BILL OF MATERIALS FOR 32-ASSEMBLY HI-STAR 100 PWR MPC.(BM-1477) (E.I.D. 2849)

REF. DWG. 1392 & 1393.

SHEET 1 OF 2

REV. NO.		PREP.		CHECKED BY	PROJ. NANAGER	QA. MANAGER
	ļ	& DATE		& DATE	k DATE	& DATE
Λ.		J.A. 4-11-00		norse	Gran Xuth	55hr
9		CD 1023-1, CD 5014-6		B.G. 9/13/00	9/13/00	55 alis/00.
ITEM NO.	QTY.	NATI	ERIAL	DESCR	IPTION	NOMENCLATURE
1Å	5	ALLOY "	X" SEE NOTE 1.	PLATE 9/32" THK.X 55.59" W. X 17	6 1/2" L6	BASKET CELL PLATE
18	2	ALLDY "X	" SEE NOTE 1.	PLATE 9/32' THK X 37.15"N. X 176	/2°L5.	BASKET CELL PLATE
IC	38	ALLOY "X	" SEE NOTE I.	PLATE 9/32" THK X 8.937" (REF.) V.	X 176 1/2°LG.	BASKET CELL PLATE
3A	52	80	RAL	.101°THK. X 7.5°W. X 156° LG.PER	DET.DVG.1392. SEE NOTE 2.	NEUTRON ABSORBER
4A	52	ALLDY "	x" see note 1.	.075" THK. SHEATHING PER DET. DW	5. 1392.	SHEATHING
5A	32			PLATE 3/B"THK X B.5" SQ.		LOWER FUEL SPACER END PLATE
58	32			PLATE 3/8"THK X 8.5" SQ.		LOWER FLIEL SPACER END PLATE
. 6	1			1/2" THK X 68 3/8" D.D. X 187 5/8" LG. CYLINDER.		2HETT
7	1			BASEPLATE 2 1/2" THK X 68 3/8" [1.0.	BASEPLATE
BA	4			PLATE 5/16"THK.X 14" APPROX. W X	168" LG. PER DET. DVG.1392.	BASKET SUPPORT
88	В			PLATE 5/16"THK. X 14" APPROX.W X	168° LG. PER DET.DNG. 1392.	BASKET SUPPORT
BC				DELETED		
9A	12	7	7	1" WIDE X 168" LG. THICKESS AS	REDO.	BASKET SUPPORT SHIM
98			-	DELETED		
90				DELETED		
90	AS REDO.	ALLDY "X"	SEE NOTE 1.	AS REDO.		BASKET SUPPORT
9E			_	DELETED		
10	4	ALLDY "X"	SEE NOTE 1.	PLATE 3/4" THK. X 3 1/2" WIDE X	8 3/4° LG.	LIFT LUG
11	4			PLATE 3/4" THK. X 3" VIDE X 4"	L6.	LIFT LUG BASEPLATE
12	1	4	7	BAR 3 3/4" DD. x 5 7/8" LG.		DRAIN SHIELD BLOCK
13A	2	304	2/2	BAR Ø 2 11/16 X 6 3/4° LG, DIM	ENSION SHOWN ON DNG 1393 SHT4	VENT AND DRAIN TUBE
138	2	304	2/2	BAR Ø 2 1/4 X 2 1/4° LG, DIMENS	IDN SHOWN ON ONG 1393 SHT4	VENT AND DRAIN TUBE CAP
14	1	ALLOY "X"	SEE NOTE 1.	PLATE 9 1/2" THK. X 67 1/4" D.E].	MPC LID
15	I	ALLOY "X" S	SEE NOTE 1.	RING 3/8' THK.X 53 1/4' ID. X I	57 5/8° D.D.	HPC CLOSURE RING
16	1	\$/	2	2-1/2 SCH 10 PIPE 150" LG W/FL	MEL	ORAIN GUIDE TUBE

_g _g

<u>9</u>

BILL OF MATERIALS FOR 32-ASSEMBLY HI-STAR 100 PWR MPC.(BM-1477) (E.I.D. 2850)

REF. DWG. 1392 & 1393.

SHEET 2 OF 2

	T				OHDDI W VI W
REV. NO.		PREP. BY & DATE	CHECKED BY & DATE	PROJ. MANAGER & DATE	QA. MANAGER & Date
10		J.A. 4-11-2000 INCORPORATED ECO 5014-6, ECO-1021-7 & 8	3.G. 9/15/00	Bu Soth	5.5h. 5.5. 9/13/00
ITEM NO	. QTY.	WATERIAL	DESCRIPTION		NOMENCLATURE
17			DELETED		
18	AS REDO	ALLDY "X" SEE NOTE 1.	AS REDUIRED		BASKET SUPPORT
19	2	ALLOY 'X' SEE NOTE 1.	PLATE 3/8" THK. X 3 7/8'00.		PORT COVER PLATE
20	32	A-193-88 OR SIMILAR	3/4"-10UNC X 1 3/8"LG. HEX. BOLT	FULL THRD.	UPPER FLIEL SPACER BOLT
21	AS REGIO	ALLOY "X" SEE NOTE 1.	3/4" X 2" X THICKNESS AS REGURED.		LIFT LUG SHIM
22			OELETED	DELETED	
23	4	A-193-88 OR SIMILAR	1 3/4"-SUNC X 2 3/4" LG SOCKET SET SCREW		LID LIFT HOLE PLUG
24	32	ALLOY "X" SEE NOTE 1.	3'-SCH 80 PIPE LGTH AS REDD.		UPPER FUEL SPACER PIPE
25	1 ZET	ALLOY "X" SEE NOTE1.	Length, vidth and thickness as red'd.		LIO SHIM
26	.]	2/2	COUPLING		COUPLING
27	AS REDIO	ALLOY "X" SEE NOTE 1.	3/4" X 5" DIAMETER .		UPPER FLIEL SPACER END PLATE
28	!	ALLOY "X" SEE NOTE1.	BAR 3 3/4" DD. X 5.5" LG.		VENT SHIELD BLOCK
29	4	ALLOY "X" SEE NOTE1.	BAR 3/4" 00. X 1/2" LG.		VENT SHIELD BLOCK SPACER
30	1	ALLDY "X" SEE NOTE1.	2"-SCH 10 PIPE X 173 1/2"APPROX. (6	DRAIN LINE
31	4	2/2	SDCKET SET SCREW 1/4-20 1/4" LG		COVER PLATE PLUG
32	32	ALLOY "X" SEE NOTE1.	PLATE 3/8' THK X 4' DD.		UPPER FLIEL SPACER END PLATE
33	32	2/2 SEE NOTE 5	6' S0. X 1/4" WALL TUBE LGTH AS RE	10 0.	LOWER FUEL SPACER CLUMN
34	AS REGIO.	ALUM. 1100	1/8" THK. ALLIM. SHEET AS REDD X 176 DRAIN PIPE LDCATION) WITH S/S SPRIM	1/8" THK. ALLIM. SHEET AS REDO X 176 1/2" LG (153" LG APP. AT	
35	2	ALUMINUM	0,065° THK X 1.484 00, .250 HOLE		SEAL WASHER
36	2	2/2	1/4" DIA X 3/8" LG		SEAL WASHER BOLT
37	2	ALLDY "X" SEE NOTE!.	1/8" THK		DRAIN LINE
38]			DELETED		

NOTES: (FOR SHEET 1 & 2)

 $\sqrt{0}$

<u>₩</u>

3

9

- 1. ALLOY X IS ANY OF THE FOLLOWING ACCEPTABLE STAIMLESS STEEL ALLOYS: ASKE TYPE 316, 316LN, 304, 304LN. THE ALLOY TO BE USED SHALL BE SPECIFIED BY THE LICENSEE.
- 2. MINIMUM BORAL 8-10 LOADING IS 0.0372 g/cn2 . BORAL TO BE PASSIVATED PRIOR TO INSTALLATION.
- 3. ALL DIMENSIONS ARE APPROXIMATE DIMENSIONS.
- 4. ITEMS 8A,8B,9A,9D,18 AND 34 MAY BE MADE FROM MORE THAN ONE PIECE. THE ENDS OF THE PIECES DO NOT NEED TO BE WELDED TOGETHER BUT THEY MUST BE FLUSH WITH EACH OTHER WHEN INSTALLED.
- 5. MUST BE TYPE 304, 304LN, 316, DR 316LN TENSILE STRENGTH>75 ksi, YIELD STRENGTH>30ksi, AND CHEMICALS PER ASTM A554.

BILL OF MATERIALS FOR 24-ASSEMBLY HI-STAR 100 PWR MPC.(BM-1478).

REF. DWG. 1395 & 1396.

SHEET 1 OF 2

KEL. UNG	1		OUDGVED DV ODGI HINGER	OT MANAGED
REV.NO.	2	PREP. BY & DATE	CHECKED BY PROJ. MANAGER & DATE	QA. MANAGER & DATE
10	8EA 11-		But 1 2 199 11/2 19	M/c M(11/22/94
ITEM NO.	QTY.	WATERIAL	DESCRIPTION	NOWENCLATURE
iA	2	ALLOY "X" SEE NOTE 1.	PLATE 5/16° THK.X 63.20° ₹₹ ¥. X !76 1/2° LG	BASKET CELL PLATE
13			PLATE 5/16" THK X 60.57" REF W. X 176 :/2"LG.	BASKET CELL PLATE
!E	2		PLATE 5/16" THK X 43.42" REF W. X 175 1/2"LG.	BASKET CELL PLATE
iO	1		PLATE 5/16" THK X 20.402 " ₹# ¥. X 176 1/2"LG.	BASKET CELL PLATE
ΙE	1		PLATE 5/16* THK X 7.7175* ₹₹ €. X 175 1/2*LG.	BASKET CELL PLATE
.=	22		PLATE 5/16" THK X10.4625 " PEF 4. X 176 1/2"LG.	BASKET CELL PLATE
15	i		PLATE 5/16" THX X 9.7445 " REF W. X .75 1/2"LG.	BASKET CELL PLATE
:=	2		PLATE 5/16" THK x 9.03 " (## x, x 176 1/2"LG.	BASKET CELL PLATE
2	24	\ \	PIPE 3"-SCH 80 LGTH AS REED.	UPPER FLEL SPACER PIPE
BA (EB)	34(12)	. BORAL	.075*THK. X 7.5*V.05 1/4*1 C 155* ES.PER DET.DWG.1395. SEE NOTE 2.	HEUTRON ABSCRBER
4A (4B)	34(12)	ALLOY "X" SEE NOTE 1.	.06" THK. SHEATHING PER CET CNG. 1395.	SHEATHING
	4		PLATE 5/16*THK X 3* Y, X 105 1/2*LS.	BASKET CELL PLATE
3	4		PLATE 5/16*THK X 3 3/4* 4PPRDX, V, X 176 1/2*LG.	SASKET CELL PLATE
£[4		PLATE 1.5" APP. THK. (3" () X 168"LG.	BASKET SUPPORT
50	4		2 1/2" ¥ X 168" <u>1</u> G	BASKET SUPPORT
£	4		2 "VIDE X 168"LG. THICKNESS AS REDD.	SASKET SUPPORT
Ŧ	-		CELETED	
55	4		1 1/4" W X 1" THK X 168" 15.	MIRC TREPPLY TEXAGE
SH			DELETED	
5	I		1/2" THK X 68 9/8" 9.9. ← 67 5/6" 19. CYLINDER.	SHELL
7	1		BASEPLATE 2 1/2" THK X 58 E/8" (0.0.	BASEPLATE
3A	22		9/32"THK. ANGLE X 176 1/2" LG. FROM PLATE PER DET. DNG.1395.	BASKET CELL ANGLE
98	5		9/32*THK, CHANNEL X 176 1/2* EG, FROM PLATE PER DET.DVG, 1395.	Basket cell channel
9A	i .		5/16" THK.X 10" Y. APP. X 158" LG. PER DET.	BASKET SUPPORT
98	2		5/16*THK. X 7 1/2* APP. W. X 168* LG. PER DET.	BASKET SUPPORT
90	i		5/16"THK, X 5" APP, Y, X 169" LG, PER DET.	BASKET SUPPORT
90	YZ BEOOD		AS REDUIRED .	BASKET CUPPORT
9E			CELETED	
Œ			JELETED	
32			GELETEO	
9H			DELETED	
10	4	♦	PLATE 3/4" (HK. X 3 1/2" WIDE X 6 3/4" LG.	LIFT LLG

<u>∧</u>

Δ

BILL OF MATERIALS FOR 24-ASSEMBLY HI-STAR 100 PWR MPC.(BM-1478) EID #3098

REF. DVG. 1395 & 1396.

CHEET 2 OF 2

	1	a lugu.			SHEET 2 OF 2
REV.NO.		PREP. BY & DATE	CHECKED BY & DATE	PROJ. NANAGER A DATE	QA. MANAGER & DATE
13		J.A. 4-11-00 ED 1021-7 & 8 ED 1022-3	3.6. 4/14/00	1/14/00	MPL P
ITEM NO.	QTY.	WATERIAL	DESCRIPTION		NOMENCLATURE
- 11	4	ALLDY "X" SEE NOTE 1.	PLATE 3/4" THK. X 4" VICE X	3" LG.	LIFT LUG BASEPLATE
12	i	ALLOY "X" SEE NOTE 1.	BAR 3.75° EO. X 5 7/8° LG.		ORAIN SHIELD BLOCK
134	2	304 2V2	BAR 2 11/16" 00 X 6.75" LG,	S BEEL DWD NO NWOHS SY SYDISHENIO	H 4 VENT AND DRAIN TUBE
139	2	304 2V2	BAR 2 1/4 00 X 2 1/4 LG, DI	HE BEEL BUG HD MICHE ZN ENDESHEN	VENT AND DRAIN TUBE CAP
14		ALLOY "X" SEE NOTE 1.	9 1/2" THK. X 67 1/4" (1.0.		MPC LID
15	1	4	RING 3/8" THK.X 53 1/4" ID.	X 67 5/8" D.D.	MPC CLEISURE RING
16	1	2/2	2-1/2" SCH. 10 PIPE, 158" LG	YITH FUNCE	DRAIN GUIDE TUBE
17			08LETED		
18	72 ££30	ALLOY "X" SEE NOTE 1.	AS REBUIRED		BASKET SUPPORT
19	2	ALLOY "X" SEE NOTE 1.	PLATE 3/8" THK. X 3 7/8"00.		PORT COVER PLATE
20	24	A-193-BB DR SINILAR	3/4"-10UNC X 1/4"LG. HEX 8	OLT VITH FLL THRO.	UPPER FLIEL SPACER BOLT
21	AZ REED	ALLOY "X" SEE NOTE 1.	3/4° X 2° X THIOXNEZZ AZ RE	wed	LIFT LUG SHIM
22			DBLETED		
23	4	A-193-80 DR SIMILAR	1 3/4"-5INC X 2 3/4"LG SIDSE	1 2E1 2D8B1	LIO LIFT HOLE PLUG
24	24	ALLDY "X" SEE NOTE 1.	PLATE 3/8" THK X 4" ID.		UPPER FUEL SPACER END PLATE
ద	1 S ET	ALLOY "X" SEE NOTE 1.	LENGTH, VIOTH AND THICKNESS (F SHINS AS REQUIRED.	LID ZHIM
26	1	2/2	COLPLING		COLPLING
27	AS 8890	ALLOY "X" SEE NOTE 1.	3/4" X 5" DIAM.		UPPER FUEL SPACER END PLATE
28	1	ALLOY "X" SEE NOTE 1.	BAR 3.75' DD. X 5.5'LG.		VENT QUICK DISCONN. CPLG.
29	4	ALLDY "X" SEE NOTE 1.	BAR 3/4" 00. X 1/2" LG.		VENT SHIELD BLOCK SPACER
30	1	ALLOY "X" SEE NOTE 1.	2"-SCH 10 PIPE X 173 1/2"APP	ЖХ . ц.	DRAIN LINE
31	4	2/2	SDOKET SET SOREN 1/4-20 1/4"		COVER PLATE PLUG
32	24	S/S SEE NOTE 5	6" SD. TUBING X 1/4" WALL LE	NGTH AS REBTO.	LONGR FLIEL SPACER CLUMN
33A	24	YTTOX ,X, ZEE HOLE 1"	PLATE 3/8" THK X 8.5" 53.		LOWER FLEL SPACER END PLATE
338	24		PLATE 3/8" THK X 8.5" 50.		LONER FLEL SPACER END PLATE
34			OELETED		
35	AS REET D.	# 2/2 WTIN: WTTIA 1100	1/8" THICK X 175 1/2" LG. ALL LOCATION) WITH S/S SPRINGS	I. SHEET (153° LG (APP.) AT DRAIDN PIP	HEAT CONDUCTION ELEMENTS
36	2	ALUNTNUM	0.065° THK 1.494 00, 0.250° }	Œ	SEAL VAST ER
37	2	2/2	1/4" DIA X 3/8" LG		SEAL WASHER BOLT
39	2	ALLON "X" SEE NOTE 1.	1/8" X 10 1/2" X 9 1/2" SHEET		DRAINLINE
39			DELETED		

NOTES: (FOR SHEET 1 & 2)

A

- I. ALLDY X IS ANY OF THE FOLLDWING ACCEPTABLE STAINLESS STEEL ALLDYS: ASNE TYPE 316, 310LM, 30A, 30ALM. THE ALLOY TO BE USED SHALL BE SPECIFIED BY THE LICENSEE.
- 2. HINTINIM BORAL 8-10 LOADING IS 0.0267 g/cn^2 . Boral to be passivated prior to installation.
- 3. ALL DINENSIONS ARE APPROXIMATE DINENSIONS.
- 4. ITEKS SC.,SD.,SE.,SD SA.,SB.,SC.,SD.,16,18, AND 35 MAY BE WALE FROM MODE THAN DNE PIECE. THE BADS OF PIECES DO NOT MEED TO BE VELDED TOBETHER BUT THEY MIST HE FLUSH WITH EACH OTHER WEN DASTALLED.

 5. NIST BE TYPE 304, 304UM, 316, DR 316LN WITH TERSILE STRENGTH-758si , YIELD STRENGTH-30ksi , AND OHENICALS PER ASTN ASSA.

◬

BILL OF MATERIALS FOR 68-ASSEMBLY HI-STAR 100 BWR MPC.(BM-1479) E.I.D. #3099

REF. DVGS. 1401 & 1402.

 \top

SHEET 1 OF 2

REV. NO.	PF	REP. BY & 1	DATE	CHECKED BY DATE	PROJ. WANAGER & DATE	QA. MANAGER & DATE
12	J.A. 4-11-00 ECD 1021-4			16 / L& B.G. 4/14/∞	1/14/00	95hl 4/14/00
ITEM NO.	QTY.	NATERIA	A L	DESCR	IPTION	NOMENCLATURE
1Å	3	ALTOX ,X, ZE	E NOTE 1.	PLATE 1/4" THK. X 65.65"W. X	176" LG PER DET. DWG.1401.	BASKET CELL PLATE
1B	4			PLATE 1/4" THK. X 52.67"W. X	176" LG PER DET. DWG.1401.	BASKET CELL PLATE
10	2			PLATE 1/4" THK. X 39.69W. X	176° LG PER DET. DNG.1401.	BASKET CELL PLATE
10	2			PLATE 1/4" THK. X 13.73"W. X	!76" LG PER DET. DWG.1401.	BASKET CELL PLATE
IE	78			PLATE 1/4" THK. X 6.24"W. X	176" LG PER DET. DWG.1401.	BASKET CELL PLATE
2	58	\ \		3"- SCH 80 PIPE LGTH AS REDO).	UPPER FLIEL SPCER CLLIMN
3A	116	BORAL		.101"THK. X 4 3/4"M. X 156" LG.PER DET.DWG.1401. SEE NOTE 2.		NELITRON ABSORBER
4A	116	ALLOY "X" SEE	NOTE 1.	.075" THK. SHEATHING PER DET. DWG.1401.		SHEATHING SHEATH
5	8			BAR I" WIDE X 168" LG X THICK	NESS AS REDUIRED	BASKET SUPPORT SHIM
δ	l			1/2" THK X 68 3/8" (1.0. X 187 5/8" LG. CYLINDER.		ZHELL
7	1			BASEPLATE 2 1/2" THK X 68 3/	8° C.D.	BASEPLATE
8	8			PLATE 5/16"THK. X 10" APPROX.W.X 1	68 1/2" LG. PER DET. DWG.1401.	BASKET SUPPORT
9A	4			BAR I." W. X .B." APPROX.THK. X	168 1/2" LG.	BASKET SUPPORT
98				DELETED		
90	8			2 1/2" WIDE X 168 1/2" LG. THI	CKNESS AS REDD. ROLL TO SHELL I.D.	BASKET SLIPPORT
90	as redd			AS REGUIRED		BASKET SUPPORT
10	4			PLATE 3/4" THK. X 3 1/2" NIDE	X 8 3/4" LG.	LIFT LUG
11	4			PLATE 3/4" THK. X 2 1/2" VID	E X 4" LG.	LIFT LUG BASEPLATE
12	1			BAR 3.75°DD. X 5 7/8° LG.		DRAIN ZHIELD BLOCK
AEI	2	304 5/5		BAR 2 11/16' DD X 6 3/4' REF	LG, DIMENSION ON DWG 1402 SHT 4	VENT AND DRAIN TUBE
138	2	304 \$/\$		BAR 2 1/4" DD X 2 1/4" REF LG	, DIMENSION ON ONG 1402 SHT 4	VENT AND DRAIN TUBE CAP
14	1	ALTIN "X. ZEE		10" THK. X 67 1/4" D.D. (1 10" THK. X 66 1/4" D.D. (M		MPC LID
15	1	ATTOX ,X, ZEE	NOTE 1.	RING 3/8" THK. X 53 1/4" ID. RING 3/8" THK. X 53 1/4" ID.		MPC CLOSURE RING
16	1	2/2		2-1/2"-SCH 10 PIPE 158" LG	VITH FLIMEL	DRAIN GUIDE TUBE

BILL OF MATERIALS FOR 68-ASSEMBLY HI-STAR 100 BWR MPC.(BM-1479) (E.I.D. 3083)

REF. DVGS. 1401 & 1402.

SHEET 2 OF 2

REV. NO.	PR	EP. BY & DATE	1 1	QA. MANAGER & DATE
15	J.A. 4-11-00 INCORPORATED ECD-1021-3, 7, & 8		10 7002 Buth 9/14/00	55L-1 U/14/00
ITEN NO.	QTY.	WATERIAL	DESCRIPTION	NOMENCLATURE
17	l	ALLIY "X" SEE NOTE 1.	1" THK X 68 3/8" 00 X 11 5/8" LG. CYLINDER (MPC-68F)	ZHIT
18	8	ALLOY "X" SEE NOTE 1.	3/8" THK FEMALE SUPPORT SHIM PER DETAIL, DMG. 1401, SHT 4.	BASKET SUPPORT SHIM
19	2	ALLOY 'X' SEE NOTE 1.	PLATE 3/8' THK X 3 7/8' 00.	PORT COVER PLATE
20	68	A-193-88 DR SIMILAR	3/4"-100NC X 1.375"LG, FILL THRD, HEX, BOLT	UPPER FUEL SPACER BOLT
21	DEES ZA	ALLOY "X" SEE NOTE 1.	3/4" V X 2' LG X THICKNESS AS REDUIRED	LIFT LEG SHIM
22			OELETED .	
23	4	A-193-80 88-EE1-A	1 3/4"-SUNC X 2 3/4" LG. SDICKET SET SCREW.	LIFT HOLE PLUG
24	68	ALLDY "X" SEE NOTE 1.	PLATE 3/8" THK X 4" IID.	UPPER FLEL SPACER BIO PLAT
25	1 2 ET	ALLOY "X" SEE NOTE !	LENGTH, YIOTH , THICKNESS AND BLANTITY AS REBD.	FID 2HIM
26	1	2/2	2" FEMALE X 1 1/4" MALE SCH. 40, S/S COLPLING	COLPLING
27			OELETED	
28	1	ALLOY "X" SEE NOTE 1.	BAR 3.75" DD. X 5.5" LG.	VENT SHIELD BLOCK
29	4	ALLOY "X" SEE NOTE 1.	BAR .75°DD X .5°LG.	VENT SHIELD BLOCK SPACER
30	l	ALLOY "X" SEE NOTE 1.	2"-SCH 10 PIPE X 173" APPROX.LG.	DRAIN LINE
31	4	2/2	SDOKET SET SOREN 1/4-20 1/4" LG	COVER PLATE PLUG
32	_		DELETO	
33	68	S/S SEE NOTE 5	4" 50. TUBE X 1/4" VALL LENGTH AS REDO. (FOR SHORT FLEL ONLY)	LINNER FLIEL SPACER CLUMN
34A	58	ALLDY "X" SEE NOTE 1.	3/8" THK. X 5 3/4" SQ. PLATE (FOR SHORT FLEE DNLY)	LONGR FLIEL SPACER END PLAT
348	68	ALLDY "X" SEE NOTE 1.	3/8" THK. X 5 3/4" SQ. PLATE (FOR SHORT FLEL DNLY)	LONGER FLIEL SPACER END PLAT
35	ļ		09.6190	
36			0816181	
37	AS REDO	ALUM. ALLEY 1100	1/8" THK. X 176" LG. ALLM. SHEET.(153" LG APP. AT ORAIN PIPE LOCATION. V/S/S SPRINGS.	ZTINENCILE NOTTOURON TAGH
38	2	ALIMINUM	.065° THK X 1.494 00, .250 HOLE	SEAL VASHER
39	2	2/2	1/4° DIA X 3/8 LG	SEAL VASHER BOLT
40	2	ALLDY "X" SEE NOTE 1	I/B" THK. 6" X 6" APPROX. SHEET	ORAIN LINE
41			OELETED	

NOTES: (FOR SHEET 1 & 2)

- 1. ALLDY X IS ANY OF THE FOLLDNING ACCEPTABLE STAINLESS STEEL ALLDYS: ASME TYPE 316, 316LM, 304, 304LM. THE ALLDY TO BE USED SHALL BE SPECIFIED BY THE LICENSEE.
- 2. FOR NPC-68 AND NPC-60FF, MINIMIN BORAL B-10 LOADING IS 0.0372 g/cn₂. FOR NPC-60F, MINIMIN BORAL B-10 LOADING IS 0.01 g/cn₂. BORAL TIL BE PASSIVATED PRIOR TIL INSTALLATION.

13/

3. ALL DIMENSIONS ARE APPROXIMATE DIMENSIONS.

4. ITEMS 5,8,9A,99,9C,16,18,36 AND 37 MAY BE MADE FROM MORE THAN ONE PIECE. THE BNDS OF PIECES OD NOT NEED TO BE VELDED TOCETHER BUT THEY MUST BE FLUSH WITH EACH OTHER WHEN INSTALLED.



5. MUST BE TYPE 304, 304LN, 316, DR 316LN VITH TENSTLE STRENGTHO79ksi, VIELD STRENGTHO30ksi, AND CHEMICALS PER ASTM ASSA.





(BM-2898) BILL OF MATERIALS FOR 24-ASSEMBLY HI-STAR 100 PWR MPC-24E (SHEET 1).

REF. DWG. 2889 TO 2892, 1395 SHT 3 & 1396 SHT 1 TO SHT 5

REV.NO.		PREP. BY & DATE	CHECKED BY & DATE	PROJ. MANAGER & DATE	QA. MANAGER & DATE
1	J.D 8-11 INC	.a. 6-2000 DPPDRATED CHANGES	EROSENBAUM EROSENBAUM 6/24/2000	Brian Gullerman	May delas
ITEM NO.	QTY.	MATERIAL	DESC	RIPTION -	NOMENCLATURE
1A	2	ALLOY "X" SEE NOTE 1.	PLATE 5/16" THK.X 64.543" REF	i. X 176 1/2" LG	BASKET CELL PLATE
18	4		PLATE 5/16" THK X 23.165" REF V.	X 176 1/2°LG.	BASKET CELL PLATE
10	2		PLATE 5/16" THK X 45.985" REF W.	X 176 1/2"LG.	BASKET CELL PLATE
10	4		5/16 ANGLE X 10.847 X 10.847 X 1	76 1/2" LG	BASKET CELL ANGLE
1E	4		PLATE 5/16" THK X 9.5" REF W. X	176 1/2*LG.	BASKET CELL PLATE
IF	16		PLATE 5/16" THK X 10.535 " REF	W. X 176 1/2"LG.	BASKET CELL PLATE
2	24	V	PIPE 3"-SCH 80 LGTH AS REDD.		UPPER FLIEL SPACER PIPE
3A (3B)	72(24)	BDRAL	.101"THK. X 7.5"W.(6 1/4") X 156" LG.PER DET.DWG.1395 SHT 3.		NEUTRON ABSORBER
4A (4B)	72(24)	ALLOY "X" SEE NOTE 1.	.06" THK. SHEATHING PER DET. DW	G. 1395.	SHEATHING
5A	4		PLATE 5/16" THK X 3" W. X 176	1/2" LG.	BASKET CELL PLATE
5B	В		PLATE 2" REF WIDE X 168" LG	X THICKNESS AS REDO	BASKET SUPPORT
5C	4		PLATE 3" REF W. X 168"LG. X TH	ICKNESS AS REDD	BASKET SUPPORT
50	4		PLATE 5/16"THK X 1.472" APPROX		BASKET CELL PLATE
б	<u> </u>		1/2" THK X 68 3/8" D.D. X 187 1/2" THK X 68 3/8" D.D. X 176"	5/8' LG. CYLINDER.(MPC-24;MPC-24E) LG. CYLINDER.(MPC-24EF)	SHELL
7	1		BASEPLATE 2 1/2" THK X 68 3/8"	D.D.	BASEPLATE
8A	12		5/16"THK. ANGLE X 176 1/2" LG. 1	FROM PLATE PER DET. DWG.1395 SHT 3	BASKET CELL ANGLE
88	8			FROM PLATE PER DET.DWG. 1395 SHT 3	. Basket cell channel
BC BC	4		5/16"THK. ANGLE X 176 1/2" LG. F	FROM PLATE PER DET.DWG. 1395 SHT 3	BASKET CELL CHANNEL
9	4		PLATE 1.25" APP. THK. X 2" W.)	(168°LG.	BASKET SUPPORT
10	4	<u> </u>	PLATE 3/4" THK. X 3 1/2" VIDE	X B 3/4" LG.	LIFT LUG

(BM2899) BILL OF MATERIALS FOR 24-ASSEMBLY HI-STAR 100 PWR MPC-24E.(SHEET 2)

REF. DWG. 2889 TO 2892,1395 SHT 3 & 1396 SHT 1 TO SHT 5.

REV.NO.		PREP. BY & DATE	CHECKED BY & DATE	PROJ. MANAGER & DATE	QA. MANAGER & DATE
2		K.L. 6-28-01 Incorporated ECO 1022-20	S. P. A. 6-28-01	8.G.U. 6-28-01	V1R# 736608
ITEM NO.	QTY.	WATERIAL	DESCRIPTION		NOWENCLATURE
11	4	ALLDY "X" SEE MOTE 1.	PLATE 3/4" THK. X 4" WIDE X	3° LG.	LIFT LUG BASEPLATE
12	1	ALLOY "X" SEE NOTE 1.	BAR 3.75° 00. X 5 7/8° LG.		DRAIN SHIELD BLDCK
13A	2	3/2 1/06	BAR 2 11/16' DO X 6.75' LG,	DIMENSIONS AS SHOWN ON DWG 1396 S	H 4 VENT AND ORAIN TUBE
138	2	304 5/3	BAR 2 1/4 00 X 2 1/4 LG, DI	AS 396 DWD NO DWDH2 2A 2NDI2N3M	VENT AND DRAIN TUBE CAP
14	ı	ALLOY "X" SEE NOTE 1.	9 1/2" THK. X 67 1/4" D.D		MPC LJO
15	1	7	RING 3/8' THK.X 53 1/4' IO.	X 67 5/8" O.O.	MPC ELOSURE RING
16	1	2/2	2 1/2" SCH 10S P1PE, 158" LC	S VITH FUNNEL.	DRAIN GUIDE TUBE
17	1	ALLOY "X" SEE NOTE 1.	1" THK. x 68-3/8 O.O. x 11 5/8	' LG. CYLINDER (MPC-24EF)	2HELL
18	AS REDO	ALLDY "X" SEE NOTE 1.	AS REQUIRED		BASKET SUPPORT
19	2	ALLDY "X" SEE NOTE 1.	PLATE 3/8" THK. X 3 7/8"0D.		PORT COVER PLATE
20	AS REGO	A-193-BB DR SIMILAR	3/4"-10UNC X 1 1/4"LG. HEX	BOLT WITH FULL THRO.	UPPER FUEL SPACER BOLT
21	AS REOD	ALLOY "X" SEE NOTE 1.	3/4" X 2" X THICKNESS AS REQUIRED		LIFT LUG SHIM
22			OELETED		
23	4	A-193-B8 OR SIMILAR	1 3/4"-5UNC X 2 3/4"LG SDCK	ET SET SCREW	LIO LIFT HOLE PLUG
24	AS REGO	ALLDY "X" SEE NOTE 1.	PLATE 3/4" THK X 5" 00.		UPPER FUEL SPACER END PLATE
25	1 SET	ALLOY "X" SEE NOTE 1.	LENGTH, WIDTH AND THICKNESS	OF SHIMS AS REQUIRED.	LID SHIM
26)	2/2	COUPLING		COUPLING
27	AS REGO	ALLDY "X" SEE NOTE 1.	3/4" X 5" DIAM.		UPPER FLIEL SPACER END PLATI
28	1	ALLOY "X" SEE NOTE 1.	BAR 3.75" DD. X 5.5"LG.		VENT QUICK DISCONN. CPLG.
29	4	ALLOY "X" SEE NOTE 1.	BAR 3/4" DD. X 1/2" LG.		VENT SHIELD BLOCK SPACER
30	1	ALLOY "X" SEE NOTE 1.	2"-SCH 10 PIPE X 173 1/2"APP	PRDX. + G.	DRAIN LINE
31			DELETED		
32	AS REGD		6° SQ. TUÐING X 1/4° WALL LI	ENGTH AS REQ'D.	LOWER FUEL SPACER COLUMN
33A	AS REGIO		PLATE 3/8" THK X 8.5" SQ.		LOVER FLEL SPACER END PLAT
338	AS REGO	∀	PLATE 3/8" THK X 8.5" SQ.		LOWER FUEL SPACER END PLAT
34			DELETED		
35	as regid.	ALUM. ALLDY 1100 & S/S	1/8" THICK X 176 1/2" LG. ALL LOCATION) WITH S/S SPRINGS	M. SHEET (153° LG (APP.) AT ORAIN PIF	E HEAT CONDUCTION ELEMENTS
36	2	ALLMINUM	0.065° THK 1.494 DD, 0.250°	HOLE	SEAL WASHER
37	2	2/2	1/4° DIA X 3/8° LG		SEAL WASHER BOLT
38	2	ALLOY "X" SEE NOTE 1.	1/8" X 10 1/2" X 9 1/2" SHEET		DRAINLINE
39	8	ALLOY "X" SEE NOTE 1.	1/8" X 4" X 4 1/2" APPROX SI	ieet	DRAINLINE
40	1	ALLDY "X" SEE NOTE 1.	2.722" SD APPROX X 176 1/2"	LG	CENTER COLUMN

NOTES: (FOR SHEET 1 & 2) THE ALLOY TO BE USED SHALL BE SPECIFIED BY THE LICENSEE.

1. ALLOY X IS ANY OF THE FOLLOYING ACCEPTABLE STATINLESS STEEL ALLOYS: ASKE TYPE 316, 316LN, 304, 304LN.



^{2.} MINIMUM BORAL B-10 LOADING IS 0.0372 g/cn^2 . Boral to be passivated prior to installation.

^{3.} ALL DIMENSIONS ARE APPROXIMATE DIMENSIONS.

^{4.} ITEMS SC.SD, 9,18, AND 35 MAY BE MADE FROM MORE THAN ONE PIECE. THE ENDS OF PIECES DO NOT NEED TO BE WELDED TOGETHER BUT THEY MUST BE FLUSH YITH EACH OTHER WHEN INSTALLED.

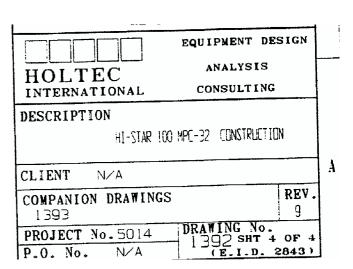
2 2

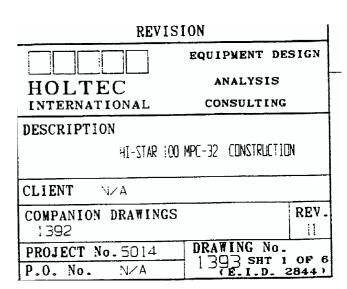
L

REVIS	ION	
	EQUIPMENT DE	SIGN
HOLTEC	ANALYSIS	
INTERNATIONAL	CONSULTING	
DESCRIPTION		
OOI SATZ-IH	MPC-32 CONSTRUCTIO	
CLIENT N/A		
COMPANION DRAWINGS 1393		REV.
PROJECT No.5014	DRAWING No.	OF 4
P.O. No. N/A	1 1	840)

REVIS	EQUIPMENT DE	SIGN
HOLTEC INTERNATIONAL	ANALYSIS CONSULTING	
DESCRIPTION HI-STAR 100	MPC-32 CONSTRUCTIO	N
CLIENT N/A		
COMPANION DRAWINGS		REV.
PROJECT No. 5014 P.O. No. N/A	DRAWING No. 1392 SHT 2 (E.I.D. 2	OF 4

REVISI		
REVIOE	EQUIPMENT DESIGN	
HOLTEC INTERNATIONAL	ANALYSIS CONSULTING	
DESCRIPTION HI-STAR 100	MPC-32 CONSTRUCTION	
CLIENT N/A		
COMPANION DRAWINGS	REV. 10	
PROJECT No.5014	DRAWING No. 1392 SHT 3 OF 4 (E.I.D. 2842)	





REVISIO	N :	1
E	QUIPMENT DESIGN	
HOLTEC	ANALYSIS	Г
INTERNATIONAL	CONSULTING	
DESCRIPTION		
HI-STAR 100 MPC	-32 CONSTRUCTION	
CLIENT N/A		
COMPANION DRAWINGS	REV.	
1 392	10	
111000001	AWING No.	
P.O. No. N/A	393 SHT 2 OF 6 (E.I.D. 2845)	

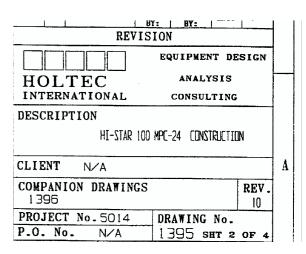
REVI	SION
	EQUIPMENT DESIGN
HOLTEC	ANALYSIS
INTERNATIONAL	CONSULTING
	DO MOC-12 THAN HUBBLE BAN
CLIENT N/A	00 MPC-32 CONSTRUCTION

REVIS	ION		
	EQUIPMENT DE	SIGN	
HOLTEC	ANALYSIS		
INTERNATIONAL	CONSULTING		
DESCRIPTION			
HI-STAR 100 MPC-32 CONSTRUCTION			
CLIENT N/A			A
COMPANION DRAWINGS REV. 1392			
PROJECT No. 5014	DRAWING No.	OF 6	
P.O. No. N/A	(E.I.D. 20	347)	

REVISION			
	EQUIPMENT DESIGN		
HOLTEC	ANALYSIS		
INTERNATIONAL	CONSULTING		
DESCRIPTION			
HI-STAR	100 MPC-32 EDNSTRUCTION		
CLIENT N/A			
COMPANION DRAWINGS REV. 1392 8			
PROJECT No.5014	DRAWING No.		
P.O. No. N/A	1393 SHT 5 OF 6		

REVIS	ION	
HOLTEC INTERNATIONAL	EQUIPMENT DE ANALYSIS CONSULTING	SIGN
DESCRIPTION HI-STAR 100	MPC-32 CONSTRUCTIO	
CLIENT N/A		
COMPANION DRAWINGS 1392		REV.
PROJECT No. 5014 P.O. No. N/A	1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	OF 6

REVIS	ION		
	EQUIPMENT DE	SIGN	
HOLTEC	ANALYSIS		
INTERNATIONAL	CONSULTING		
DESCRIPTION			
HI-STAR 100	MPC-24 CONSTRUCTIO	N	
CLIENT N/A			A
COMPANION DRAWINGS 1396		REV. 13	
PROJECT No.5014	DRAWING No.	or 4	
P.O. No. N/A	(E-I-D- 2		



REVISIO	ON		
	EQUIPMENT DE	SIGN	
HOLTEC	ANALYSIS		
INTERNATIONAL	CONSULTING		
DESCRIPTION			
HI-STAR 100 M	PC-24 CONSTRUCTIO	N	
CLIENT N/A			A
COMPANION DRAWINGS		REV.	
1396, 2889 TO 289		11	
PROJECT No. 5014	DRAWING No.		
P.O. No. N/A	(E.I.D. 289	OF 4	

REVIS	SION	
	EQUIPMENT DE	SIGN
HOLTEC	ANALYSIS	
INTERNATIONAL	CONSULTING	
DESCRIPTION		
HI-STAR 100) MPC-24 CONSTRUCTIO	א
CLIENT N/A		
OBILINI IVA		- 1
COMPANION DRAWINGS		REV.
COMPANION DRAWINGS	DRAWING No.	REV.

REVIS		
	EQUIPMENT DE	SIGN
HOLTEC	ANALYSIS	
INTERNATIONAL	CONSULTING	
DESCRIPTION		
HI-STAR 100	MPC-24 CONSTRUCTIO	N
CLIENT N/A		
COMPANION DRAWINGS 1395,2889 TO 289	2	REV . 15
PROJECT No.5014	DRAWING No.	
P.O. No. N/A	(E.I.D. 28)	OF 6

REVISION		
EQUIPMENT DE	ESIGN	
HOLTEC ANALYSIS	Ī	
INTERNATIONAL CONSULTING		
DESCRIPTION		
HI-STAR 100 MPC-24 CDNSTRUCTIO	DN	
CLIENT N/A		ı
COMPANION DRAWINGS 1395, 2889 TD 2892	REV.	
PROJECT No. 5014 DRAWING No. 1396 SHT 2	OF 6	

REVIS	ION	
	EQUIPMENT DE	SIGN
HOLTEC	ANALYSIS	
INTERNATIONAL	CONSULTING	1
DESCRIPTION		
OO! SATZ-IH	MPC-24 CONSTRUCTIO	N
CLIENT N/A		
COMPANION DRAWINGS 1395, 2889 TD 28	02	REV.
	عد	12
PROJECT No.5014	DRAWING No.	

REVIS	ION		
	EQUIPMENT DE	SIGN	
HOLTEC	ANALYSIS	Ī	
INTERNATIONAL	CONSULTING		
DESCRIPTION			
HI-STAR 100	MPC-24 EDNSTRUCTIO	N	
CLIENT N/A			A
COMPANION DRAWINGS		REV.	
1395, 2889 TO 28	92	10	
PROJECT No. 5014 P.O. No. N/A	DRAWING No. 1396 SHT 4 (E.I.D. 289	OF 6	

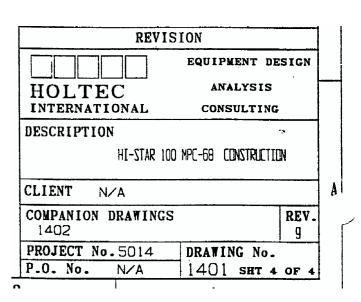
RE	VISION
	EQUIPMENT DESIGN
HOLTEC	ANALYSIS
INTERNATIONAL	CONSULTING
DESCRIPTION HI-STAN	R 100 MPC-24 CONSTRUCTION
CLIENT N/A	
COMPANION DRAWII	
PROJECT No. 5014 P.O. No. N/A	DRAWING No. 1396 SHT 5 OF 6 (E.I.D. 2897)
6	

REVIS	ION	
	EQUIPMENT DE	SIGN
HOLTEC	ANALYSIS	
INTERNATIONAL	CONSULTING	
DESCRIPTION	-	
DOI PATS-IH	MPC-24 CONSTRUCTIO	N
CLIENT N/A		
COMPANION DRAWINGS 1395		REV.
PROJECT No.5014	DRAWING No.	
P.O. No. N/A	1396 зит в	OF 6

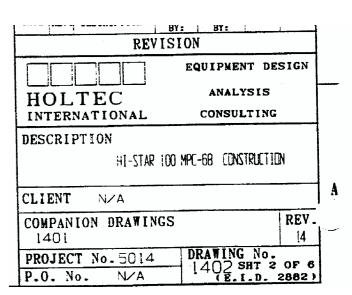
REVIS	ION		
	EQUIPMENT DE	SIGN	
HOLTEC	ANALYSIS	Ī	
INTERNATIONAL	CONSULTING		
DESCRIPTION HI-STAR 100	MPC-68 CONSTRUCTIO	IN	
CLIENT N/A			A
COMPANION DRAWINGS 1402		REV. 15	
PROJECT No. 5014 P.O. No. N/A	DRAWING No.	0F 4 2859)	

REVISION			
	EQUIPMENT DE	SIGN	
HOLTEC	ANALYSIS	Ī	
INTERNATIONAL	CONSULTING	i	
DESCRIPTION	****		
HI-STAR 100	MPC-68 CONSTRUCTIO	IN	
CLIENT N/A			A
COMPANION DRAWINGS 1402		REV.	
PROJECT No. 5014	DRAWING No.		
P.O. No. N/A	1401 SHT 2	OF 4	

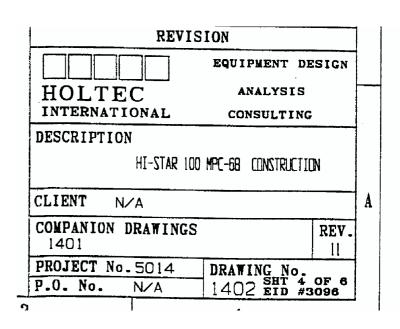
REVISION		
	EQUIPMENT DE	SIGN
HOLTEC INTERNATIONAL	ANALYSIS CONSULTING	
DESCRIPTION		
HI-STAR 100	MPC-68 CONSTRUCTIO	N
CLIENT N/A		
COMPANION DRAWINGS 1402		REV.
PROJECT No.5014	DRAWING No.	
P.O. No. N/A	1401 зит з	OF 4

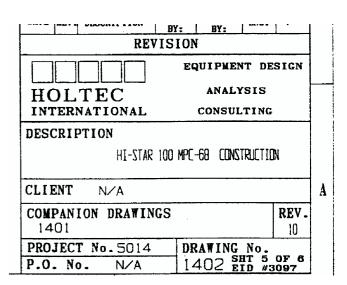


REVISION			
EQUIPMENT	DES	BIGN	
HOLTEC	s		
INTERNATIONAL CONSULTI	NG		
DESCRIPTION			
HI-STAR 100 MPC-68 CONSTRU	CTIO	N	
CLIENT N/A			A
COMPANION DRAWINGS 1401		REV. !5	
PROJECT No. 5014 DRAVING N		OF 6	
P.O. No. N/A (E.I.D.			



REVISI		
	EQUIPMENT DESIGN	
HOLTEC	ANALYSIS	
INTERNATIONAL	CONSULTING	
DESCRIPTION		
HI-STAR 100	MPC-68 CONSTRUCTION	
CLIENT N/A		A
COMPANION DRAWINGS	REV.	
PROJECT No. 5014	DRAWING No. 1402 SHT 3 OF 6 (E.I.D. 3085)	





REVISION		
EQUIPMENT DI	ESIGN	
HOLTEC ANALYSIS		
INTERNATIONAL CONSULTING	;	
DESCRIPTION		
HI-STAR 100 MPC-68 CONSTRUCTI	DN .	
CLIENT N/A		A
COMPANION DRAWINGS 1401	REV.	
PROJECT No. 5014 DRAWING No.	1	
P.O. No. N/A 1402 SHT 6 CE.I.D.	P 6 2860)	

							ı
NAZ. 27-2000	0	FOR APPROVAL	3-27-2000 5.0EE	CT 4104	winds	Y DE	Γ
DATE	REV.	DESCRIPTION	PREP. BY:	CHECKED BY:	P. K.	Q. A.	
REVISION							
EQUIPMENT DESIGN							
HOLTEC ANALYSIS							
INTERNATIONAL CONSULTING							
DESCRIPTION							
HI-STAR 100 MPC-24E CONSTRUCTION (1)							
CLIENT N/A					A		
COMI	PAN	ION DRAWIN	GS			REV.	
2890	TO	2892, 13 95 SHT :	3, 1396	SHT 1 TO	SHT 5	0	
PRO.	JEC'	r No.5014	DI	RAWING	No.		
P.O. No. N/A 2889							

SALE KEIL DESCRIF	REVISION	BY: '-	m -	
	EQ	UIPMENT D	ESIGN	
HOLTEC		ANALYSIS	·	
INTERNATION	VAL (CONSULTIN	G	
DESCRIPTION				
HI-STAR 10	O MPC-24E CONS	TRUCTION (2)		
CLIENT N/A				A
COMPANION DR.	REV.			
2889, 2891, 2892, 1395 SHT 3,1396 SHT 1 TO SHT 5				
PROJECT No.5	O14 DR	AWING No.		
P.O. No. N	/A	2890	<u> </u>	
	•			

