25. NEW ITEM.

24. $3/16^{+.03}_{-.00}$ ON 14 1/8 OD SCH 20 PIPE.

23. CIRCLE SEAL P/N MS120-16 OR 200 PSIG AT 212°F.

22. IN VAL CO P/N TA-1 RATED 1100 PSIG AT 400°F.

21. 19.955 ± .045 ID X 275 ± .008 W.

20. ASTM A-490, A-312, A-358 OR A-514.

19. TYPE 316, 321, 347 OR 348 SST.

18. ASTM A-490, A-358, A-354 OR A-351 GR6C.

17. GRAIN DIRECTION OF THE MIDDLE PORTION OF EACH WOOD SEGMENT SHALL BE AS INDICATED. GRAIN DIRECTION OF OTHER PORTION OF THE SAME SEGMENT SHALL BE PARALLEL WITHIN 15° TO THE MIDDLE PORTION.

16. EQUIVALENT HARDWARE MAY BE SUBSTITUTED.

15. GRAIN DIRECTION OF THE MIDDLE PORTION OF EACH WOOD SEGMENT SHALL BE RADIALLY PERPENDICULAR TO THE IMPACT LIMITER C/L AXIS. GRAIN DIRECTION OF OTHER PORTION OF THE SAME SEGMENT SHALL BE PARALLEL (WITHIN 15°) TO THE MIDDLE PORTION.

14. BS&B SAFETY SYSTEMS INC. P/N 1 1/2 0455N TYPE DV. 100 PSIG AT 316°F.

13. ASME CERTIFIED.

12. 18.455 ± .045 ID X 275 ± .008 W.

11. TYPE 304 OR 316 STAINLESS STEEL.

10. VALVE MUST HAVE STAINLESS STEEL TRIM. MODIFIED BALL PER DETAIL SHEET 3, ZONE E-1 IS OPTIONAL.

9. C.E. CONOVER, FAIRFIELD, N.J., OR EQUIVALENT.

8. TYPE 316, 347 OR 348 STAINLESS STEEL.

7. TYPE 321, 347 OR 348 STAINLESS STEEL.

6. IN ADDITION TO PRESCRIBED TOLERANCES, THE EFFECTIVE THICKNESS OF THE LEAD SHIELDING UNDERLYING UP TO 2.4 % OF THE CYLINDRICAL SURFACE AREA DESCRIBED BY PARTS 69 AND 71 MAY VARY IN REDUCTION UP TO 12.5 % OF THE NOMINAL RADIAL THICKNESS PROVIDED, HOWEVER, THAT, (1) SUCH REDUCTION SHALL NOT BE ADDITIVE TO ALLOWABLE NORMAL TOLERANCE, AND, (2) THE AGGREGATE LINEAR MEASURE OF SUCH REDUCTIONS ALONG ANY NOMINAL LINE COLINEAR WITH THE CYLINDER AXIS SHALL NOT EXCEED 4.2 INCHES.

5. SAND OR GRIT BLAST SHELL SURFACES INDICATED ON ITEMS 39 & 69. BEAD BLAST ALL CASK EXTERIOR SURFACES, EXCLUDING THE FLANGE, HEAD AND IMPACT LIMITERS, TO A UNIFORM DULL GRAY APPEARANCE USING 10 TO 18 MIL DIA. BEADS.

4. COAT ALL WOOD WITH EPOXY AND CEMENT WOOD TO STEEL WITH EPOXY.

3. FINS TO HAVE AN OXIDE COATING EQUAL TO THAT PRODUCED BY HEATING IN AIR TO 800° F FOR 5 MIN. MIN. DO NOT REMOVE OXIDE FROM FILLET OR FIN.

2. ALL EXTERIOR WELDS TO BE BLENDED, GROUND SMOOTH & POLISHED TO 65 RMS FINISH OR BETTER.

1. THIS DRAWING IS PART OF THE FOLLOWING SPECIFICATIONS: NAC SPECIFICATIONS NAC-0001, 301-211-S1, 301-211-S2.

NOTE

QTY 800	QTY 600	QTY 400	QTY 200	QTY 100	PART NO.	NAME	MATERIAL DESCRIPTION
		AS REQ'D			69	OUTER SHELL	9.25 +.06 -.05 DIA. PL. OR 30" OD X 1/4 WALL PIPE 18
					68	DELETED	
		AS REQ'D			72	SHEET	1/16 THK 18 19
		AS REQ'D			71	OUTER SHELL	9.25 +.06 -.05 DIA. PL OR 27 1/2 OD 1 1/4 WALL PIPE 18 19
					70	DELETED	
		AS REQ'D			69	OUTER SHELL	9.25 +.06 -.05 DIA. PL. OR 30" OD X 1/4 WALL PIPE 18 7
					68	DELETED	
					67	DELETED	
					66	DELETED	
					65	DELETED	
					64	DELETED	
					63	DELETED	
					62	DELETED	
					61	DELETED	
					60	DELETED	
					59	DELETED	
					58	DELETED	
					57	DELETED	
					56	DELETED	
					55	DELETED	
		1			92	LAPEL	109 THK SH (12 GA) ASTM A-480 7
		1			91	NAME PLATE	109 THK SH (12 GA) ASTM A-480 7
1	1				90	NAME PLATE	109 THK (12 GA) ASTM A-480 7
					89	DELETED	
AS REQ'D	AS REQ'D				88	BALSA	8# FT³
					87	DELETED	
					86	DELETED	
					85	DELETED	
					84	DELETED	
					83	DELETED	
					82	DELETED	
					81	DELETED	
					80	DELETED	
		2			79	LOCKING TAB	
AS REQ'D	AS REQ'D				78 25	REDWOOD	21# FT³
		AS REQ'D			77 25	PREVALVE CASING	6.75 DIA. ASTM A-351, CF8C, A-182 OR A-193
		AS REQ'D			76 25	LOWER TRUNNION	8" DIA. ASTM A-351, CF8C, A-182 OR A-193
		AS REQ'D			75 25	UPPER TRUNNION	5.25 DIA. ASTM A-351, CF8C, A-182 OR A-480
		16			74 25	CAPTIVE SCREW	1/4-20 UNC ASTM A-182 OR A-193
					73	DELETED	
		AS REQ'D			72	SHEET	1/16 THK 18 19
		AS REQ'D			71	OUTER SHELL	9.25 +.06 -.05 PL OR 27 1/2 OD 1 1/4 WALL PIPE 18 19
					70	DELETED	
		AS REQ'D			69	OUTER SHELL	9.25 +.06 -.05 PL. OR 30" OD X 1/4 WALL PIPE 18 7
					68	DELETED	

QTY 800	QTY 600	QTY 400	QTY 200	QTY 100	PART NO.	NAME	MATERIAL DESCRIPTION
		AS REQ'D			47	PLATE	19 20 24
					64	DELETED	
					63	DELETED	
					64	DELETED	
					63	DELETED	
		AS REQ'D			62	PLATE	3/8 PLATE ASTM A-480 7
		AS REQ'D			61	PLATE	1/4 PLATE ASTM A-480 7
		AS REQ'D			60	SHEET	109 THK (12 GA) ASTM A-480 7
		AS REQ'D			59	SHEET	185 THK SHEET (8 GA) ASTM A-480 7
		AS REQ'D			58	FIN	1/16 THK ELECTROLYTIC OR OFHC COPPER
		4			57	GUSSET	185 THK SHEET (8 GA) ASTM A-480 7
		6			56	FGT GRIP CLIP	CROUSHY
		AS REQ'D			55 25	INSULATION	SEPCO FG1500 WOVEN FIBERGLASS CLOTH
					54	DELETED	
		4			53	BURST VALVE	13 14 15
		1			52	RELIEF VALVE	13 16 22
		1			51	SAFETY HEAD	11 12 18 22
		4			50	FIRE VALVE	WORCESTER P/N 1/2 FG466 TSN 10
		AS REQ'D			49 25	WIRE ROPE	PAULSEN XL-25 11/8 DIA GALVANIZED
		2			48 25	O-RING SEAL	PARKER 2-044-S604-70
		4			47 25	O-RING SEAL	PARKER 2-248-S604-70
		24			46 25	THREAD INSERT	HELI-COIL 1185-4CN-0500 MS21208
					45	DELETED	
					44	DELETED	
		8			43 25	PLATE	2.0 PLATE ASTM A-480 7
					42	DELETED	
					41	DELETED	
		8			40 22	SC. HD. FL HD. SCREW	1/4-20 UNC X 3/4 LG. ASTM A-182 OR A-193
					39	DELETED	
		4			38	CLOSE NIPPLE	1/2 SCH 40 AUSTENITIC ST STL
					37	DELETED	
		4			36	QUICK DISC.	SNAP TITE P/N S6V2SN6 6F 1/2 NPT SST
		13			35	PIPE PLUG	SOC HD 3/4 NPT 300 SERIES SST
		12			34	FLANGE	2" DIA. 3/4 THK. ASTM A680 OR A278 7
		AS REQ'D			33 25	GAMMA SHIELD	LEAD 8
					32	DELETED	
					31	DELETED	
					30	DELETED	

QTY 800	QTY 600	QTY 400	QTY 200	QTY 100	PART NO.	NAME	MATERIAL DESCRIPTION
AS REQ'D	AS REQ'D				29	SHEET	125 (11 GA) ASTM A-240 TYPE 304
					28	DELETED	
		1			27	O-RING SEAL	P/N MS13-469 TEFLON 8 21
		1			26	O-RING SEAL	P/N MS13-466 TEFLON 8 12
					25	DELETED	
					24	DELETED	
AS REQ'D	AS REQ'D				23 25	SHEET	109 (12 GA) ASTM A-240 TYPE 304
			4		22	THREAD INSERT	HELI-COIL 1185-16CN-1000 MS21208
			8		21	THREAD INSERT	HELI-COIL 1185-16CN-1500 MS21208
			8		20	THREAD INSERT	HELI-COIL 1185-20CN-1875 MS21208
		12			19	THREAD INSERT	HELI-COIL 327-12 (NPT)
		5			18	THREAD INSERT	HELI-COIL 327-8 (NPT)
	AS REQ'D				17 25	PLATE	3/8 NOM THK ASTM A-240 TYPE 304
AS REQ'D	AS REQ'D				16 25	SHEET	067 (18 GA) ASTM A-240 TYPE 304
1	1				15 25	GASKET	SEPCO FG4 (BRAIDED FIBERGLASS)
					14	DELETED	
		1			13	LID ALIGN PIN	300 SERIES SST
				6	12	FLAT WASHER	FOR 1 1/4 BOLT 300 SERIES SST
					11	DELETED	
				6	10	HEX HD CAPSCREW	1 1/4-7 UNC X 2 5/8 LG. ASTM A320L43
				6	9	HEX HD CAPSCREW	1 - 8 UNC X 8 1/2 LG. ASTM A-193 TYPE B8
				6	8	FLAT WASHER	1.0 NO MINIMAL SIZE AUSTENITIC ST STL
AS REQ'D	AS REQ'D				7 25	PLATE	1/4 NOM THK. ASTM A-240 TYPE 304
4	4				6 23	PIPE	21/2 SCH40 ASTM4-403 8
		AS REQ'D			5 25	PLATE	1/2 NOM THK. ASTM A-480 7
		AS REQ'D			4 25	PLATE	3/4 NOM THK PER ASTM A-480 A-278 7
		1			3	CASK BASE	ASTM A-351 CF8C A-182 OR A-480 7
		1			2	LID FLANGE	ASTM A-351 CF8C A-182 OR A-480 7
			1		1	CASK LID	ASTM A-351 CF8C A-182 OR A-480 7
–	–			1	800	L IMPACT LIMITER	
–	–			1	500	U IMPACT LIMITER	
	–			1	400	CASK BODY	
					300	DELETED	
			–	1	200	CASK ASSY	
				–	100	CASK ASSEMBLY	

QTY 800	QTY 600	QTY 400	QTY 200	QTY 100	PART NO.	NAME	MATERIAL DESCRIPTION

THIS DRAWING SUPERSEDES NFS DRAWING E10080 REV 19

NUCLEAR FUEL SERVICES	
SIGNATURE	DATE

NUCLEAR ASSURANCE CORPORATION

SHIPPING CASK – SPENT FUEL, NFS-4 & NAC-1

NOTED

301 211 F1 0

SHEET 1 OF 5

8006160161