

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

1. Manufactured by Western Supply Division - Tulsa, Oklahoma  
(Name and address of manufacturer)

2. Manufactured for Foster Wheeler Energy Corporation - Livingston, New Jersey  
(Name and address of purchaser)

3. Location of Installation Philadelphia Gas Works Philadelphia, Pennsylvania  
(Name and address)

4. Type Horiz. Vessel No. W-1704-5 W-1704-5  
(Horiz. or vert. tank) (Mfg's Serial No.) (CRN) (Drawing)

4628 (Nat'l Brd No.) Year Built 1977

5. The chemical and physical properties of all parts meet the requirements of material specifications of the ASME BOILER AND PRESSURE VESSEL CODE. The design, construction, and workmanship conform to ASME Rules, Section VIII, Division 1 1974 and Addenda to 12-31-76 and Code Case no. \_\_\_\_\_  
(Year) (Date)

Special service per UG-120(d) \_\_\_\_\_

Manufacturers' Partial Data Reports properly identified and signed by Commissioned Inspectors have been furnished for the following items of the report: \_\_\_\_\_

(Name of part, item number, mfg's name and identifying stamp)

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

6. Shell: Material SA-53-B Nominal Thickness .330 in. Corrosion Allowance 1/8 in.  
(Spec. No., Grade)

Diam. 1 ft 0 3/4 in. Length 9 ft 5 3/4 in.

**CERTIFICATE OF COMPLIANCE**

We certify that the statements made 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.

Date 10-13-77 Signed Western Supply Division by F. J. Gatlott  
(Manufacturer) (Representative)

"U" Certificate of Authorization No. 347 expires 3-30, 1979

**CERTIFICATE OF SHOP INSPECTION**

Vessel made by Western Supply Division at Tulsa, Oklahoma

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 Illinois and employed by Commercial Union Insurance Co. of Boston, Mass. have inspected the pressure vessel described in this Manufacturers' Data Report on 10-14-1977, 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 the Manufacturers' 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 10-14-77  
Signed L. L. Cooney Commissions N.B.# 5745  
(Inspector) (Nat'l Board, State, Province and No.)

**CERTIFICATE OF COMPLIANCE FOR FIELD WORK**

We certify that the statements made 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.

Date \_\_\_\_\_ Signed \_\_\_\_\_ by \_\_\_\_\_  
(Manufacturer) (Representative)

"U" Certificate of Authorization No. \_\_\_\_\_ expires \_\_\_\_\_, 19\_\_\_\_\_

**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 \_\_\_\_\_ of \_\_\_\_\_ have compared the statements in this Manufacturers' 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 that, 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 a 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 Manufacturers' 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, State, Province and No.)

FORM U-1 (BACK)

7. Seams: Longitudinal Smls. R.T. (Spot or Full) Efficiency 85 %  
 (Welded, Dbl., Sngl. Lap, Butt)

H.T. Temp \_\_\_\_\_ F Time \_\_\_\_\_ Girth Dbl. Butt  
 (Welded, Dbl., Sngl. Lap, Butt)

R.T. Spot No. of Courses 1  
 (Spot, Partial, or Full)

8. Heads: (a) Material SA-516-70 (b) Material SA-53-B  
 (Spec. No., Grade) (Spec. No., Grade)

Location (Top, Bottom, Ends) Minimum Thickness Corrosion Allowance Crown Radius Knuckle Radius Elliptical Ratio

(a) End 5/16" 1/8" \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_  
 (b) Shell Cvr. Cyl. 16"OD x 3/8" thk. x 7" lg. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

Conical Apex Angle Hemispherical Radius Flat Diameter Side to Pressure (Convex or Concave)

(a) \_\_\_\_\_ Concave \_\_\_\_\_  
 (b) \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

If removable, bolts used (describe other fastenings) a/b (Dbl. Butt Weld (b) SA-193-B7; 20; 34  
 (Material, Spec. No., Gr., Size, No.)

9. Type of Jacket \_\_\_\_\_ Proof Test \_\_\_\_\_

10. Jacket Closure \_\_\_\_\_ If bar, give dimensions \_\_\_\_\_  
 (Describe as ogee & weld, bar, etc.)

If bolted, describe or sketch.

11. Constructed for max. allowable working pressure FV & 75 psi at max. temp. 650 F Min. temp. (when less than -20 F) \_\_\_\_\_ F. Hydrostatic, ~~XXXXXXXXXXXXXXX~~ test pressure 115 psi.

Items 12 and 13 to be completed for tube sections

12. Tubesheets: Stationary—Material SA-515-70 Diam. 14 in.  
 (Spec. No., Gr.) (Subject to pressure)

Nominal Thickness 1 1/2 in. Corrosion Allowance 1/4 in. Attachment Bolted  
 (Welded, Bolted)

Floating—Material SA-516-70 Diam. 11 1/2 in.  
 (Spec. No., Gr.)

Nominal Thickness 1 1/2 in. Corrosion Allowance 1/4 in.  
 Attachment Bolted

13. Tubes: Material SA-214 O.D. 3/4 in. Nominal Thickness .085" (Min)  
 (Spec. No., Gr.) (m. or gauge)

Number 92 Type Straight  
 (Straight or "U")

Items 14-17 incl. to be completed for inner chambers of jacketed vessels or channels of heat exchangers

14. Shell: Material SA-53-B Nominal Thickness .330 in. Corrosion Allowance 1/8 in.  
 (Spec. No., Gr.)

Diam. 1 ft 0 3/4 in. Length 1 ft 6 1/4 in.

15. Seams: Longitudinal Smls. R.T. (Spot or Full) Efficiency 85 %  
 (Welded, Dbl., Sngl. Lap, Butt)

H.T. Temp 1150 F Time 1-Hr. Girth Dbl. Butt  
 (Welded, Dbl., Sngl. Lap, Butt)

R.T. Spot No. of courses 1  
 (Spot, Partial, or Full)

16. Heads: (a) Material SA-515-70 (b) Material SA-515-70  
 (Spec. No., Grade) (Spec. No., Grade)

Location (Top, Bottom, Ends) Minimum Thickness Corrosion Allowance Crown Radius Knuckle Radius Elliptical Ratio

(a) End 1 1/2" 1/8" \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_  
 (b) FH Cover 1" 1/4" \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

Conical Apex Angle Hemispherical Radius Flat Diameter Side to Pressure (Convex or Concave)

(a) \_\_\_\_\_ 14" Flat \_\_\_\_\_  
 (b) \_\_\_\_\_ Flat \_\_\_\_\_

If removable, bolts used (describe other fastenings) a) SA-193-B7; 3/4"; 20 (b) SA-193-B7; 3/4"; 16  
 (Material, Spec. No., Gr., Size, No.)

17. Constructed for max. allowable working pressure 180 psi at max. temp. 400 F. Min. temp. (when less than -20 F) \_\_\_\_\_ F. Hydrostatic, ~~XXXXXXXXXXXXXXX~~ test pressure 270 psi.

Items below to be completed for all vessels where applicable

18. Safety Valve Outlets: Number \_\_\_\_\_ Size \_\_\_\_\_ Location \_\_\_\_\_

19. Nozzles:

| Purpose (Inlet, Outlet, Drain) | Number | Diam. or Size | Type | Material | Nominal Thickness | Reinforcement Material | How Attached |
|--------------------------------|--------|---------------|------|----------|-------------------|------------------------|--------------|
| Chan. In & Out                 | 1-1    | 6"            | 150# | SA53-B   | Sch 80            | None                   | Welded       |
| Shell In                       | 1      | 4"            | 150# | SA53-B   | Sch 80            | None                   | Welded       |
| Shell Out                      | 1      | 2"            | 150# | SA-105   | 5/8"              | None                   | Welded       |

20. Inspection Openings:  
 Manholes No. \_\_\_\_\_ Size \_\_\_\_\_ Location \_\_\_\_\_  
 Handholes No. \_\_\_\_\_ Size \_\_\_\_\_ Location \_\_\_\_\_  
 Threaded No. \_\_\_\_\_ Size \_\_\_\_\_ Location \_\_\_\_\_

21. Supports: Skirt No Lugs \_\_\_\_\_ (No.) Legs \_\_\_\_\_ (No.) Other 2-Saddles  
 (Yes or no) (Describe)

Attached Welded to Shell  
 (Where and how)

22. Remarks: Naphtha Feed Preheater