

112953

FORM U-1 MANUFACTURER'S DATA REPORT FOR PRESSURE VESSELS
As Required by the Provisions of the ASME Code Rules, Section VIII, Division 1

HX-0057

1. Manufactured and certified by **FABSCO SHELL & TUBE, LLC., 2410 INDUSTRIAL ROAD, SAPULPA, OK 74066**
(Name and address of Manufacturer)
2. Manufactured for **SOUTHERN COMPANY SERVICES, 42 INVERNESS CENTER PKWY, BIRMINGHAM, AL 35242**
(Name and address of Purchaser)
3. Location of installation **KEMPER COUNTY, MS**
(Name and address)
4. Type: **HORIZ.** **HEAT EXCHANGER** **S11-10251-2**
(HORIZ., vert., or sphere) (Tank, separator, jkt. vessel, heat exch., etc.) (Mfg's serial No.)
- N/A** **S11-10251-2-1** **7540** **2012**
(CRN) (Drawing No.) (Nat'l Bd. No.) (Year built)
5. ASME Code, Section VIII, Div. 1 **2010 ED.** **N/A** **N/A**
(Edition and Addenda (date)) (Code Case No.) (Special Service per UG-120(d))

Items 6-11 incl. to be completed for single wall vessels, jackets of jacketed vessels, shell of heat exchangers, or chamber of multichamber vessels.

6. Shell (a) No. of course(s): **2** (b) Overall length (ft & in.): **15'-2"**

Course(s)			Material		Thickness		Long. Joint (Cat. A)			Circum. Joint (Cat. A, B, & C)			Heat Treatment	
No.	Diameter, in.	Length (ft & in.)	Spec./Grade or Type		Nom.	Corr.	Type	Full, Spot, None	Eff.	Type	Full, Spot, None	Eff.	Temp.	Time
1	23 1/4" I.D.	8'-0"	SA-516-70N		3/8"	1/8"	S	FULL	1.00	S	FULL	1.00	1175	1.00
1	23 1/4" I.D.	7'-2"	SA-516-70N		3/8"	1/8"	S	FULL	1.00	S	FULL	1.00	1175	1.00

7. Heads: (a) **SA-516-70N H.T. @ 1175 deg F. for 1.00 Hours** (b) **NA**
(Mat'l Spec. No., Grade or Type) (H.T. - Time & Temp.) (Mat'l Spec. No., Grade or Type) (H.T. - Time & Temp.)

	Location (Top, Bottom, Ends)	Thickness		Radius		Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Pressure		Category A		
		Min.	Corr.	Crown	Knuckle					Convex	Concave	Type	Full, Spot, None	Eff.
(a)	END	5/16	1/8"	NA	NA	2:1	NA	NA	NA	NA	X	S	FULL	1.00
(b)														

- If removable, bolts used (describe other fastening) **NA**
(Mat'l Spec. No., Grade, size, No.)

8. Type of jacket **NA** Jacket closure **NA**
(Describe as ogee & weld, bar, etc.)

- If bar, give dimensions **NA** If bolted, describe or sketch.
9. MAWP **310** **NA** psi at max. temp. **205** **NA** °F Min. design metal temp. **-28** °F at **310** psi.
(internal) (external) (internal) (external)

10. Impact test **NO, Exempt Perug-20(f), ucs-66(a)(c), Fig ucs-66, Note(c) & ucs-67** at test temperature of **NA** °F.
(Indicate yes or no and the component(s) impact tested)

11. Hydro., Test press. **404** Proof test **NA**

Items 12 and 13 to be completed for tube sections.

12. Tubesheet: **SA-266-4N/SA-765-11** **28 11/16"** **2"** **0.3125"** **Bolted**
(Stationary (Mat'l Spec. No.)) (Dia., in. (subject to press.)) (Nom. thk., in.) (Corr. Allow., in.) (Attachment (welded or bolted))
- NA** **NA** **NA** **NA** **NA**
(Floating (Mat'l Spec. No.)) (Dia., in.) (Nom. thk., in.) (Corr. Allow., in.) (Attachment)
13. Tubes: **SA-334-6** **3/4"** **0.083" THK MIN** **178** **"U"**
(Mat'l Spec. No., Grade or Type) (O.D., in.) (Nom. thk., in. or gauge) (Number) (Type (Strait or U))

Items 14-18 incl. to be completed for inner chambers of jacketed vessels or channels of heat exchangers.

14. Shell (a) No. of course(s): **1** (b) Overall length (ft & in.): **1'-5 1/8"**

Course(s)			Material		Thickness		Long. Joint (Cat. A)			Circum. Joint (Cat. A, B, & C)			Heat Treatment	
No.	Diameter, in.	Length (ft & in.)	Spec./Grade or Type		Nom.	Corr.	Type	Full, Spot, None	Eff.	Type	Full, Spot, None	Eff.	Temp.	Time
1	24" O.D.	1'-5 1/8"	SA-106B		3/8"	1/8"	S	FULL	1.00	S	SPOT	1.00	1175	1.00

15. Heads: (a) **SA-516-70N H.T. @ 1175 deg F. for 1.00 Hours** (b) **NA**
(Mat'l Spec. No., Grade or Type) (H.T. - Time & Temp.) (Mat'l Spec. No., Grade or Type) (H.T. - Time & Temp.)

	Location (Top, Bottom, Ends)	Thickness		Radius		Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Pressure		Category A		
		Min.	Corr.	Crown	Knuckle					Convex	Concave	Type	Full, Spot, None	Eff.
(a)	END	5/16	1/8"	NA	NA	2:1	NA	NA	NA	NA	X	S	NONE	1.00
(b)														

- If removable, bolts used (describe other fastening) **(24)7/8"Dia.SA-193B7 Studs W/SA-194-2H Heavy Hex Nuts**
(Mat'l Spec. No., Grade, size, No.)

FORM U-1 (Back)

16. MAWP 150 NA psi at max. temp. 145 NA °F Min. design metal temp. 10 °F at 150 psi.
(internal) (external) (internal) (external)
17. Impact test NO, Exempt Perug-20(f), ucs-66(a)(c), Fig ucs-66, Note(c) & ucs-67 at test temperature of NA °F.
(Indicate yes or no and the component(s) impact tested)
18. Hydro. Test press. 195 Proof test NA
19. Nozzles, inspection, and safety valve openings:

Purpose (Inlet, Outlet, Drain, etc.)	No.	Diameter or Size	Flange Type	Material		Nozzle Thickness		Reinforcement Material	How Attached		Location (Insp. Open.)
				Nozzle	Flange	Nom.	Corr.		Nozzle	Flange	
INLET/OUTLET	1/1	4"-300#	RF-LWN	-350LF2C	-350LF2C	0.8750"	1/8"	NA	UW16.1	NA	NA
INLET	1	3"-150#	FF-LWN	SA-105	SA-105	0.6250"	1/8"	NA	UW16.1	NA	NA
OUTLET	1	3"-150#	FF-LWN	SA-105	SA-105	0.6250"	1/8"	NA	UW16.1	NA	NA
VENT	1	2"-150#	RF-LWN	SA-105	SA-105	0.6250"	1/8"	NA	UW16.1	NA	NA
DRAIN	1	2"-150#	RF-LWN	SA-105	SA-105	0.6250"	1/8"	NA	UW16.1	NA	NA
VENT	1	2"-150#	RF-LWN	SA-105	SA-105	0.6250"	1/8"	NA	UW16.1	NA	NA
DRAIN	1	2"-150#	RF-LWN	SA-105	SA-105	0.6250"	1/8"	NA	UW16.1	NA	NA

20. Supports: Skirt NO Lugs NONE Legs NONE Others (2) Saddles Attached Welded to Shell
(Yes or no) (No.) (No.) (Describe) (Where and how)
21. Manufacturer's Partial Data Reports properly identified and signed by Commissioned Inspectors have been furnished for the following items of the report:
 (List the name of part, item number, mfg's. name and identifying number)
NA

22. Remarks: SERVICE: WASTE WATER AMMONIA PURIFIER CONDENSER ITEM NO.: HX0054

STRAIGHT TUBE LENGTH = 14'-0"

CERTIFICATE OF SHOP COMPLIANCE

We certify that the statements in this report are correct and that all details of design, material, construction, and workmanship of this vessel conform to the ASME Code for Pressure Vessels, Section VIII, Division 1.

U Certificate Authorization No. 30112 Expires December 30, 20 12

Date 9/28/12 Name FABSCO SHELL & TUBE, LLC. Signed [Signature]
(Manufacturer) (Representative)

CERTIFICATE OF SHOP INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State or Province of Oklahoma and employed by ONEBEACON AMERICA INSURANCE of LYNN, MA have inspected the pressure vessel described in this Manufacturer's Data Report on 9/19/12, and state that, to the best of my knowledge and belief, the Manufacturer has constructed this pressure vessel in accordance with ASME Code, Section VIII, Division 1. By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the pressure vessel described in this Manufacturer's Data Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Date 9/28/12 Signed [Signature] Commissions NB 7935A OK 657
(Authorized Inspector) (Nat'l Board incl. endorsements, State, Province, and No.)

CERTIFICATE OF FIELD ASSEMBLY COMPLIANCE

We certify that the statements on this report are correct and that field assembly construction of all parts of this vessel conforms with the requirements of ASME Code, Section VIII, Division 1. U Certificate of Authorization No. _____

U Certificate of Authorization No. _____ Expires _____, 20 _____

Date _____ Name _____ Signed _____
(Assembler) (Representative)

CERTIFICATE OF FIELD ASSEMBLY INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State or Province of _____ and employed by _____, have compared the statements in this Manufacturer's Data Report with the described pressure vessel and state that parts referred to as data items _____, not included in the certificate of shop inspection, have been inspected by me and to the best of my knowledge and belief, the Manufacturer has constructed and assembled this pressure vessel in accordance with ASME Code, Section VIII, Division 1. The described vessel was inspected and subjected to hydrostatic test of _____ psi. By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the pressure vessel described in this Manufacturer's Data Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Date _____ Signed _____ Commissions _____
(Authorized Inspector) (Nat'l Board incl. endorsements, State, Province, and No.)

Form R-2 Report of Alteration
in accordance with provisions of the National Board Inspection Code

R-26

(Form "R" Registration no.)
MPC109066-HX0054
(P.O. No., Job No., etc.)

1a. Design performed by: SOUTHERN COMPANY SERVICES, INC.
(name of "R" organization responsible for design)
42 INVERNESS CENTER PARKWAY, BIRMINGHAM, ALABAMA, 35242, UNITED STATES
(address)

1b. Construction performed by: SOUTHERN COMPANY SERVICES, INC.
(name of "R" organization responsible for construction)
42 INVERNESS CENTER PARKWAY, BIRMINGHAM, ALABAMA, 35242, UNITED STATES
(address)

2. Owner of Pressure Retaining Item: MISSISSIPPI POWER COMPANY
(name)
5835 HIGHWAY 493, KEMPER COUNTY, DEKALB, MISSISSIPPI, 39573, UNITED STATES
(address)

3. Location of Installation: MISSISSIPPI POWER COMPANY
(name)
5835 HIGHWAY 493, KEMPER COUNTY, DEKALB, MISSISSIPPI, 39573, UNITED STATES
(address)

4. Item identification: PRESSURE VESSEL Name of original manufacturer: FABSCO SHELL & TUBE, LLC.
(boiler, pressure vessel, or piping)

5. Identifying nos: S11-10251-2 7540 MS025489-14V HX0054 2012
(mfg. serial no.) (National Board No.) (Jurisdiction No.) (other) (year built)

6. NBIC Edition / Addenda: 2015 EDITION NONE
(edition) (addenda)

Original Code of Construction for Item: ASME BPV SECTION VIII DIV. I 2010 EDITION / NO ADDENDA
(name / section / division) (edition / addenda)

Construction Code Used for Alteration Performed: ASME BPV SECTION VIII DIV. I 2010 EDITION / NO ADDENDA
(name / section / division) (edition / addenda)

7a. Description of Design Scope:

RE-RATE NEW VESSEL FOR EXTERNAL PRESSURE PRIOR TO INITIAL SERVICE. CALCULATIONS PERFORMED TO VERIFY RE-RATING FOR AN EXTERNAL PRESSURE OF 15 PSI AT 250°F FOR SHELL SIDE AND TUBE SIDE.

☐ Form R -4, Report Supplementary Sheet is attached

7b. Description of Construction Scope:

ATTACH NAMEPLATE. THE ORIGINAL PRESSURE TEST MEETS ASME SECTION VIII DIV. I REQUIREMENTS FOR EXTERNAL PRESSURE.

☐ Form R -4, Report Supplementary Sheet is attached

Pressure Test, if applied NONE psi MAWP * REMARKS psi

8. Replacement Parts. Attached are Manufacturer's Partial Data Reports or Form R-3's properly completed for the following items of this report:

NONE.

(name of part, item number, data report type or Certificate of Compliance, mfg's name and identifying stamp)

9. Remarks:

* MAWP FOR SHELL SIDE IS F.V. AT 250°F/310 PSI AT 205°F, MAWP FOR TUBE SIDE IS F.V. AT 250°F/150 PSI AT 145°F.

DESIGN CERTIFICATION

I, MARTIN B. SIMS, certify that to the best of my knowledge and belief the statements in this report are correct and that the Design Change described in this report conforms to the *National Board Inspection Code*.

National Board "R" Certificate of Authorization No. R-1906 expires on NOVEMBER 30, 2018
 Date 1/19/16 SOUTHERN CO. SVCS., INC. Signed [Signature]
(name of design organization) (authorized representative)

CERTIFICATE OF DESIGN CHANGE REVIEW

I, Jim Roberts, holding a valid Commission issued by The National Board of Boiler and Pressure Vessel Inspectors and certificate of competency, where required, issued by the jurisdiction of MISSISSIPPI and employed by ONE CIS INSURANCE of LYNN, MA have reviewed the design change as described in this report and state that to the best of my knowledge and belief such change complies with the applicable requirements of the *National Board Inspection Code*.

By signing this certificate, neither the undersigned nor my employer makes any warranty, expressed or implied, concerning the work described in this report. Furthermore, neither the undersigned nor my employer shall be liable in any manner for any personal injury, property damage or loss of any kind arising from or connected with this inspection.

Date 1.26.16 Signed [Signature] Commissions NB 11166 ABX
(inspector) (National Board and jurisdiction no.)

CONSTRUCTION CERTIFICATION

I, MARTIN B. SIMS, certify that to the best of my knowledge and belief the statements in this report are correct and that all material, construction, and workmanship on this Alteration conforms to the *National Board Inspection Code*.

National Board "R" Certificate of Authorization No. R-1906 expires on NOVEMBER 30, 2018
 Date 1/19/16 SOUTHERN CO. SVCS., INC. Signed [Signature]
(name of alteration organization) (authorized representative)

CERTIFICATE OF INSPECTION

I, Jim Roberts, holding a valid Commission issued by The National Board of Boiler and Pressure Vessel Inspectors and certificate of competency, where required, issued by the jurisdiction of MISSISSIPPI and employed by ONE CIS INSURANCE of LYNN, MA have inspected the work described in this report on 1.26.16 and state that to the best of my knowledge and belief this work complies with the applicable requirements of the *National Board Inspection Code*.

By signing this certificate, neither the undersigned nor my employer makes any warranty, expressed or implied, concerning the work described in this report. Furthermore, neither the undersigned nor my employer shall be liable in any manner for any personal injury, property damage or loss of any kind arising from or connected with this inspection.

Date 1.26.16 Signed [Signature] Commissions NB 11166 ABX
(inspector) (National Board and jurisdiction no.)