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? Yes ☐ No ☐	Int.	Ext.	Int.	Ext.	Int.	Ext.	Int.	Ext.	Int.	Ext.	Int.	Ext.	SS	TS	Int.	Ext.

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 UW-12)	NDE WITH COMMENTS
Category A			
Category B	Head-to-Shell		
	Other		
Category C	Body Flanges		
	Nozzle Flanges		
	Tubesheets		
Category D			

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 his designated agent [see Nonmandatory Appendix NN]

Date: _____

User: _____

Signed: _____
(Representative)

Registration Identification: _____
(Optional)

Registration Seal (Optional)