| Def. Wst. Mgmt. Div. | | | DEPARTMENT OF ENERGY | | |
| Adv. React. Dev. Div. | | | | | |
| Proj. Dept. | | | | | |
| Environ. Div. | | | ADDITIONAL | | |
| IRM Dept. | | | | | |
| Facility Rep. (Ops) | | | | | |
| Other | | | | | |

# ENGINEERING CHANGE NOTICE

Page 1 of 3

1. ECN ~~[illegible]~~
Proj ECN B-714-41

| 2. ECN Category (mark one) | 3. Originator's Name, Organization, MSIN, and Telephone No. | | 4. Date |
|---|---|---|---|
| Supplemental ■<br>Direct Revision ☐<br>Change ECN ☐<br>Temporary ☐<br>Supersedure ☐<br>Discovery ☐<br>Cancel/Void ☐ | RON G. HOLLENBECK, KEH, E6-25, 6-1836 | | 5-25-90 |
| | 5. Project Title/No./Work Order No.<br>SEE BLOCK 12 | 6. Bldg./Sys./Fac. No.<br>218-E-16 | 7. Impact Level<br>3 |
| | 8. Document Number Affected (include rev. and sheet no.)<br>SEE BLOCK 12 | 9. Related ECN No(s).<br>B-714-24 | 10. Related PO No.<br>N/A |

| 11a. Modification Work | 11b. Work Package Doc. No. | 11c. Complete Installation Work | 11d. Complete Restoration (Temp. ECN only) |
|---|---|---|---|
| ☐ Yes (fill out Blk. 11b)<br>☐ No (N/A Blks. 11b, 11c, 11d)<br>UNK | UNK | Cog. Engineer Signature & Date | 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

==========

AFFECTED DOCUMENT: ECN B-714-24, PAGE 16 (Ref: H-2-77593, SH 1, REV 0 &
H-2-78455, SH 1, REV 0)

VOID PAGE 16 of the ECN and REPLACE with page 3 of this ECN.

| 13a. Justification (mark one) | 13b. Justification Details |
|---|---|
| Criteria Change ☐<br>Design Improvement ☐<br>Environmental ☐<br>As-Found ☐<br>Facilitate Const. ☐<br>Const. Error/Omission ■<br>Design Error/Omission ☐ | FORM FABRICATION DIMENSIONS VARIED |

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

KEH DISTRIBUTION

| | |
|---|---|
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| Engrg Doc Cntl | E6-52 |

WHC DISTRIBUTION

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|---|---|
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| O. A. Halverson | R3-09 |
| J. F. Hill [2] | H4-57 |
| Station 10 | A3-87 |

WHC DIST. (con't)

| | |
|---|---|
| J. R. McGee | S1-54 |
| D. B. Powell | R1-48 |
| W. J. Powell [4] | R1-48 |
| J. E. Vanbeek | R3-27 |
| D. D. Wodrich | R1-48 |
| A. E. Young | S0-05 |

DOE

| | |
|---|---|
| A. G. Lassila | A5-18 |

RELEASE STAMP

OFFICIAL RELEASE 48
BY WHC
DATE MAY 29 1990
Station #4

A-7900-013 (11/88)

# ENGINEERING CHANGE NOTICE



1. ECN (use no. from pg. 1) B-714-41

| 15. Design Verification Required | 16. Cost Impact | | 17. Schedule Impact (days) |
|---|---|---|---|
| | ENGINEERING | CONSTRUCTION | |
| ☒ Yes | Additional ☒ $ ~~NA~~ 650 5/25/90 | Additional ☐ $ NA | Improvement ☐ NA |
| ☐ 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.

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|---|---|---|---|---|---|
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| 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 | ☐ | | ☐ |

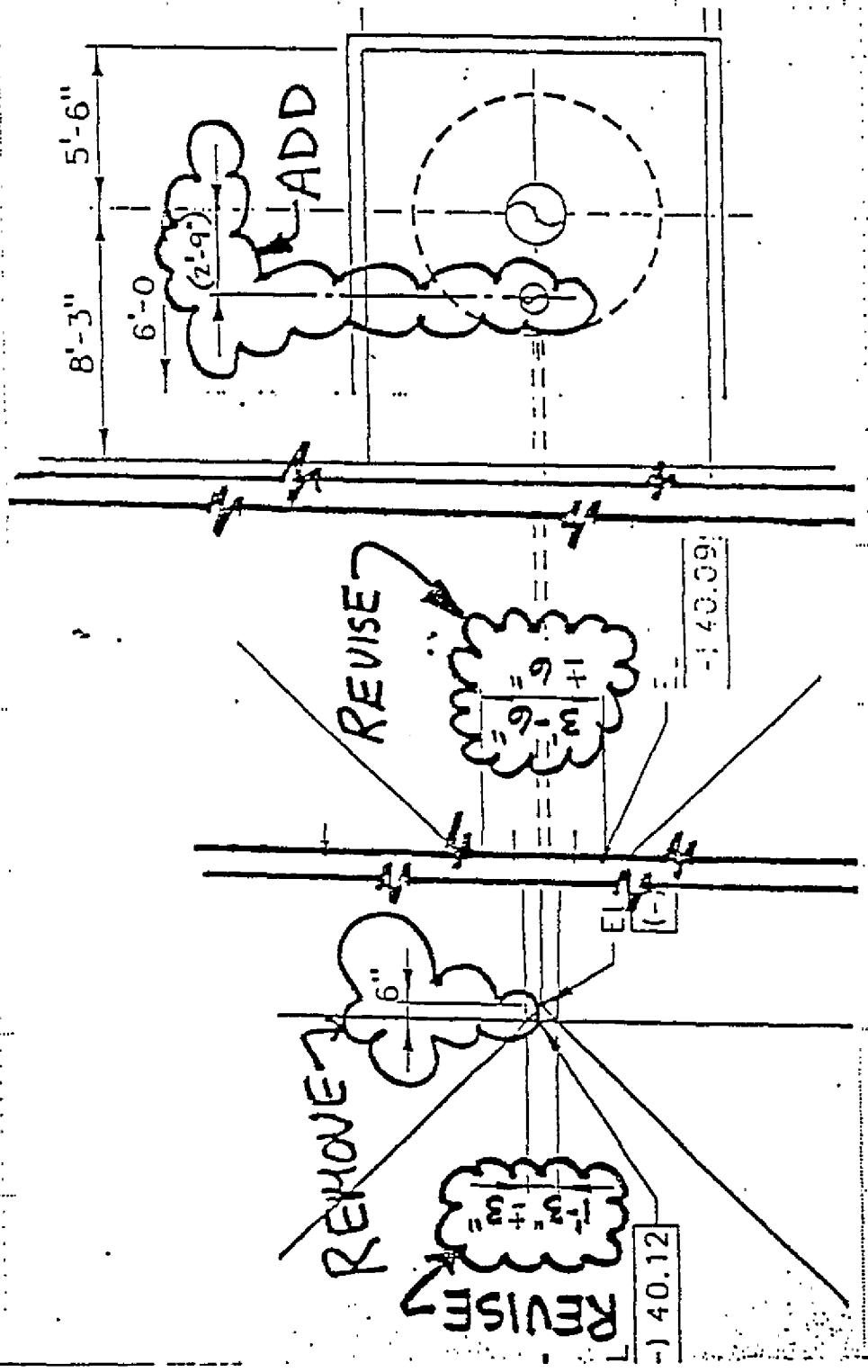
19. Other Affected Documents: (NOTE: Documents listed below will not be revised by this ECN.) Signatures below indicate that the signing organization has been notified of other affected documents listed below.

| Document Number/Revision | Document Number/Revision | Document Number/Revision |
|---|---|---|
| | | |
| | | |
| | | |

20. Approvals

| | Signature | Date | | Signature | Date |
|---|---|---|---|---|---|
| OPERATIONS AND ENGINEERING | | | ARCHITECT-ENGINEER | | |
| Cog./Project Engineer | DR Burg | 5/29/90 | PE | K C Burgard | 5/29/90 |
| Cog./Project Engr. Mgr. | [signature] | 5/29/90 | QA | TD Hamp [signature] | 5-29-90 5/25/90 |
| QA | [signature] | 5/29/90 | Safety | C. D. Eggers | 5/25/90 |
| Safety | NA | | Design | STRL [signature] | 5/25/90 |
| Security | | | Other | ENVIR [signature] | 5/2[illegible]/90 |
| Proj.Prog./Dept. Mgr. | | | | | |
| Def. React. Div. | | | | | |
| Chem. Proc. Div. | | | | | |
| Def. Wst. Mgmt. Div. | | | DEPARTMENT OF ENERGY | | |
| Adv. React. Dev. Div. | | | | | |
| Proj. Dept. | | | | | |
| Environ. Div. | | | ADDITIONAL | | |
| IRM Dept. | | | | | |
| Facility Rep. (Ops) | | | | | |
| Other | | | | | |

| KAISER ENGINEERS HANFORD | ENGINEERING CHANGE NOTICE SKETCH | | | | | |
|---|---|---|---|---|---|---|
| Dwg. | Sh. | Rev. | Prepared By | Checked By | ECN No. | Page |
| H-2-77593 | 1 | 0 | TERESA EHRHARD | [illegible] | B-714-41 | 3/3 |
| H-2-78455 | 1 | 0 | AFFECTS ECN B-714-24, page 16 | | | |




KEH-0159.00 (1/88)

# ENGINEERING CHANGE NOTICE

Page 1 of 3

1. ECN [illegible]
Proj. ECN B-714-48

| 2. ECN Category (mark one) | 3. Originator's Name, Organization, MSIN, and Telephone No. | | 4. Date |
|---|---|---|---|
| Supplemental ■ | R.G. HOLLENBECK, KEH, E6-25 C, 6-1836 | | 06-28-90 |
| Direct Revision ☐ | 5. Project Title/No./Work Order No. | 6. Bldg./Sys./Fac. No. | 7. Impact Level |
| Change ECN ☐ | SEE BLOCK 12 | 218-E-16 | 3 |
| Temporary ☐ | 8. Document Number Affected (include rev. and sheet no.) | 9. Related ECN No(s). | 10. Related PO No. |
| Supersedure ☐ | SEE BLOCK 12 | B-714-10 | N/A |
| Discovery ☐ | | | |
| Cancel/Void ☐ | | | |

| 11a. Modification Work | 11b. Work Package Doc. No. | 11c. Complete Installation Work | 11d. Complete Restoration (Temp. ECN only) |
|---|---|---|---|
| ☐ Yes (fill out Blk. 11b) ☐ No (NA Blks. 11b, 11c, 11d) UNK | UNKNOWN | Cog. Engineer Signature & Date | 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: AFFECTED DOCUMENTS: SPECIFICATION B-714-C2, REV 0 (VB714C2-003, REV 0)

==========

SECTION 02755 - SEE PAGE 3 OF THIS ECN.

RH 6/29/90

* These liner material property ~~[illegible]~~ Tests are not Required to assure the ~~[illegible]~~ quality of the product and can be deleted. Tests specified for the raw materials along with the remaining liner tests are adequate to assure a quality product.

| 13a. Justification (mark one) | 13b. Justification Details |
|---|---|
| Criteria Change ☐ | ITEMs A & B) * ~~THESE MATERIAL PROPERTIES HAVE NO BEARING ON THE QUALITY OF THE PRODUCT AND CAN BE DELETED~~ RH 6/29/90 |
| Design Improvement ☐ | |
| Environmental ☐ | |
| As-Found ■ | ITEM C) MATERIAL PURCHASED IS THICKER THAN SPECIFIIED. |
| Facilitate Const. ☐ | |
| Const. Error/Omission ☐ | |
| Design Error/Omission ☐ | |

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

| KEH DISTRIBUTION | | WHC DIST. (con't) | |
|---|---|---|---|
| Const Doc Cntl | E2-50 | J. F. Hill [2] | H4-57 |
| Engrg Doc Cntl | E6-52 | J. R. McGee | S1-54 |
| | | D. B. Powell | R1-48 |
| WHC DISTRIBUTION | | W. J. Powell [4] | R1-48 |
| Project Files | R1-28 | J. E. Vanbeek | R3-27 |
| S. R. Briggs(PE | R3-27 | D. D. Wodrich | R1-48 |
| J. K. Epperley | S0-05 | DOE | |
| O. A. Halverson | R3-09 | A. G. Lassila | A5-18 |
| Station 10 | A3-87 | | |
| L. Garza | A3-80 | | |

EDC

RELEASE STAMP

OFFICIAL RELEASE BY WHC 48
DATE JUL 16 1990
Station #4

A-7900-013 (11/88)

# ENGINEERING CHANGE NOTICE



1. ECN (use no. from pg. 1) B-714-48

| 15. Design Verification Required | 16. Cost Impact | | 17. Schedule Impact (days) |
|---|---|---|---|
| | ENGINEERING | CONSTRUCTION | |
| ☐ Yes | Additional ■ $ 576.00 | Additional ☐ $ | Improvement ☐ NA |
| ■ No | Savings ☐ $ | Savings ■ $ 1000 | 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./Project Engineer SR Bugg | 7/5/90 | PE K C Buggard | 6/29/90 |
| Cog./Project Engr. Mgr [signature] | 7/5/90 | QA [signature] | 6-29-90 6/29/90 |
| QA [signature] | 7/6/90 | Safety [signature] | 6/29/90 |
| Safety NA | | Design PLE [signature] | 6/29/90 |
| Security | | Other SPECS W. H. Luetken | 6/29/90 |
| Proj.Prog./Dept. Mgr. | | ENVIR R G Hollenbeck | 6/29/90 |
| Def. React. Div. | | | |
| Chem. Proc. Div. | | | |
| Def. Wst. Mgmt. Div. | | DEPARTMENT OF ENERGY | |
| Adv. React. Dev. Div. | | | |
| Proj. Dept. | | | |
| Environ. Div. | | ADDITIONAL | |
| IRM Dept. | | | |
| Facility Rep. (Ops) | | | |
| Other [signature] | 7-6-90 | | |

SPECIFICATION B-714-C2 REV 0, SECTION 02755

A) **PARA 1.1.1.1: DELETE the following references:**

| | |
|---|---|
| D 696-79 | Standard Test Method for Coefficient of Linear Thermal Expansion of Plastics |
| D 1203-86 | Standard Test Method for Volitile Loss from Plastics Using Activated Carbon Methods |
| E 96-80 | Standard Test Methods for Water Vapor Transmission of Materials |

B) **PARA 2.1.1.2: DELETE the following physical property values:** (affects ECN B-714-10)

| | | |
|---|---|---|
| Modulus of Elasticity (lbs/sq in., min) | | 80,000 |
| *Volatile Loss (max %) | ASTM D 1203, Method A | 0.1 |
| Coefficient of Linear Thermal Expansion (cm/cm C, max) | ASTM D 696 | 1.2 x 10-4 |
| Moisture Vapor Transmission (g/m$^2$ day, max) | ASTM E 96 | 0.03 |
| Resistance to Soil Burial | ASTM D 3083, using ASTM D 638 Type IV specimen at 2 ipm | |
| Change in Tensile Strength at Break and Yield (%) | | + - 10 |
| Change in Elongation at Break and Yield (%) | | + - 10 |
| Bonded Seam Strength, Field Tensile, min<br>Peel Adhesion, min | ASTM D 638<br>ASTM D 413 | 90% of parent material<br>film tear band |
| Oxidation Inductive Time (minutes, min at 130 C 800 psi $O_2$) | ASTM D 3985 | 2000 |

C) **PARA 2.1.1.2: MODIFY** Thickness Property to read:

| | | |
|---|---|---|
| Thickness (mils -6 +18) | ASTM D 1593 | 60 |