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January 30, 2017

SCOTT ISLIP  
ROUND ENGINEERING INC  
10 SEGWUN RD  
WATERDOWN ON L0R 2H8  
CA

Service Request Type: BPV-PV Registration  
**Service Request No.: 2014114**  
Your Reference No.: R-0716 HEAT EXCHANGER  
Registered to: CUSTOM STEAM SOLUTIONS INC

Dear SCOTT ISLIP,

Technical Standards and Safety Authority (TSSA) is pleased to inform you that your submission has been reviewed and registered as follows:


**CRN No.: R3195.5**

Main Design No.: Dwg. No. R-0716 Rev. 0, NPS10 Shell Heater

***NOTE: U-tube Tube Bundle manufactured by S.A. Armstrong under CRN K0339.5 (replacement identical to the original design.)***

The stamped copy of the approved registration and the invoice are mailed separately. Should you have any questions or require further assistance, please contact a Customer Service Advisor at 1.877.682.TSSA

Yours truly,



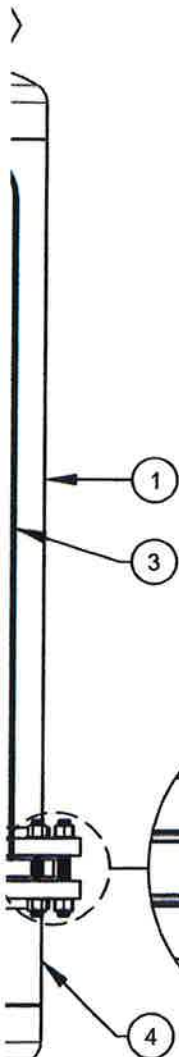
Mark Valcic P. Eng.  
Engineer BPV  
Tel.: 416-734-3494  
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### Bill of Materials

Item	Description	Material	Qty
1	BUNDLE SHELL	TYPE 304 S.STEEL - SEE SHEET 2	1
2	TUBESHEET GASKETS	10" 150 LB. NON-ASBESTOS	2
3	TUBE SHEET & BUNDLE	TYPE 316L - NOTE 10	1
4	STEAM SHELL	TYPE 304 S.STEEL - SEE SHEET 3	1
5	NUTS	7/8" UNC SA194-8 HHX NUT S.STEEL	24
6	STUDS	7/8" UNC SA193-B8-1 STUDS (LENGTH AS REQ'D DUE TO TUBE SHEET)	12
7	WASHERS	TYPE 304 S.STEEL	24
8	NAMEPLATE AND BRACKET (NOT SHOWN)	ASTM A240-304/304L BRACKET C/W NAMEPLATE IN ACCORDANCE WITH UG-116 OF ASME SECTION VIII-1.	1

**Notes:**

1. All dimensions are in inches. SI units if provided are in brackets.
2. All nozzle bolt holes straddle the major centerlines unless specifically noted.
3. All nozzle gasket surfaces require a serrated finish per ASME B16.5.
4. All piping/nipples shall be per ASME B36.10 (latest), all fittings shall be per ASME B16.9 (latest), all flanges shall be per ASME B16.5 (2013), B16.47 (2011) and all couplings shall be per ASME B16.11 (latest).
5. All welds to be neat in appearance, free of slag and other debris.
6. Item to be cleaned of scale, oil, weld splatter and all foreign matter prior to hydrostatic test.
7. Inside nozzle corners to have a minimum 1/8" radius.
8. Impact test exempt per UHA-51.
9. Fabricator to hold current ASME U/UM-Stamp Certification and/or CSA B51 Certification. Fabricator shall be authorized for shop fabrication of pressure vessels per ASME Section VIII, Div. 1. Vessel may be stamped with a UM stamp.
10. Tube sheet and bundle manufactured by S.A. Armstrong Limited. Tube sheet and Bundle to be supplied with ASME Manufacturer's Partial Data Report. Tube bundle design covered under complete unit having CRN K-0339.5. See Sheet 5 and 6.



**Boilers and Pressure Vessels Safety Program**

**REGISTERED**

**R3195.5**

20. R.N.: *lulala*

Signed: *lulala*

Date: *JAN 30, 2017*

NOTE: TUBE BUNDLE MANUFACTURED BY SA ARMSTRONG LIMITED CAN K0339.5

*lulala Jan 30/17*



N13

CONNECTION DATA			
1 INLET (N1)	4" 150 Lb. RF	(N8)	3/4" FNPT
OUTLET (N2)	2" 150 Lb. RF	(N9)	1/2" FNPT
TER INLET (N3)	4" 150 Lb. RF	(N10)	1/2" FNPT
ER OUTLET (N4)	4" 150 Lb. RF	(N11)	3/4" FNPT
(N5)	1" FNPT	(N12)	1/4" FNPT
(N6)	1" FNPT	(N13)	1/2" FNPT
(N7)	2" FNPT	(N14)	

UNLESS OTHERWISE NOTED  
 1. DIMENSIONS ARE IN INCHES. IF USED SI UNITS ARE IN ( ) BRACKETS.  
 2. TOLERANCES  
 FRACTIONAL: +/- 1/4"  
 DECIMALS: XX +/- .02  
 XXX +/- .005

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REV.	DESCRIPTION	DATE	INITIALS

TITLE <b>NPS10 SHELL HEATER</b>		 <b>CSSI</b> Custom Steam Solutions Inc. 1641-225 The East Mall Toronto, ON M9B 0A9 www.customsteam.ca	
MODEL <b>CSS-10</b>			
WORK ORDER <b>N/A</b>			
DRAWN BY <b>SI</b>	DRAWING SIZE <b>B</b>		
CHECKED BY <b>MB</b>	SCALE <b>1:12</b>		
DATE <b>20/01/2017</b>	DRAWING NO. <b>R-0716</b>	REV. <b>0</b>	SHEET <b>1 of 6</b>