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2. To: (Receiving Organization) Distribution	3. From: (Originating Organization) CSB Subproject	4. Related EDT No.: N/A
5. Proj./Prog./Dept./Div.: SNF/CSB	6. Design Authority/ Design Agent/Cog. Engr.: S. A. Krieg	7. Purchase Order No.: N/A
8. Originator Remarks: For approval and release. USQ screen required.		9. Equip./Component No.: N/A
11. Receiver Remarks: 11A. Design Baseline Document? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No USQ Tracking Number: CSB-00-1281		10. System/Bldg./Facility: CSB/212H/200E
		12. Major Assm. Dwg. No.: N/A
		13. Permit/Permit Application No.: N/A
		14. Required Response Date: N/A

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 Trans- mittal	Originator Dispo- sition	Receiver Dispo- sition
1	SNF-7036	N/A	0	Canister Storage Building Receiving Pit Modification Informal Design Verification	Q	1, 2	1	1

16. KEY		
Approval Designator (F)	Reason for Transmittal (G)	Disposition (H) & (I)
E, S, Q, D or 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
1		CSB Design Authority	S. A. Krieg	<i>S. A. Krieg</i>	9/21/00	1	/	Ops	O. M. Serrano	<i>O. M. Serrano</i>	
		Design Agent									
		Cog. Eng.									
1	/	Cog. Mgr.	G. D. Bazinet	<i>G. D. Bazinet</i>	10/6/00						
1	/	QA	S. S. Moss	<i>Stephen Scott Moss</i>	9-28-2000						
		Safety									
		Environ.									

18. S. B. Harrington <i>S. B. Harrington</i> 9-26-00 Signature of EDT Date Originator	19. N/A Authorized Representative Date for Receiving Organization	20. G. D. Bazinet <i>G. D. Bazinet</i> 10/6/00 Design Authority Date Cognizant Manager	21. DOE APPROVAL (if required) Ctrl. No. <input type="checkbox"/> Approved <input type="checkbox"/> Approved w/comments N/A <input type="checkbox"/> Disapproved w/comments
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DISTRIBUTION SHEET

To Distribution	From CSB Subproject	Page 1 of 1
		Date 10/6/00
Project Title/Work Order SNF-7036, Rev. 0 Canister Storage Building Receiving Pit Modification Informal Design Verification		EDT No 629829
		ECN No. N/A

Name	MSIN	Text With All Attach.	Text Only	Attach./ Appendix Only	EDT/ECN Only
G. D. Bazinet	S8-06	X			
L. J. Garvin	S8-07	X			
S. A. Krieg	S8-05	X			
S. S. Moss	S8-07	X			
O. M. Serrano	S2-44	X			
H CSB Project Files (2)	S8-05	X			
Central Files	B1-07	X			

Canister Storage Building Receiving Pit Modification Informal Design Verification

Prepared for the U.S. Department of Energy
Assistant Secretary for Environmental Management

Project Hanford Management Contractor for the
U.S. Department of Energy under Contract DE-AC06-96RL13200

Fluor Hanford
P.O. Box 1000
Richland, Washington

Canister Storage Building Receiving Pit Modification Informal Design Verification

Project No: W-379

Document Type: DC

Division: SNF

S. A. Krieg
FH

Total Pages: 16

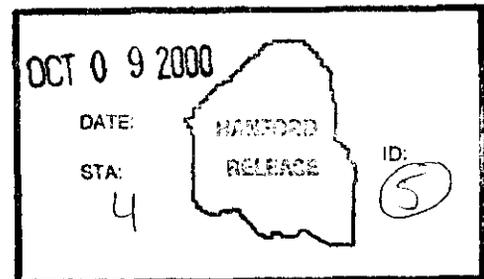
Date Published
September 2000

Prepared for the U.S. Department of Energy
Assistant Secretary for Environmental Management

Project Hanford Management Contractor for the
U.S. Department of Energy under Contract DE-AC06-96RL13200

Fluor Hanford
P.O. Box 1000
Richland, Washington


Release Approval 10/9/00
Date



SMF-703G
RV O

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Canister Storage Building Receiving Pit Modification Informal Design Verification

The design for modifications to the CSB Cask Receiving pit guides was verified by the informal design verification (meeting) method on August 9, 2000. The invited list of attendees and the meeting attendance sheet are included in attachment 1.

The design modifications that were reviewed are documented in ECN 654484 (attachment 2). The requirement that the design is to be verified against is to "***center the transportation cask sufficiently to allow installation of the guide funnel on the cask (+/- 0.25 inches or less)***".

The alternatives considered are detailed in attachment 3. Alternative number 4, "***Modify The Pit Guides***", was determined to be the preferred alternative primarily due to considerations of simplicity, reliability, and low cost. Alternative 1, "***Rotate the impact Absorber 180^o***", was successfully performed but was considered a temporary fix that was not acceptable for a long term operational mode.

The requirement to position the receiving crane accurately enough to lower the transportation cask into the pit with the redesigned guides was discussed and considered to be achievable without undue effort from the operator.

The tolerance on the OD of the transfer cask was discussed (+/- 1/8") relative to the clearance with the guides. As-built dimensions for the cask OD will be looked at to verify sufficient clearance exists with the maximum cask OD. The final design thickness of the shims under the guides will be based on the as-built cask OD dimensions and field measurements between the pit guides.

The need for a "plastic" cover for the guides was discussed and deemed unnecessary. Thermal growth of the cask OD was calculated at 3-5 mils and considered insignificant.

The possibility of reducing the OD of the guide funnel was reviewed but this was considered impractical due to the requirement for the MCO to miss the edge of the funnel in case of a MCO drop.

One of the transportation casks have the lift trunions installed 3/8" off center. This is not expected to present a problem, but needs to be verified.

Operations personnel were not in attendance to discuss the method for lowering the cask into the pit, however it was the consensus of those who observed the lowering operation performed by startup that it is operationally viable. The proposed design will be presented to Operations for review prior to issuance of the ECN.

The final conclusion of the attendees is that the design meets the requirement “center the cask sufficiently to allow installation of the guide funnel.”

Rec Pit design verif.doc

ATTACHMENT 1

CSB Cask Receiving Pit Modification

Design Verification Meeting

Design review of Cask Receiving Pit Containing Mods. - Meeting

File Edit View Insert Format Tools Actions Help

Save and Close Send Update Assignments Attendee Availability

Show attendee availability Show attendee status

Name	Attendees	Response
<input type="checkbox"/> Holt, William E (Gene)	Meeting Organizer	None
<input type="checkbox"/> Rainnet, Gerald D (Jerry)	Required Attendee	None
<input type="checkbox"/> Kreg, Stuart A	Required Attendee	Accepted
<input type="checkbox"/> Moss, Stephen S (Scott)	Required Attendee	Accepted
<input type="checkbox"/> Jablonski, Ronald J	Required Attendee	Accepted
<input type="checkbox"/> Parker, Ronald D Jr	Required Attendee	Accepted
<input type="checkbox"/> Carter, Steven B	Required Attendee	Tentative
<input type="checkbox"/> Garello, Paul R	Required Attendee	Tentative
<input type="checkbox"/> Chenuik, D M (Doug)	Required Attendee	Accepted
<input type="checkbox"/> Black, Douglas M	Required Attendee	Accepted
<input type="checkbox"/> Orall, Tom K	Optional Attendee	None
<input type="checkbox"/> Mortimer, James H	Optional Attendee	Accepted

Topic: *Operations Training Plans*

Invite Other...

Start My Documents Forward Calendar Micro Forward Design review...

RECEIVING PIT DESIGN VERIFICATION

8/9/00

<u>NAME</u>	<u>DIVISION</u>	<u>PHONE NO.</u>
GENE HOCT	CSB ENGR	373-4335
S.A. Kirov	CSB DH	376-0931
↳		
D.M. Black	CSB ENGR	372-2543
D.M. Chevauft	Asst. Trans DA &	376-6230
SS MOSS	CSB Cag CSB QA	372-2386
JERRY BAZINET	CSB Engineering	376-3059
RONALD JABLONSKI	START UP	376-6183
JIM MORTIMER	CONSTRUCTION	372-2975

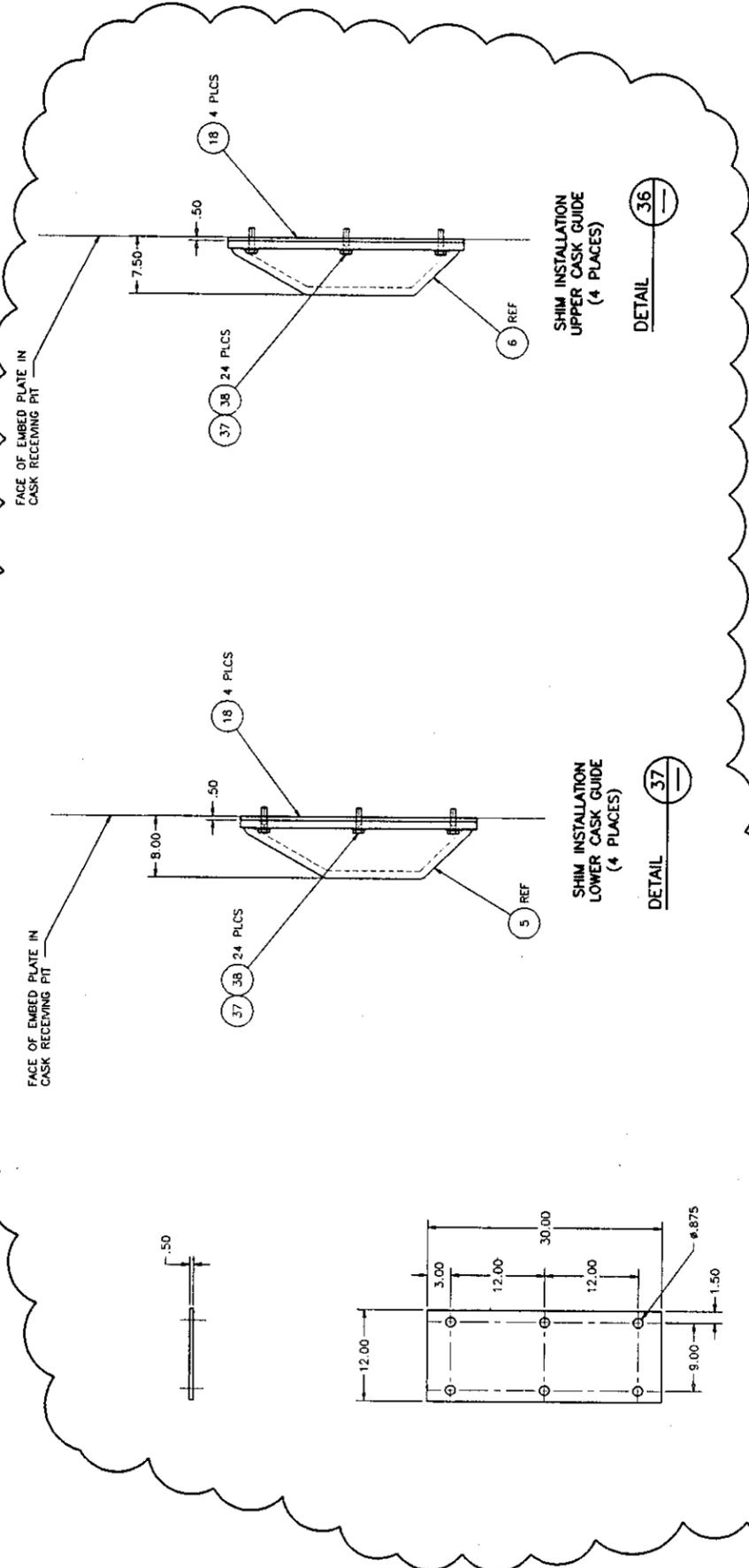
ATTACHMENT 2

Design Modifications Reviewed

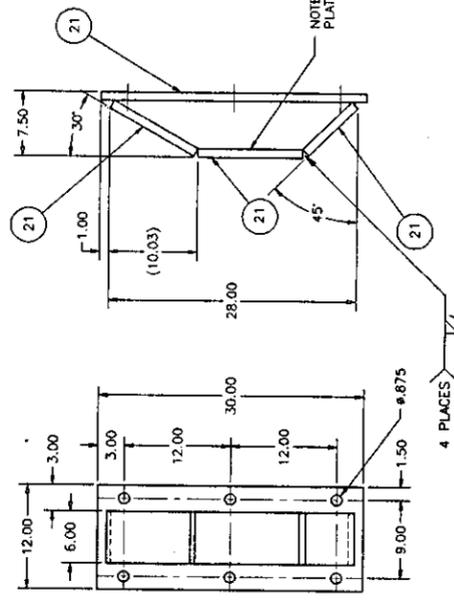
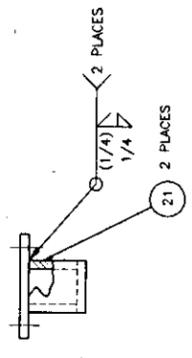
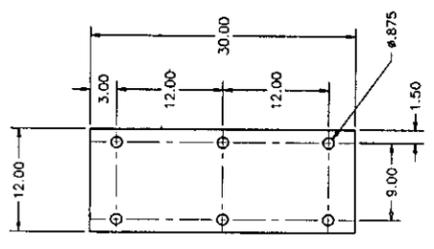
<p>2. ECN Category (mark one)</p> <p>Supplemental <input type="checkbox"/></p> <p>Direct Revision <input checked="" type="checkbox"/></p> <p>Change ECN <input type="checkbox"/></p> <p>Temporary <input type="checkbox"/></p> <p>Standby <input type="checkbox"/></p> <p>Supersedure <input type="checkbox"/></p> <p>Cancel/Void <input type="checkbox"/></p>	<p>3. Originator's Name, Organization, MSIN, and Telephone No.</p> <p>Gene Holt, CSB Engineering, S8-08 373-4335</p>	<p>4. USQ Required?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p>5. Date</p> <p>8/9/00</p>
	<p>6. Project Title/No./Work Order No.</p> <p>Project W-379</p>	<p>7. Bldg./Sys./Fac.No.</p> <p>212H/200E/CSB</p>	<p>8. Approval Designator</p>
	<p>9. Document Numbers Changed by this ECN (includes sheet no. and rev.)</p> <p>H-2-120908 Sh1 Rev 3 H-2-120908 Sh4 Rev 3</p>	<p>10. Related ECN No(s).</p> <p>NA</p>	<p>11. Related PO No.</p> <p>NA</p>
<p>12a. Modification Work</p> <p><input checked="" type="checkbox"/> Yes (fill out Blk.12b)</p> <p><input type="checkbox"/> No (NA Blks. 12b, 12c, 12d)</p>	<p>12b. Work Package No.</p>	<p>12c. Modification Work Complete</p> <p>_____ Design Authority/Cog. Engineer Signature & Date</p>	<p>12d. Restored to Original Condition (Temp. or Standby ECN only)</p> <p>_____ Design Authority/Cog. Engineer Signature & Date</p>
<p>13a. Description of Change</p> <p>13b. Design Baseline Document? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Modify Cask guides in the Cask Receiving Pit to provide more accurate centering of the shipping cask as it is lowered into place. This accuracy is necessary to guarantee the required alignment between the cask opening in the shield hatch assembly and the MCO Guide. The modification will require adding a 1/2" shim plate behind each of the 8 cask guides.</p>			
<p>14a. Justification (mark one)</p> <p>Criteria Change <input type="checkbox"/> Design Improvement <input type="checkbox"/> Environmental <input type="checkbox"/> Facility Deactivation <input type="checkbox"/></p> <p>As-Found <input type="checkbox"/> Facilitate Const <input type="checkbox"/> Const. Error/Omission <input type="checkbox"/> Design Error/Omission <input type="checkbox"/></p>			
<p>14b. Justification Details</p>			
<p>15. Distribution (include name, MSIN, and no. of copies)</p>			<p>RELEASE STAMP</p>

NOTES:

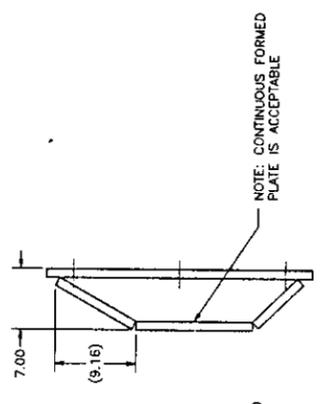
1. FOR NOTES AND PARTS LIST SEE SHEET 1.
2. FOR GENERAL NOTES AND LEGEND SEE DWG H-2-125151.



18 CASK GUIDE SHIM PLATE



5 LOWER CASK GUIDE

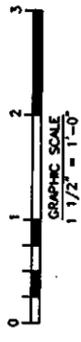


6 UPPER CASK GUIDE

SAME AS ITEM 5 EXCEPT AS SHOWN

NOTE: CONTINUOUS FORMED PLATE IS ACCEPTABLE

NOTE: CONTINUOUS FORMED PLATE IS ACCEPTABLE



GENERAL SERVICE

REV	DATE	BY	CHKD	DESCRIPTION
3		JTK	NA	EDITORIAL CHANGES
2		JTK	NA	AS-DOCUMENTED - INCORPORATED D.C.N.-259, RFI-482, MINOR CHANGES
1		GH	JL	REVISIONS PER CR-W379-051
0		GH	JL	APPROVED FOR CONSTRUCTION

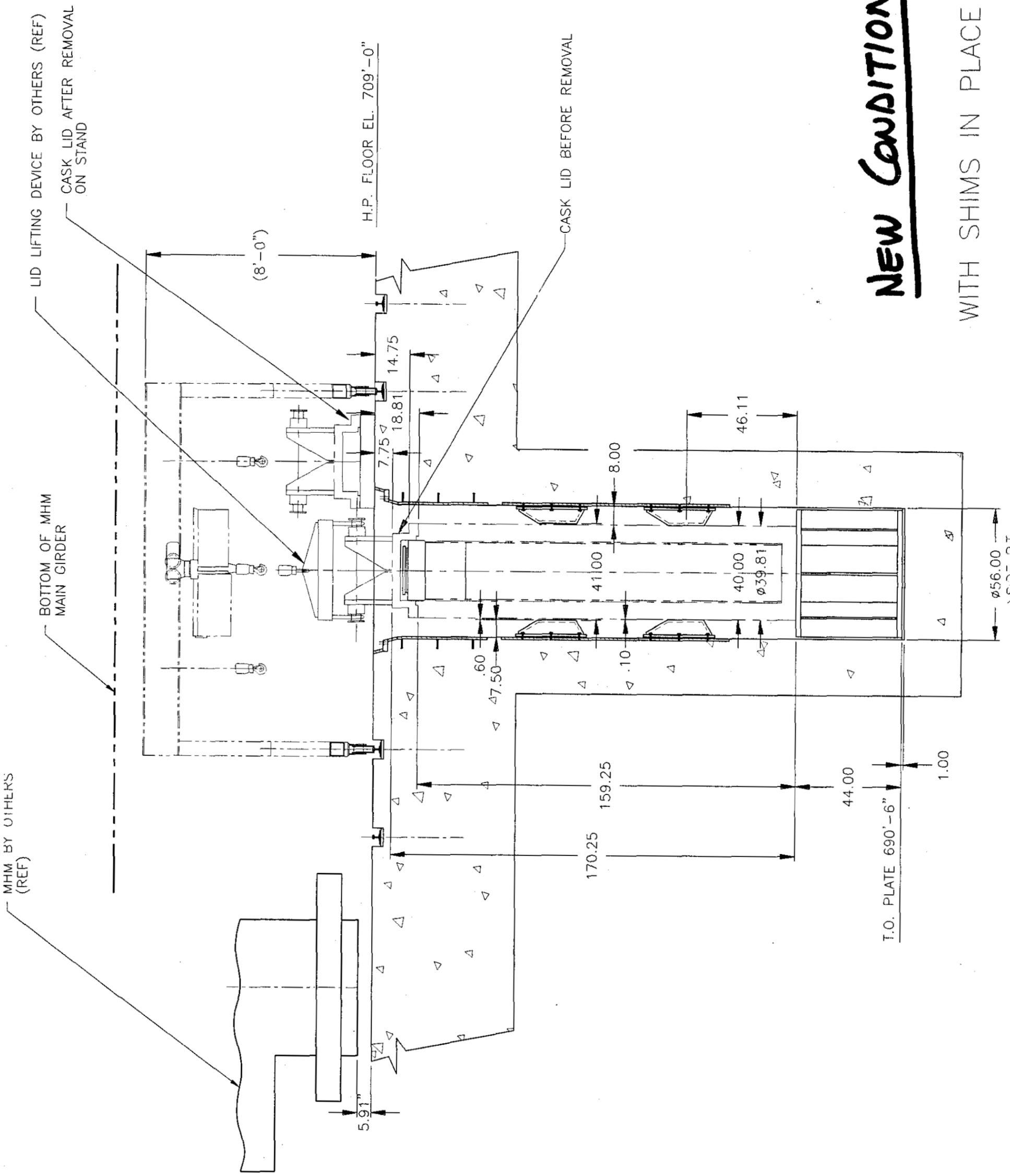
U.S. DEPARTMENT OF ENERGY DUKE ENGINEERING & SERVICES HANFORD, INC. TUV-SW-370252	FLUOR DANIEL, INC. GOVERNMENT SERVICES OPERATING CO MECHANICAL CSB CASK RECEIVING AREA DETAILS
---	---

ENGINEERING RELEASE REV 3 DATE 8/27/83 EDT 627183	PROJECT NO. H-2-120908 WORK ORDER NO. 45200 JOB NO. 212H SHEET NO. 500306
---	--

NO. OF SHEETS	DATE	BY	CHKD	DESCRIPTION
1	7/25/86	E. JACOBS	J. KELLY	
2	7/25/86	M. FIGUERA	E. JACOBS	
3	7/25/86	R. DESHOTELS	P. J. BEDELL	
4	7/25/86	M. MCLELLAN	J. ICHIKAWA	
5	7/25/86	D. SENEZ		

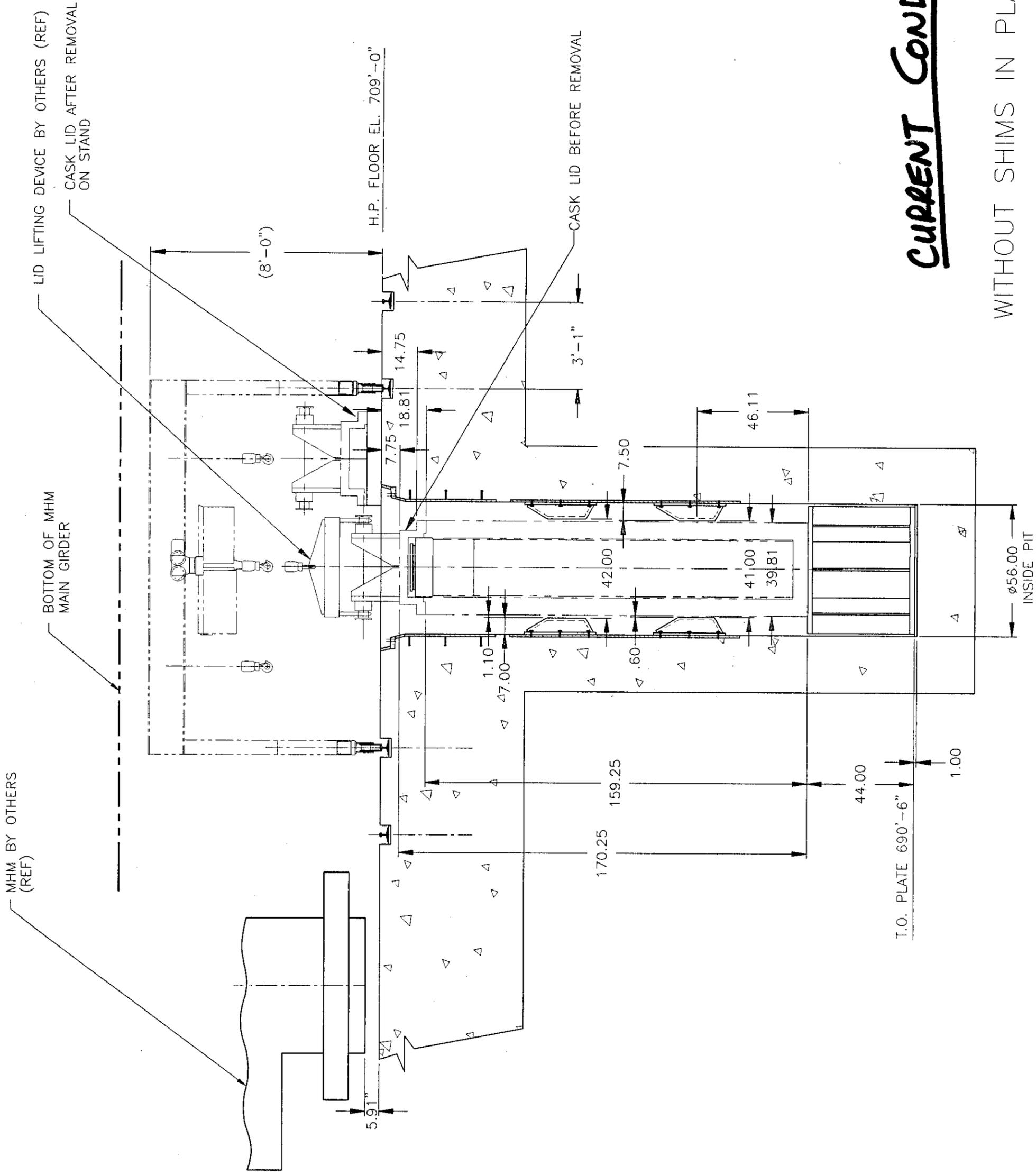
H-2-120902	MECH CSB CASK RECEIVING AREA LAYOUT
H-2-116004	CANISTER STORAGE BUILDING DRAWING INDEX
	REFERENCE DRAWINGS

UNLESS OTHERWISE SPECIFIED	TOLERANCES
1. DIMENSIONS AND TOLERANCES ARE IN INCHES	DECIMALS: ± .01
2. ALL MACHINED SURFACES SHALL BE 125 RAUNUS	FRACTIONS: ± 1/16"
3. HOLE DRILLS AND BREAK ALL SHARP EDGES .005 MAX.	ANGULAR: ± 1°



NEW CONDITION

WITH SHIMS IN PLACE



CURRENT CONDITION

WITHOUT SHIMS IN PLACE



FLUOR DANIEL

DUKE ENGINEERING & SERVICES HANFORD, INC.

SNF Conister Storage Building
FDI Contract 804602

ECN-

REV

DISCIPLINE

PACKAGE NO.
SNF CSB

PAGE

PREPARED BY: _____ DATE: _____

DISCIPLINE ENGINEER: _____ DATE: _____

CADCODE: _____ CADFILE: _____

DESIGN CHANGE NOTICE

SECTION 6: CONSTRUCTION DOCUMENTS AFFECTED

DOCUMENT NO. SH/PAGE REV NO. DESCRIPTION OF CHANGE



PARTS/MATERIAL LIST															
QTY REQD															
11	10	09	08	07	06	05	04	03	02	01					
PART/DASH NUMBER															
NOMENCLATURE/DESCRIPTION															
MATERIAL/REFERENCE															
SHEET															
ITEM NO.															
											-010	LINER EMBED ASSEMBLY		1	1
											-020	PIPING TRENCH COVER ASSEMBLY		3	2
											-030	SHIELD HATCH ASSEMBLY		2	3
											-040	SHIELD HATCH RING		2	4
											-050	LOWER CASK GUIDE		4	5
											-060	UPPER CASK GUIDE		4	6
															7
											-080	SHIELD HATCH PLATE		5	8
											-090	ELECTRICAL BOX COVER ASSEMBLY		3	9
											-100	SEAL RING		2	10
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CSB CASK RECEIVING PIT ALTERNATIVES

When the Transportation Cask is placed in the cask receiving pit, it does not remain centered sufficiently to allow installation of the guide funnel. When installed in the pit, the cask "tilts" toward the South-East and rests against the upper pit guides. Initial measurements indicate that the bottom of the pit is sloped toward the South-East and that the impact absorber is out of parallel by approximately 1/8 inch. The impact absorber was installed with the low side also to the South-East.

As a temporary "fix" to allow continuation of startup testing, the impact absorber was rotated 180° to allow the non-parallelism of the impact absorber to counteract the slope in the bottom of the pit. This resulted in successful installation of the cask and guide funnel on 7/20/00.

A permanent fix requires a method to assure that the top of the Transportation Cask is sufficiently centered to allow installation of the guide funnel. A number of options to accomplish this were considered. These options are listed below.

1. Rotate the Impact Absorber 180°

Rotate the impact absorber 180° to allow the non-parallelism of the absorber to cancel out the slope in the bottom of the pit. This allows the bottom of the cask to sit "level" and results in the top of the cask remaining centered in the pit (assuming the cask is lowered into the pit on center-line).

2. Install Leveling Screws on the Bottom of the Impact Absorber

Install leveling screws on the bottom of the impact absorbers so the top of the impact absorber can be "leveled". This allows the bottom of the cask to sit "level" and results in the top of the cask remaining centered in the pit (assuming the cask is lowered into the pit on center-line).

3. Shim/Grout Under the Impact Absorber

Install Shims or grout under the impact absorber so the top of the absorber is "level". This allows the bottom of the cask to sit "level" and results in the top of the cask remaining centered in the pit (assuming the cask is lowered into the pit on center-line).

4. Modify the Pit Guides

Modify the 4 (or 8) existing pit guides so they hold the cask centered sufficiently to install the guide funnel. Consider the use of "plastic" material on the surface of the guides to reduce friction and galling.