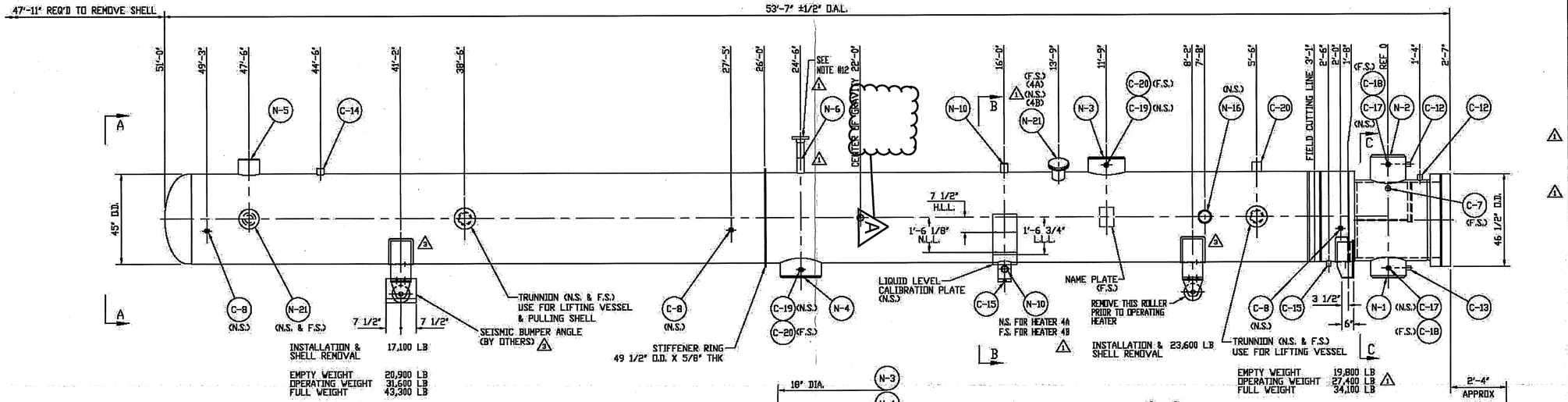
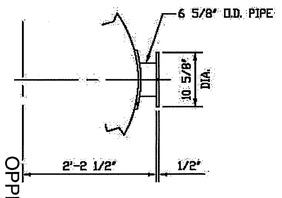
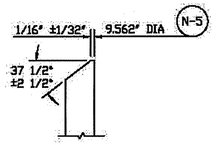
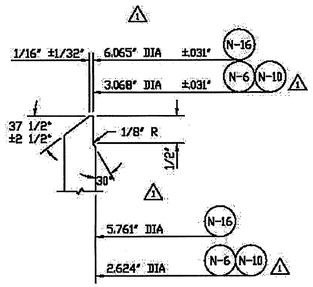




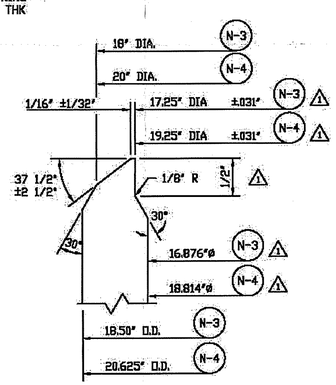
TRUNNION DETAIL



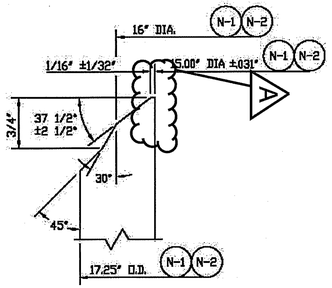
NOZZLE WELD END PREP



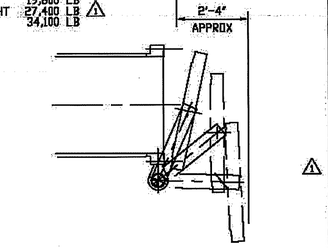
NOZZLE WELD END PREP



NOZZLE WELD END PREP



NOZZLE WELD END PREP



PLAN VIEW OF COVER REMOVAL USING COVER DAVIT

*AS SHOWN FOR HEATER 4A ON "D" SIDE
*OPPOSITE HAND FOR HEATER 4B ON "B" SIDE

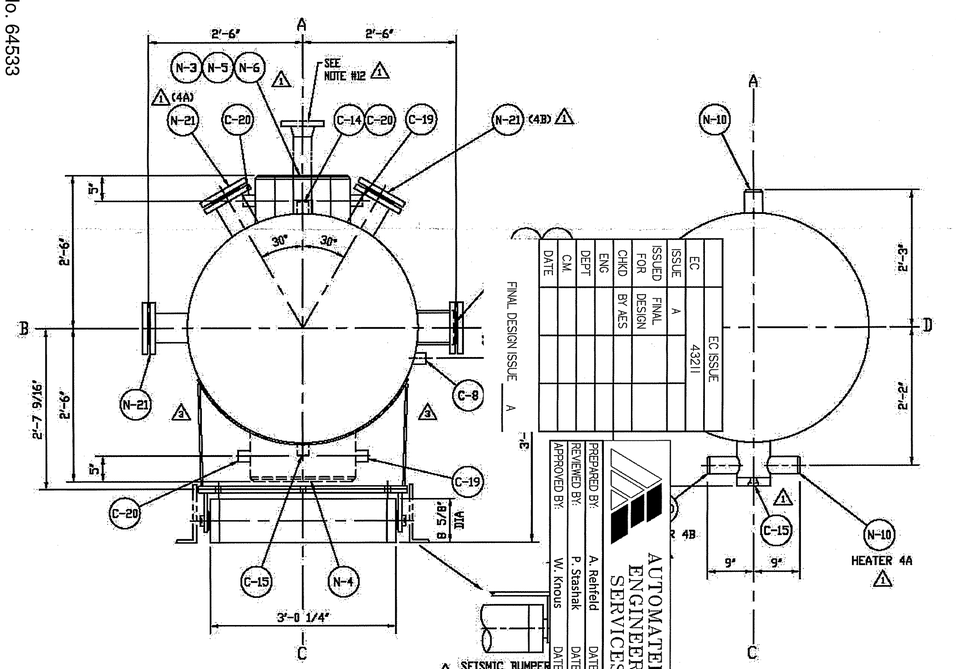
GENERAL NOTES

1. ALL BOLT HOLES ARE TO STRADDLE CENTERLINES.
2. ALL COUPLINGS ARE 6000 LB. AND PLUGGED.
3. TUBES ARE WELDED AND EXPANDED INTO TUBESHEET.
   TUBES ARE 3/4" O.D. X .035" AVG. WALL. (SA-688-TP304L)
4. BLAST EXTERIOR AND PAINT ONE COAT OF SHOP PRIMER.
5. SHIP UNDER NITROGEN SEAL.
6. UNLESS OTHERWISE NOTED, ALL DIMENSIONS ARE WITHIN TOLERANCES SPECIFIED BY THE HEAT EXCHANGER INSTITUTE STANDARDS FOR CLOSED FEEDWATER HEATERS.
7. START UP TEST VENT SHOULD NOT BE USED DURING NORMAL OPERATION.
8. SAFETY RELIEF VALVE(S) SHOULD BE INSTALLED IN A VERTICAL POSITION.
9. HEATER MUST BE VENTED THROUGH THE OPERATING AIR OUTLETS DURING OPERATION. THREE CRITICAL FLOW ORIFICE ASSEMBLIES WITH 1"-300 LB RF FLANGES SHIP LOOSE. ORIFICE DIAMETERS ARE 1/4".
10. REACTION LOADS SHOWN ARE THE MAXIMUM POSSIBLE WITH THE WEIGHT OF THE VESSEL SUPPORTED AT TWO POINTS.
11. INSULATION CLIPS WELDED ON 18" CENTERS.
12. 3"-300# R.F. STUB FOR N-6 NOZZLE SUPPLIED AND WELDED AT SITE BY OTHERS.

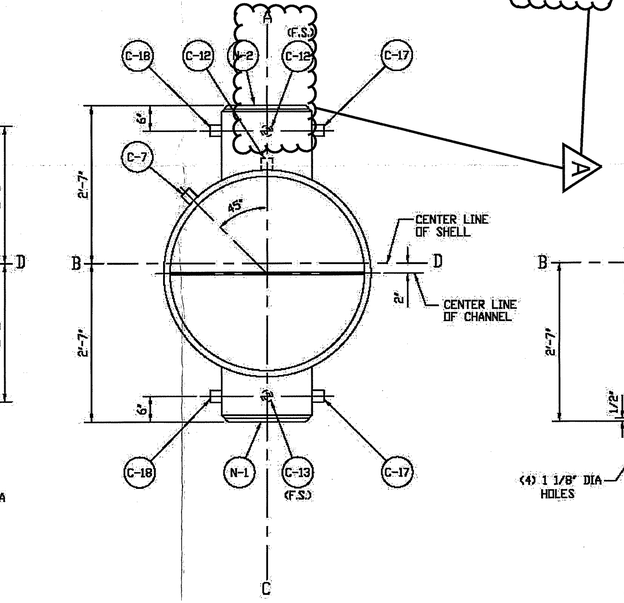
REV.	DWG.	CKD.	APPR.	DATE	DESCRIPTION
					REVISIONS
3	RH	JCB	UGB	9/7/11	REVISED ROLLER SUPPORT AS NOTED
2	RH	UG	UG	8-15-11	REVISED UNIT NUMBER PER CUSTOMER COMMENT
1	BB	RH	UG	7-15-11	REV. PER CUSTOMER COMMENTS

NOZZLE SCHEDULE

NOZZLE	NO.	SIZE AND RATING	TYPE	APPLICATION
N-1	1	16" FORG	W.E.	FEEDWATER INLET
N-2	1	16" FORG	W.E.	FEEDWATER OUTLET
N-3	1	18" FORG	W.E.	STEAM INLET
N-4	1	20" FORG	W.E.	DRAINS OUTLET
N-5	1	10" PIPE	W.E.	DRAINS INLET
N-6	1	3" PIPE	W.E.	SHELL SAFETY RELIEF VALVE
C-7	1	3/4"	S.W.	CHANNEL SAFETY RELIEF VALVE
C-8	3	1"	S.W.	OPERATING AIR OUTLET
		NONE		GAUGE GLASS CONNECTION
N-10	2	3" PIPE	W.E.	LIQUID LEVEL INSTRUMENT CONN
		NONE		HIGH LIQUID LEVEL CONTROL
C-12	2	1"	S.W.	CHANNEL START UP TEST VENT
C-13	1	1"	S.W.	CHANNEL DRAIN
C-14	1	1"	S.W.	SHELL START UP TEST VENT
C-15	2	1 1/2"	S.W.	SHELL DRAIN
N-16	1	6" PIPE	W.E.	HEATER DRAIN TANK VENT
C-17	2	1"	S.W.	TEMPERATURE CONNECTION
C-18	2	1"	S.W.	PRESSURE GAUGE CONNECTION
C-19	2	1"	S.W.	TEMPERATURE CONNECTION
C-20	3	1"	S.W.	PRESSURE GAUGE CONNECTION
N-21	3	4"- 300 LB	R.F. FLG	INSPECTION PORT

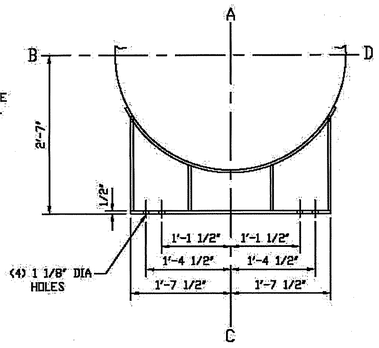


VIEW A - A
SCALE 2X

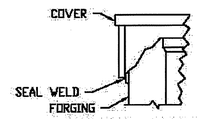


SECTION B - B
SCALE 2X

SECTION C - C
SCALE 2X



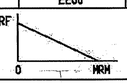
SUPPORT AT TUBESHEET
SCALE 2X



SHIPPING COVER ATTACHMENT DETAIL

HEI ALLOWABLE NOZZLE LOADS

NOZZLE	MRM (FT-LB)	FRRF (LB)
N-1 N-2	44900	46100
N-3	12500	18900
N-4	14100	23200
N-5	5500	7200
N-16	2200	4500



CONSTRUCTION

CODE: ASME SECTION VIII DIV.1, 2010, CODE STAMP REQD: YES

DESIGN DATA	SHELL SIDE	TUBE SIDE
DESIGN PRESSURE	250 PSI & F.V.	700 PSI
TEST PRESSURE	325 PSI	910 PSI
DESIGN TEMPERATURE	420° F.	420° F.
NUMBER OF PASSES OR ZONES	ONE ZONE	TWO PASS
CORROSION ALLOWANCE	1/16"	1/8"

VESSELS REQUIRED PER UNIT TWO , TOTAL UNITS ONE
EFFECTIVE SURFACE 10,761SQ. FT. PER VESSEL

60° F. MIN. DESIGN METAL TEMPERATURE
POST WELD HEAT TREAT: SHELL AND SKIRT

RADIOGRAPHY
SPOT: SHELL, SKIRT AND CHANNEL
FULL: NONE

ESTIMATED WEIGHTS

EMPTY	40,700 LB
FULL	77,400 LB
BUNDLE	28,100 LB
OPERATING	59,000 LB

NORMAL OPERATING RANGE
1" NORMAL LIQUID LEVEL 1"
DO NOT USE FOR ALARM POINTS

STORED VOLUMES IN SHELL

STEAM	366 CU. FT.
SATURATED LIQUID	65 CU. FT.
SUB COOLED LIQUID	N/A

CERTIFIED CORRECT FOR FABRICATION
BY: Upendra Patle
DATE: 8/24/2011

NOTE—This drawing is the property of SPX Heat Transfer Inc. and is not to be reproduced in whole, or in part, nor used for any purpose other than that for which it is specifically furnished, without the approval of SPX Heat Transfer Inc.

CUSTOMER PURCHASE ORDER NUMBER 159609

Yuba — SPX HEAT TRANSFER INC.
2121 N. 161st E. Ave. TULSA, OKLAHOMA 74116

SETTING PLAN

TITLE
44-574 LOW PRESSURE FEEDWATER HEATER NO. 4A & 4B
HORIZONTAL ITEM FW-14A & FW-14B
UNIT NO. 1
OMAHA PUBLIC POWER DISTRICT
FORT CALHOUN STATION

DWN.	CKD.	APP.	DATE	SCALED	DWG. NO.	REV.
GNV	RH	UG	5/11/11	NONE	WUH/700.110493/1/1	3

SHEET

	PREPARED BY:	DATE:
DATE	A. Rehfeld	12/22/2011
C.M.	REVIEWED BY: P. Stashak	DATE: 12/22/2011
DEPT	APPROVED BY: W. Knous	DATE: 12/22/2011
ENG		
CHKD		
ISSUED FOR	FINAL DESIGN	
ISSUE	A	
EC	43211	

EC ISSUE

AUTOMATED ENGINEERING SERVICES CORP.

OPPD File No. 64533

#106150