

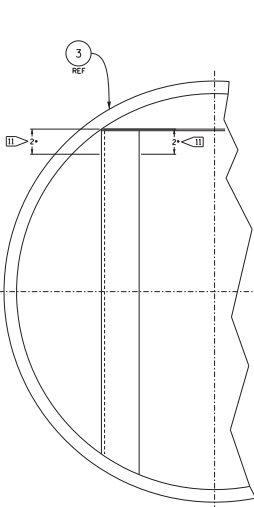
PARTS LIST				
PART	DWG. NO.	RECD.	DESCRIPTION	MATERIAL
1	THIS DRAWING	1	ASSY. CONTAINER, SHIPPING, OUTER HFIR ELEMENT	
2	M-20978-EL-008	1	GASKET	
3	THIS DRAWING	2	CHANNEL, C3x4.1	CARBON STEEL A36, GR. C
4	THIS DRAWING	AR	PLATE, A572-50	CARBON STEEL A572-50
5	THIS DRAWING	AR	ANGLE, 2x2x1/4	CARBON STEEL A572-50
6	M-20978-EL-008	8	NUT	ANY MET STEEL 304
7	THIS DRAWING	8	MACHINE SCREW, 3/8-16x2-5/8	ANY MET STEEL 304
8	THIS DRAWING	AR	PLYWOOD, FIB. 1/2" MAX. SPECIFIC GRAVITY .52	FIBERGLASS PLYWOOD
9	THIS DRAWING	AR	LID, 11 GA	CARBON STEEL A572-50
10	M-20978-EL-008	1	PIN	
11	M-20978-EL-008	1	NAME PLATE	
12	THIS DRAWING	AR	POLYETHYLENE, 1" THICK	HDPE
13	THIS DRAWING	AR	PLYWOOD, FIR, 1/2" MAX. SPECIFIC GRAVITY .52	FIR PLYWOOD
14	THIS DRAWING	AR	ANGLE, 2x2x1/2	CARBON STEEL A572-50
15	THIS DRAWING	AR	ANGLE, 1x1x1/2	CARBON STEEL A572-50
16	THIS DRAWING	1	POST, 2" DIA, PINE	PINE
17	THIS DRAWING	1	WASHER, LOCK, 3/8 NOMINAL	ANY MET STEEL 304
18	THIS DRAWING	16	BOLT, HEX HEAD, 3/16 UNC, 2x1/4, GRADE C	CARBON STEEL A572-50
19	THIS DRAWING	16	NUT, HEX, 3/16 UNC, 2B, GRADE C	CARBON STEEL A572-50
20	THIS DRAWING	16	WASHER, LOCK, 3/8 NOMINAL	ANY MET STEEL 304
21	THIS DRAWING	16	WASHER, FLAT, 3/8 NOMINAL	ANY MET STEEL 304
22	THIS DRAWING	AR	CONTAINER, BODY, 11 GA	CARBON STEEL A572-50
23	THIS DRAWING	1	CONTAINER, BOTTOM, 11 GA	CARBON STEEL A572-50
24	M-20978-EL-009	1	LID LIFTING BLOCKING DEVICE	
25	THIS DRAWING	1	BASE END, 3x2x1/2x11 GA	CARBON STEEL A572-50
26	THIS DRAWING	1	END COVER DETAIL-16 GA SHEET	
27	THIS DRAWING	1	TREFOIL SYMBOL PLATE 1/8" THICK	

- NOTES:**
- DRAWING PREPARED PER K/D 5744.
  - INTERPRET DIMENSIONS AND TOLERANCES PER ANSI Y14.5M.
  - DIMENSIONS ARE IN INCHES.
  - CALL ALL Voids GREATER THAN .06 LARGEST DIMENSION IN JOINT BETWEEN WOOD AND OUTER CONTAINERS.
  - PAINTE ALL INTERIOR & EXTERIOR STEEL SURFACES ONE COAT PRIMER AND TWO COATS YELLOW GLOSS ENAMEL.
  - Ⓢ DENOTES FEATURES REQUIRING INSPECTION AND INSPECTION.
  - Ⓣ ALL PLYWOOD IS TO BE DOUGLAS FIR UNLESS REPLACEMENT IS REQUIRED. PLYWOOD IS TO BE A, B OR C BETTER FIR PLYWOOD MADE TO P-1 SPEC FROM GORP 1 AND 2 WOODS. IF REPLACEMENT OF PLYWOOD IS REQUIRED, OR IF NEW CONTAINERS ARE FABRICATED.
  - Ⓛ CONTAINER NOS. 1, 2, 3, 7, 9 AND 11 ARE WELDED ON 8" CENTERS. WELDS ON CONTAINER NOS. 13 AND FUTURE CONTAINERS ARE AS SHOWN.
  - Ⓜ ITEM 4, PLATE, USED TO ATTACH CONTAINER STATUS LABEL EMPLY OR LOADED WITHIN TO MATCH ITEM 6, NUT.
  - Ⓝ 1/2" DRILL, L3971 THRU PLYWOOD, ITEM 8, C'SINK .75 DIA x .875 PLACES EQUALLY SPACED
  - Ⓟ PART NO. 3 WELDED TO PART NO. 23 AS SHOWN IN VIEW D-O.
  - THE AS-BUILT CONDITION OF THESE CONTAINERS IS DOCUMENTED ON INSPECTION REPORTS. DEVIATION REQUESTS AND NONCONFORMANCE REPORTS TO FILE IN ORNL'S RESEARCH REACTORS DIVISION DESIGN FILE NO. "HFIR/ME/00-88-4".
  - PACKING AND/OR CUSHIONING MATERIALS TO BE LIMITED TO POLYETHYLENE BAGS AND POLYETHYLENE FOAM.
  - WELDS SHALL BE IN ACCORDANCE WITH WPS-103, WPS-104, WPS-107 OR WPS-114. WELDS SHALL BE VISUALLY INSPECTED PER ORNL-NDC-10N-PL-004, ITEM 10, ONLY.
  - WELDING SHALL BE IN ACCORDANCE GT18-11PP, WELDS VISUALLY INSPECTED PER THRO-T-ND-21.

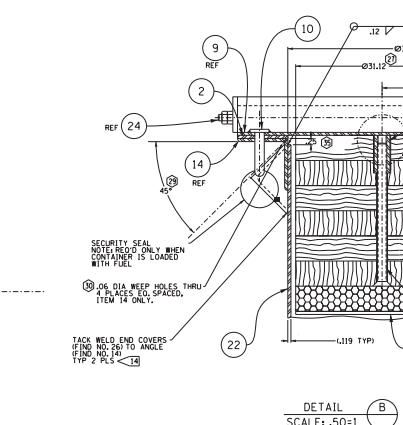
**SPECIAL NOTE:**  
THE USE OF THESE SHIPPING CONTAINERS IS COVERED BY USDOE CERTIFICATE OF COMPLIANCE FOR RADIOACTIVE PACKAGES NO. 5797. THIS DRAWING OR THE CONTAINERS SHOWN THEREON SHALL NOT BE ALTERED IN ANY MANNER WITHOUT WRITTEN APPROVAL OF THE RESEARCH REACTORS DIVISION COMPLIANCE MANAGER AND CONFIGURATION CONTROL MANAGER.

CONTAINER 1  
SCALE: .25=1

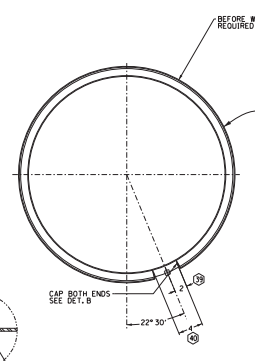
SECTION A  
SCALE: .25 = 1



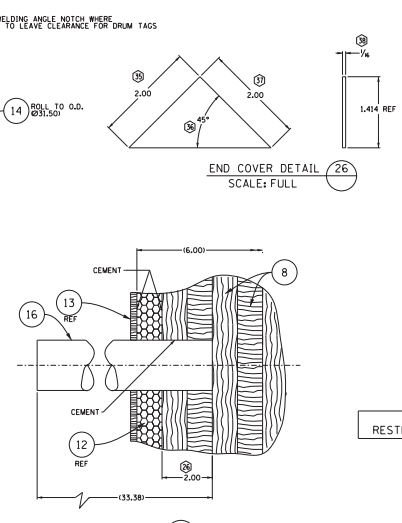
SECTION D  
SCALE: .25 = 1 (ROTATED 90°)



DETAIL B  
SCALE: .50=1



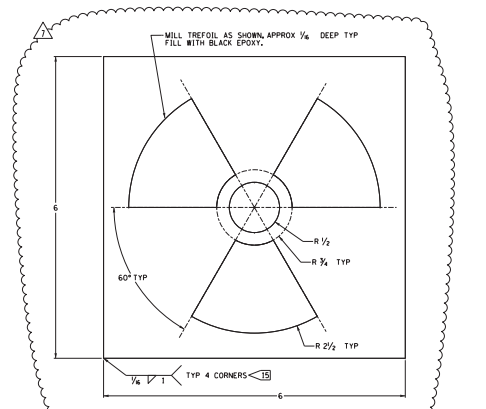
SECTION E  
SCALE: .125 = 1



DETAIL C  
SCALE: .50=1

**CAUTION NUCLEAR EQUIPMENT:**  
UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES.

NO.	REVISIONS	DATE	BY	CHKD.	APP'D.
1	ISSUED FOR CONSTRUCTION	05-24-12	T.A. JENSEN	M.W. KOENIG	
2	REVISED FOR CONSTRUCTION	05-25-12	T.A. JENSEN	M.W. KOENIG	
3	REVISED FOR CONSTRUCTION	05-25-12	T.A. JENSEN	M.W. KOENIG	
4	REVISED FOR CONSTRUCTION	05-25-12	T.A. JENSEN	M.W. KOENIG	
5	REVISED FOR CONSTRUCTION	05-25-12	T.A. JENSEN	M.W. KOENIG	
6	REVISED FOR CONSTRUCTION	05-25-12	T.A. JENSEN	M.W. KOENIG	
7	REVISED FOR CONSTRUCTION	05-25-12	T.A. JENSEN	M.W. KOENIG	
8	REVISED FOR CONSTRUCTION	05-25-12	T.A. JENSEN	M.W. KOENIG	
9	REVISED FOR CONSTRUCTION	05-25-12	T.A. JENSEN	M.W. KOENIG	
10	REVISED FOR CONSTRUCTION	05-25-12	T.A. JENSEN	M.W. KOENIG	
11	REVISED FOR CONSTRUCTION	05-25-12	T.A. JENSEN	M.W. KOENIG	
12	REVISED FOR CONSTRUCTION	05-25-12	T.A. JENSEN	M.W. KOENIG	
13	REVISED FOR CONSTRUCTION	05-25-12	T.A. JENSEN	M.W. KOENIG	
14	REVISED FOR CONSTRUCTION	05-25-12	T.A. JENSEN	M.W. KOENIG	
15	REVISED FOR CONSTRUCTION	05-25-12	T.A. JENSEN	M.W. KOENIG	
16	REVISED FOR CONSTRUCTION	05-25-12	T.A. JENSEN	M.W. KOENIG	
17	REVISED FOR CONSTRUCTION	05-25-12	T.A. JENSEN	M.W. KOENIG	
18	REVISED FOR CONSTRUCTION	05-25-12	T.A. JENSEN	M.W. KOENIG	
19	REVISED FOR CONSTRUCTION	05-25-12	T.A. JENSEN	M.W. KOENIG	
20	REVISED FOR CONSTRUCTION	05-25-12	T.A. JENSEN	M.W. KOENIG	
21	REVISED FOR CONSTRUCTION	05-25-12	T.A. JENSEN	M.W. KOENIG	
22	REVISED FOR CONSTRUCTION	05-25-12	T.A. JENSEN	M.W. KOENIG	
23	REVISED FOR CONSTRUCTION	05-25-12	T.A. JENSEN	M.W. KOENIG	
24	REVISED FOR CONSTRUCTION	05-25-12	T.A. JENSEN	M.W. KOENIG	
25	REVISED FOR CONSTRUCTION	05-25-12	T.A. JENSEN	M.W. KOENIG	
26	REVISED FOR CONSTRUCTION	05-25-12	T.A. JENSEN	M.W. KOENIG	
27	REVISED FOR CONSTRUCTION	05-25-12	T.A. JENSEN	M.W. KOENIG	



TREFOIL SYMBOL PLATE 27  
SCALE: FULL

LICENSING RESTRICTIONS APPLY

REVISION AS BUILT  
MAY 12 2022

HFIR OUTER FUEL ELEMENT ASSEMBLY	E-42126
REFERENCE DRAWINGS	NUMBER

**OAK RIDGE National Laboratory**  
HIGH FLUX ISOTOPE REACTOR  
Managed by UT-Battelle for the US Department of Energy  
RESEARCH REACTORS DIVISION  
FACILITY H.F.I.R. BLDG. NO. 7900

SHIPPING CONTAINER FOR UNIRRADIATED OUTER HFIR ELEMENT ASSEMBLY

M 20978 EL 002 E REV F  
CONDITIONALLY AS BUILT