MECHANICAL DATA SHEET: VESSEL

PLANT ITEM No.
24590-PTF-MV-CXP-VSL-00005

R10315125

Project	***RPP-WTP***	P&ID	***24590-PTF-M6-CXP-P0001/24590-PTF-M6-CXP-P0007***
Project No.	***24590***	Process Calculations.	***N/A***
Project Site	***Hanford***	Vessel Drawing	***24590-PTF-MV-CXP-P0003***
Description.	***Cs. Reagent Vessel***		

ISSUED BY RPP-WTP PDC INIT DATE

Reference Data

Charge Vessels (Tag Numbers)	***N/A***
Pulsejet Mixers / Agitators (Tag Numbers)	***N/A***
RFDs/Pumps (Tag Numbers)	***N/A***

Design Data

Quality Level	***QL-1***	Fabrication Specs	***24590-WTP-3PS-MV00-TP001***	
Seismic Category	***SC-1***	Design Code	***ASME VIII Div 1***	
Service/Contents	***NaOH/ H_2O/HNO_3***	Code Stamp	***Yes***	
Design Specific Gravity	***1.22***	NB Registration	***Yes***	
Maximum Operating Volume gal	***882.7***	Weights (lbs)	Empty	Operating	Test
Total Volume gal	***1141***	Estimated	***2352***	***9578***	***9224***
		Actual *			

Inside Diameter	inch	***60***			Wind Design	***Not Required***	
Length/Height (TL-TL)	inch	***78***			Snow Design	***Not Required***	
		Vessel Operating	Vessel Design	Coil/Jacket Design	Seismic Design	***24590-WTP-3PS-MV00-TP002 24590-WTP-3PS-SS90-T0001***	
Internal Pressure	psig	***0***	***15***		Seismic Base Moment *	ft*lb	
External Pressure	psig	***0.22***	***FV***		Postweld Heat Treat	***Not Required***	
Temperature	°F	***77***	***138***		Corrosion Allowance	Inch	***0.04***
Min. Design Metal Temp.	°F	***40***			Hydrostatic Test Pressure *	psig	

Note: Please note that source, special nuclear and byproduct materials, as defined in the Atomic Energy Act of 1954 (AEA), are regulated at the U.S. Department of Energy (DOE) facilities exclusively by DOE acting pursuant to its AEA authority. DOE asserts, that pursuant to the AEA, it has sole and exclusive responsibility and authority to regulate source, special nuclear, and byproduct materials at DOE-owned nuclear facilities. Information contained herein on radionuclides is provided for process description purposes only.

MARK W. HOFFMAN STATE OF WASHINGTON 0030952 REGISTERED PROFESSIONAL ENGINEER

5/26/04

EXPIRES 12/10/04

This Bound Document Contains a total of 3 pages.

REV	DATE	REASON FOR REVISION	PREPARER	CHECKER	REVIEWER	APPROVER
0	5/26/04	Issued for Permitting Use				

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Materials of Construction

Component	Material	Minimum Thickness / Size	Containment
Top Head	***SA 240 304 Note1***	***See Drawing***	***Auxiliary (See Note 5)***
Shell	***SA 240 304 Note1***	***See Drawing***	***Primary (See Note 5)***
Bottom Head	***SA 240 304 Note1***	***See Drawing***	***Primary (See Note 5)***
Support	***SA 240 304 Note1***	***See Drawing***	***N/A***
Jacket/Coils/Half-Pipe Jacket	***N/A***	***N/A***	***N/A***
Internals	***SA 240 304 Note1***	***See Drawing***	***N/A***
Pipe/Nozzles	***SA 312 TP304 Seamless Note 1***	***See Drawing***	***Primary (See Note 5)***
Forgings/ Bar stock	***SA 182 F304 Note 1***	***See Drawing***	***N/A***
Gaskets	***N/A***	***N/A***	***N/A***
Bolting	***N/A***	***N/A***	***N/A***

Miscellaneous Data

Orientation	***Vertical***	Support Type	***Skirt***
Insulation Function	***Not Applicable***	Insulation Material	***Not Applicable***
Insulation Thickness (inch)	***Not Applicable***	Internal Finish	***Note 3***
		External Finish	***Note 3***

Remarks

**** To be determined by the vendor.***
Note 1. Max. Carbon Content 0.030%
Note 2: Deleted
Note 3: Welds descaled as laid.
Note 4: This Vessel is in a Black Cell
Note 5: All Welds Forming Part of the Primary and Auxiliary Containment, Including Nozzle Attachment Welds, Shall be Subjected to 100% Volumetric Examination
Note 6: The contents of this document are Dangerous Waste Permit affecting.

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Component Plant Item Number:	***CXP-VSL-00005***
Component Description	***Parent Vessel***

The information below is provisional and envelopes operational duty for fatigue assessment. It is not to be used as operational data.

Materials of Construction	***SA 240 304 with 0.030% max carbon***
Design Life	***40 Years***
Component Function and Life Cycle Description	***The purpose of the Cesium Reagent Tank is to separate a gas stream from process liquid. This vessel is also a feed vessel for Cs. Ion Exchange Columns.***

Load Type		Min	Max	Number of Cycles	Comment
Design Pressure	psig	***FV***	***15***	***10***	***Nominal Assumption for testing***
Operating Pressure	psig	***-0.22***	***0***	***N/A***	***This vessel will remain under constant pressure depending upon the vessel plant HVAC system.***
Operating Temperature	°F	***59***	***113***	***N/A***	***Temperature will not cycle appreciably with vessel cycling.***
Contents Specific Gravity		***1.00***	***1.22***	***N/A***	***Normally 1.01 without cycling.***
Contents Level	inch	***0***	***102***	***$1.46x10^4$***	***33 hour cycle time***
Localized Features					
Nozzles					
Supports					

Notes

- ***Cycle increase: The Seller must increase the numbers of operational cycles given above by 10% to account for commissioning duty unless otherwise noted.***