FORM U-DR-2 USER'S DESIGN REQUIREMENTS FOR MULTICHAMBER PRESSURE VESSELS

Owner:	Operator:	Country of Installation:	State/Province of Installation:	City of Installation:

Service:	Liquid Level: Chamber 1 _____ Chamber 2 _____ Specific Gravity: Chamber 1 _____ Chamber 2 _____	Item No.: _____

Diameter:	Shell Length, Tangent-to-Tangent:	Type: Jacket ☐ Internal Coil ☐ Shell and Tube ☐

National Board Registration Required: Yes ☐ No ☐	Canadian Registration Required: Yes ☐ No ☐	Special Service: Lethal (L) ☐ Direct Firing (DF) ☐ Unfired Steam Boiler (UB) ☐	Overpressure Protection: Valve ☐ Rupture Disk ☐ Other ☐ System Design ☐

OPERATING CONDITIONS:	Minimum Pressure	Maximum Pressure	Minimum Temperature	Maximum Temperature
Chamber 1 – Case 1				
Chamber 2 – Case 1				
Chamber 1 – Case 2				
Chamber 2 – Case 2				

DESIGN CONDITIONS:	Chamber 1		Chamber 2	
Internal Design Pressure:	@		@	
External Design Pressure:	@		@	
MAWP Internal:	Same as Design Pressure: ☐	Calculated by Manufacturer: ☐	Same as Design Pressure: ☐	Calculated by Manufacturer: ☐
MAWP External:	Same as Design Pressure: ☐	Calculated by Manufacturer: ☐	Same as Design Pressure: ☐	Calculated by Manufacturer: ☐
Minimum Design Metal Temperature (MDMT) – Case 1	@		Due to: Process ☐ Other ☐ Ambient Temperature ☐	
Minimum Design Metal Temperature (MDMT) – Case 2	@		Due to: Process ☐ Other ☐ Ambient Temperature ☐	

Corrosion Allowance:	Shell		Heads		Nozzles		Jacket		Coil		Supports		Tubesheet		Tubes	
Corrosive Service?	Int.	Ext.	Int.	Ext.	Int.	Ext.	Int.	Ext.	Int.	Ext.	Int.	Ext.	SS	TS	Int.	Ext.
Yes ☐ No ☐																

Cyclic Service: Yes ☐ No ☐	_____ Cycles per _____	Design Life _____ years	Fatigue Analysis? Yes ☐ No ☐

Wind Loading: ASCE 7 ☐ UBC ☐ IBC ☐ Other ☐ None ☐	Wind Speed	Classification Category	Exposure Category	Topographic Factor	Elevation

Seismic Loading: ASCE 7 ☐ UBC ☐ IBC ☐ Other ☐ None ☐	Soil Profile Classification: _____	PWHT: Per Code ☐ Process Required ☐	Other Loadings per UG-22: Temp. Gradients ☐ Deflagration ☐ Diff. Thermal Exp. ☐

Insulated: Yes ☐ No ☐ By Manufacturer ☐ By Others ☐	Type: Thickness Chamber 1 _____ Chamber 2 _____	Density _____ _____	Coating Specification: _____ Permitted Prior to Pressure Test Yes ☐ No ☐

Vessel Support: Legs ☐ Skirt ☐ Lugs ☐ Saddles ☐	Fireproofing: Yes ☐ No ☐	Type:	Rating (hr):

MATERIALS

Component	Specification	Component	Specification
Shell		Ellipsoidal Head	
Hemispherical Head		Torispherical Head	
Toriconical Head		Conical Head	
Nozzles		Flanges	
Stiffener Rings		Pressure-Retaining Bolts	
Attachments		Internals	
Reinforcing Pads		Coil	
Jacket		Tubes	
Tubesheet		Other _____	

NOZZLE SCHEDULE

Description	Number Required	Size	Flange Type	Class	Description	Number Required	Size	Flange Type	Class

FORM U-DR-2 (Back)

WELDED PRESSURE JOINT REQUIREMENTS		
DESIGN BASIS:	SHELL AND CONE THICKNESS BASED ON: JOINT EFFICIENCY *E* = _____	DISHED HEAD THICKNESS BASED ON: JOINT EFFICIENCY *E* = _____

JOINT LOCATION UW-3		TYPE OF JOINT (Use Types as Described in U W-12)	NDE WITH COMMENTS
Category A			
Category B	Head-to-Shell		
	Other		
Category C	Body Flanges		
	Nozzle Flanges		
	Tubesheets		
Category D			
Category F			

BODY FLANGE REQUIREMENTS

Description	Type	Facing/Surface Finish	Gasket Style	Joint Assembly (See ASME PCC-1)

SKETCH

GENERAL NOTES

CERTIFICATION

We certify that the statements made in this form are accurate and represent all details of design as per the user or the user's designated agent (see Nonmandatory Appendix NN)

Date: _____

User: _____

Signed: _____
(Representative)

Registration Identification: _____
(Optional)

Registration Seal (Optional)

(07/25)