FORM PL-1 MANUFACTURER'S DATA REPORT FOR LOCOMOTIVE BOILERS
As Required by the Provisions of the ASME Code Rules, Section I

MASTER DATA REPORT (Check one) YES ☐ NO ☐ **PARTIAL DATA REPORT (Check one)** YES ☐ NO ☐ Page ____ of ____

1. Manufactured by _____
(Name and address of manufacturer)
2. Manufactured for _____
(Name and address of purchaser)
3. Location of installation _____
(Name and address)
4. Unit identification _____ ID Nos. _____ _____ _____ _____ _____
(Complete boiler, superheater, waterwall, economizer, etc.) (Manufacturer's Serial No.) (CRN) (Drawing No.) (Nat'l. Board No.) (Year built)
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 conforms to Section I of the ASME BOILER AND PRESSURE VESSEL CODE _____ (Year),
Addenda to _____ (Date) (if applicable), and Code Cases _____ (Numbers).
Supporting Manufacturer's Data Reports properly identified and signed by Commissioned Inspectors are attached for the following items of this report:
_____
(Name of part, item number, manufacturer's name, and identifying Designator)
_____
_____

6(a). Boiler Shell Sheets

Description	Inside Diameter*	Inside Length		Shell Plates				Front Flue Sheet	
		ft.	in.	Material Spec. No., Grade	Thickness	Min. Required Thickness	Outside Diameter	Thickness	Inside Radius
Front flue sheet									
1st course									
2nd course									
3rd course									

*When courses vary in diameter, give I.D. at each end.

6(b). If shell is flattened, note location and amount. _____

Define how the flattened area is supported.

7. Firebox and Wrapper Sheets

Description	Plates		
	Mat'l Spec. No., Grade	Thickness	Minimum Required Thickness
Rear flue sheet			
Crown sheet			
Side sheets			
Door sheet			
Combustion chamber			
Inside throat sheet			
Wrapper sheets			
Outside throat sheet			
Back head			
Roof sheet			
Wrapper side sheets			
Rivets			
Staybolts			
Braces			

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Manufactured by _____ Page ____ of ____

(Locomotive Boiler No.)	(Mfr's Serial No.)	(CRN)	(Drawing No.)	(National Board No.)
_____	_____	_____	_____	_____

8. Steam Dome

(a) Where is dome located dimensionally on the shell by course? _____

(b) Size of opening in the shell _____

(c) Dimensions of reinforcement _____

(d) Number of pieces used in the dome construction (not including welts, if any) _____

(e) Dome top opening internal diameter _____

(f) Middle cylindrical portion _____

(g) Dome Sheets

	Material	Thickness	Min. Required Thickness
Base			
Middle cylindrical portion			
Top			
Lid			
Opening reinforcement			

Is reinforcement part of the longitudinal seam? _____

9. Arch Tubes, Flues, Circulators, Thermic Siphons, Water Bar Tubes, Superheaters, and Dry Pipe

(a) Arch Tubes

Number _____ O.D. _____ Wall thickness _____ Min. required thickness _____ Material _____

(b) Flues

Number _____ O.D. _____ Wall thickness _____ Min. required thickness _____ Material _____

Number _____ O.D. _____ Wall thickness _____ Min. required thickness _____ Material _____

Number _____ O.D. _____ Wall thickness _____ Min. required thickness _____ Material _____

Number _____ O.D. _____ Wall thickness _____ Min. required thickness _____ Material _____

(c) Circulators

Number _____ O.D. _____ Wall thickness _____ Min. required thickness _____ Material _____

(d) Water Bar Tubes

Number _____ O.D. _____ Wall thickness _____ Min. required thickness _____ Material _____

(e) Thermic Siphons

Number _____ Plate thickness _____ Min. required thickness _____ Material _____

Neck O.D. _____ Neck thickness _____ Min. required thickness _____ Material _____

(f) Dry Pipe

O.D. _____ Wall thickness _____ Min. required thickness _____ Material _____

(g) Superheater Units

Type _____

Number _____ O.D. _____ Wall thickness _____ Min. required thickness _____ Material _____

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(Locomotive Boiler No.)	(Mfr's Serial No.)	(CRN)	(Drawing No.)	(National Board No.)

10. Staybolts and Crown Bar Rivets

	Required CSA*	Maximum Pitch	Maximum Stress	Material
STAYBOLTS				
Crown stay		X		
Side sheets		X		
Throat sheet		X		
Door sheet		X		
CROWN BAR BOLTS AND RIVETS				
Roof sheet rivets		X		
Roof sheet bolts		X		
Crown sheet rivets		X		
Crown sheet bolts		X		

*CSA = cross-sectional area

11. Braces

	Total Area to Be Stayed	No. Required	CSA*	Maximum Stress	Material
Number					
Back head					
Throat sheet					
Front tubesheet					

*CSA = cross-sectional area

NOTE: Where stresses may vary due to changes in pitch or area to be supported, the recorded stress will be that developed under the greatest load.

12. Safety Valves, Heating Surface, and Grate Area

(a) Safety Valves

Total number used on boiler _____

Valve size _____ Manufacturer and model _____

Valve size _____ Manufacturer and model _____

Valve size _____ Manufacturer and model _____

Valve size _____ Manufacturer and model _____

(b) Heating Surface*

Firebox and combustion chamber _____ ft^2

Flue sheets (less flue I.D. areas) _____ ft^2

Flues _____ ft^2

Circulators _____ ft^2

Arch tubes _____ ft^2

Thermic siphons _____ ft^2

Water bar tubes _____ ft^2

Superheater (front end throttle only) _____ ft^2

Other _____ ft^2

TOTAL HEATING SURFACE _____ ft^2

* Heating surface is calculated using the side receiving heat.

(c) Grate Area

Maximum designed steaming capacity _____ lb/hr

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(Locomotive Boiler No.)	(Mfr's Serial No.)	(CRN)	(Drawing No.)	(National Board No.)

13. Water-Level Indicators, Fusible Plugs, and Low-Water Alarm

(a) Height of the lowest reading of gage glasses above crown sheet _____

(b) Height of the lowest reading of gage cocks above crown sheet* _____

(c) Numberof fusible plugs applied to boiler _____

(d) Number of low-water alarms applied to boiler _____

*Gage cocks are not required.

14. Riveted Longitudinal Seams (Attach drawing of each longitudinal seam.)

(a) Shearing stress on rivets:

Greatest shear stress on rivets in longitudinal seams

Location (1st course) _____ Seam efficiency _____ Stress _____ psi

Location (2nd course) _____ Seam efficiency _____ Stress _____ psi

Location (3rd course) _____ Seam efficiency _____ Stress _____ psi

(b) Boiler Shell Plate Tension

Greatest tension on net section of plate in longitudinal seam

Location (1st course) _____ Seam efficiency _____ Stress _____ psi

Location (2nd course) _____ Seam efficiency _____ Stress _____ psi

Location (3rd course) _____ Seam efficiency _____ Stress _____ psi

15. Remarks

16.

Max. Allowable Working Pressure	Code Part and/or Formula on Which MAWP Is Based	Shop Hydro Test

CERTIFICATE OF SHOP COMPLIANCE

We certify that the statements made in this data report are correct and that all details of design, material, construction, and workmanship of this boiler conform to Section I of the ASME BOILER AND PRESSURE VESSEL CODE.

Our Certificate of Authorization No. _____ to use the (S) _____ Designator expires _____.

Date _____ Signed _____ Name _____

(Authorized Representative) (Manufacturer)

CERTIFICATE OF SHOP INSPECTION

Boiler made by _____ at _____.

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and employed by

_____

_____ have inspected parts of this boiler referred to as data items _____

_____ and have examined Supporting Manufacturer's Data Reports for items _____

_____ and state that, to the best of my knowledge and belief, the Manufacturer has constructed this boiler in accordance with Section I of the ASME BOILER AND PRESSURE VESSEL CODE.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the boiler 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 _____ Commission _____

(Authorized Inspector) [National Board Authorized Inspector Commission Number]