ENGINEERING CHANGE NOTICE

Page 1 of 5 ~~4~~

1. ECN 168720

Proj. ECN

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

3. Originator's Name, Organization, MSIN, and Telephone No.	4. Date
R. F. Carlstrom/84100/G2-02/6-9303	~~10/27/92~~ 11/17/92

5. Project Title/No./Work Order No.	6. Bldg./Sys./Fac. No.	7. Impact Level
Low-Level Metal Box/K32PK	Site-Wide	2 ESQ

8. Document Number Affected (include rev. and sheet no.)	9. Related ECN No(s).	10. Related PO No.
SD-RE-SAP-092, Rev. 0	N/A	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) [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

This ECN will provide changes to the Safety Analysis Report (SARP) SD-RE-SAP-092, Revision 0, based on revision of the Low-Level Metal Box (LMB) Specification HS-BP-0041. Radioactive waste shipments shall be made in accordance to the SARP and the following changes in Sections 2.2, 2.3, and 4.3.

Continued on Page 3.

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

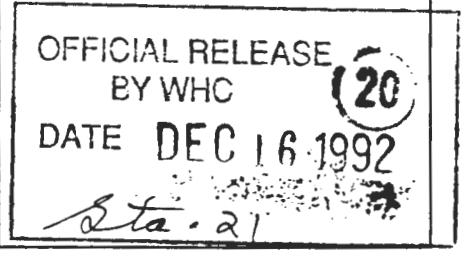
13b. Justification Details

Justification for the above changes is given in the attached pages.

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

See Attached.

RELEASE STAMP



ENGINEERING CHANGE NOTICE	Page 2 of 5	1. ECN (use no. from pg. 1) 168720

15. Design Verification Required	16. Cost Impact				17. Schedule Impact (days)	
	ENGINEERING		CONSTRUCTION			
[] Yes	Additional	[NA] $	Additional	[NA] $	Improvement	[NA]
[X] No	Savings	[NA] $	Savings	[NA] $	Delay	[NA]

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.	[X]	Operating Instruction	[]	Computer Software	[]
Vendor Information	[]	Operating Procedure	[X]	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
HS-BP-0041, Rev. D, Site Facility Operating Procedures		

20. Approvals

Signature	Date	Signature	Date
OPERATIONS AND ENGINEERING		ARCHITECT-ENGINEER	
Cog./Project Engineer: RF Carlstrom R.F. Carlstrom	11-17-92	PE	
Cog./Project Engr. Mgr.: JG Field J.G. Field	11-17-92	QA	
QA: DW Smith DW Smith	12-4-92	Safety	
Safety: RL Martin G.W. Mellor for	11/30/92	Design	
Security		Other	
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.: LP Diediker	12-3-92	ADDITIONAL	
IRM Dept.			
Facility Rep. (Ops.): MM Serkowski	12/8/92		
Other: HC Boynton	12/3/92		
T Romano	11-17-92		

12. Description of Changes (Continued)

1. Section 2.2, Container Description, rewritten as follows:

The LMB containers are rectangular and are based on three categories of boxes (light, medium, and heavy) as noted in the following table:

WHC Low-Level Metal Box Category	Minimum Design Payload Density
LMB-L (Light)	50 lb/ft^3
LMB-M (Medium)	100 lb/ft^3
LMB-H (Heavy)	150 lb/ft^3

The containers (Figure 1) are constructed to Procurement Specification HS-BP-0041, Revision D. The maximum gross weight is ultimately limited to the actual "Maximum Gross Weight" identification marking indicated by the container manufacturer on the container based on the box category, size, and design payload density.

2. Section 2.3, Transport Vehicle, shall be rewritten as follows:

The LMB container is transported by an exclusive use vehicle. The LMB containers are transported by flatbed truck, lowboy trailer, etc., at reduced speeds in order to provide equivalent safety. The vehicle must be rated to handle the aggregate gross weight of the container(s) to be shipped.

3. Section 4.3.1.1 shall be rewritten as follows:

The LMB container, container design, or procurement specification shall not be altered or revised without documented approval obtained by Packaging Safety Engineering.

4. Section 4.3.2.2 shall be rewritten as follows:

The estimated gross weight of the loaded container in pounds shall be affixed on the containers surface immediately below the manufacturer's weight identification markings. The letters "LL" shall be painted/labeled on the box and lid to denote low-level waste. A sign shall be painted on the lid to read "WARNING: Lifting Handles for Lifting Lid Only."

5. Delete Section 4.3.3.3.

6. Section 4.3.3.7 shall be rewritten as follows: "Surveys for smearable contamination shall be made after loading just prior to shipment. Removable contamination on external surfaces of the LMB shall not exceed 220 dpm/100 cm^2 for alpha-emitting radionuclides or 2200 dpm/100 cm^2 for beta-gamma emitting radionuclides."

7. Section 4.3.3.8 shall be rewritten as follows: "The internal surface of the container shall be maintained to smearable contamination levels below 220 dpm/ 100 cm^2 for alpha-emitting radionuclides or 2200 dpm/100 cm^2 for beta-gamma emitting radionuclides if intended for reuse. Containers whose internal contamination levels cannot be maintained or fixed below these levels shall be designed for use as a single trip waste container only."

8. Section 4.3.5.4 shall be rewritten as follows: "Smearable contamination shall be surveyed prior to shipment. Removable contamination on external surfaces of LMB containers shall be below 220 dpm/100 cm^2 for alpha-emitting radionuclides or 2200 dpm/100 cm^2 for beta-gamma emitting radionuclides. After use, the interior surfaces of reusable containers shall be maintained at less than 10 times these contamination levels.

9. Section 4.3.4.4 shall be rewritten as follows: "The tiedown system for LMB containers shall be in accordance with the provisions of DOT Motor Carrier Safety Regulation 49 CFR 393.100-106, or alternate tiedown standards as approved by RL.

   The shipper shall ensure that specific engineered tiedown meeting these standards are provided in operating procedures approved by Packaging Safety Engineering. Packaging Safety Engineering shall maintain a file of approved tiedowns for LMB packages.

10. Section 2.4, Transport Operations, delete following phase in third sentence: "and American National Standards Institute Standard N14.2,"

11. Section 3.3.3 Tiedown Analysis in second paragraph, sentences 1 and 2, change "Packaging Development" to "Packaging Safety Engineering." Also delete following phrase in the first paragraph, second sentence, "and American National Standards Institute Standard N14.2,"

12. Section 4.3.4.1 in second sentence change "Packaging Development" to "Packaging Safety Engineering."

13b. Justification Details

1. The LMB specification document, HS-BP-0041, has been revised. The previous specification listed four specific size boxes with listed maximum gross weights. The current LMB specification lists a set of generic boxes (light, medium, and heavy) with a minimum design payload density and hence does not specify maximum gross weights for any size box. This specification change allows facilities in the purchase order to specify certain dimensions and payloads for LMBs to better suit their needs for packaging and transport of radioactive solid wastes.

2. The maximum gross weight for a transport vehicle cannot be listed based on the generic description of the LMB boxes. When specific boxes are received, the facility shall determine the appropriate transport vehicle that will handle the gross weight of the containers to be transported.

3. The Packaging Development group has been renamed Packaging Safety Engineering.

4. The LMB Specification HS-BP-0041 requires weight marking in pounds only and also requires painting/labeling "LL" on the box and lid to denote low-level waste.

5. The facility operating procedure addresses use of respiratory protection in the event of an airborne release.

6. Revised to reflect current practices for listing contamination level limits.

7. Revised to reflect current practices for listing contamination level limits.

8. Revised to reflect current practices for listing contamination level limits.

9. The ANSI Standard N14.2 does not apply. Use of 49 CFR 393.100-106 is sufficient for tiedown.

10. The ANSI Standard N14.2 does not apply. Use of 49 CFR 393.100-106 is sufficient for tiedown.

11. Packaging Development has been renamed Packaging Safety Engineering. The ANSI Standard N14.2 does not apply. Use of 49 CFR 393.100-106 is sufficient for tiedown.

12. Packaging Development has been renamed Packaging Safety Engineering.

Date Received: 12-16-92

DEC 16 1992

INFORMATION RELEASE REQUEST

Reference: WHC-CM-3-4

Sta. 21 120

Complete for all Types of Release

Purpose

- [ ] Speech or Presentation
  - [ ] Full Paper
  - [ ] Summary
  - [ ] Abstract
  - [ ] Visual Aid

  (Check only one suffix)
- [ ] Speakers Bureau
- [ ] Poster Session
- [ ] Videotape
- [ ] Reference
- [X] Technical Report
- [ ] Thesis or Dissertation
- [ ] Manual
- [ ] Brochure/Flier
- [ ] Software/Database
- [ ] Controlled Document
- [ ] Other

ID Number (include revision, volume, etc.)
(SD-RE-SAP-092, Rev. 0) ECN-168720

List attachments.
NA

Date Release Required
12-16-92

Title: Low-Level Metal Box

Unclassified Category: UC- NA

Impact Level: 2 ESQ

New or novel (patentable) subject matter? [X] No [ ] Yes
If "Yes", has disclosure been submitted by WHC or other company?
[ ] No [ ] Yes Disclosure No(s).

Information received from others in confidence, such as proprietary data, trade secrets, and/or inventions?
[X] No [ ] Yes (Identify)

Copyrights? [X] No [ ] Yes
If "Yes", has written permission been granted?
[ ] No [ ] Yes (Attach Permission)

Trademarks?
[X] No [ ] Yes (Identify)

Complete for Speech or Presentation

Title of Conference or Meeting

Group or Society Sponsoring

Date(s) of Conference or Meeting

City/State

Will proceedings be published? [ ] Yes [ ] No
Will material be handed out? [ ] Yes [ ] No

Title of Journal

CHECKLIST FOR SIGNATORIES

Review Required per WHC-CM-3-4	Yes	No	Reviewer - Signature Indicates Approval: Name (printed) / Signature / Date
Classification/Unclassified Controlled Nuclear Information	[ ]	[X]	
Patent - General Counsel	[ ]	[X]	
Legal - General Counsel	[ ]	[X]	
Applied Technology/Export Controlled Information or International Program	[ ]	[X]	
WHC Program/Project	[ ]	[X]	
Communications	[ ]	[X]	
RL Program/Project	[ ]	[X]	
Publication Services	[ ]	[X]	
Other Program/Project	[ ]	[X]	

Information conforms to all applicable requirements. The above information is certified to be correct.

	Yes	No
References Available to Intended Audience	[X]	[ ]
Transmit to DOE-HQ/Office of Scientific and Technical Information	[ ]	[X]

Author/Requestor (Printed/Signature) Date

R. F. Carlstrom R. F. Carlstrom 12-16-92

Intended Audience

[ ] Internal [X] Sponsor [ ] External

Responsible Manager (Printed/Signature) Date

J. G. Field 12/16/92

INFORMATION RELEASE ADMINISTRATION APPROVAL STAMP

Stamp is required before release. Release is contingent upon resolution of mandatory comments.

Date Cancelled

Date Disapproved

BD-7600-062 (08/91) WEF074

DISTRIBUTION SHEET

To: Distribution

From: Packaging Safety Engineering

Date: December 16, 1992

Project Title/Work Order:

LOW-LEVEL METAL BOX

EDT No.:

ECN No.: 168720

Name	MSIN	With Attachment	EDT/ECN & Comment	EDT/ECN Only
S. J. Amir	N3-11	X		
W. B. Barton	L4-75	X		
R. B. Bendixson	N1-75	X		
T. L. Bennington	H4-16	X		
J. C. Biagini	S6-30	X		
T. D. Blankenslip	R2-30	X		
W. W. Bowen	S6-65	X		
H. C. Boynton	N3-11	X		
R. F. Carlstrom	G2-02	X		
M. R. Carver	N3-11	X		
K. E. Conlin	L6-18	X		
L. P. Diediker	T1-30	X		
R. G. Dieffenbacher	H4-16	X		
G. L. Dunford	R1-51	X		
L. J. Estey	T5-20	X		
J. G. Field	G2-02	X		
P. W. Griffin	R2-77	X		
D. G. Harlow	S6-17	X		
L. M. Hay	G2-02	X		
J. J. Hogan	S2-90	X		
D. R. Kibbe	H1-79	X		
J. A. Lauck	B5-20	X		
E. J. Manthos	T5-54	X		
R. L. Martin	R3-20	X		
M. W. Meagher	G1-61	X		
M. S. Mercado	G2-03	X		
M. R. Morton	R2-77	X		
S. H. Norton	N3-14	X		
L. L. Nunn	S4-70	X		
T. Romano	G2-02	X		
M. M. Serkowski	S6-70	X		
J. S. Sheehan	N3-11	X		
D. W. Smith	L6-35	X		
S. L. Thompson	G1-61	X		
J. W. Thornton	G2-03	X		
E. A. Weakley	L6-26	X		
B. F. Weaver	T3-11	X		
J. M. Welsch	L6-13	X		
Central Files	L8-04	X		