

QUALITY ASSURANCE PLAN

A) DESIGN FEATURES

DESIGN CODE : ASME SEC VIII DIV 1 ED 2001
 RADIOGRAPHY : SHELL : FULL, DISHENDS : FULL | LIMPET : NIL
 HYDRO TEST PRESSURE : AS PER ORDER

SR. No.	COMPONENTS & OPERATION	CHARACTERISTICS CHECKS	REFERENCE DOCUMENT ACCEPTANCE NORMS	FORMAT OF RECORD	HOLD POINTS	
					EDES	CLIENT
B) DOCUMENT CONTROL						
1	Drg. Approval	As per Clients requirements.	P.O. and Specification.	Drg	P	R
2.	Review of wps	As per Welding details in Drgs.	ASME sec VIII Div 1 & Sec IX	Records	P	R
C) INPROCESS CONTROL						
3.	Pressure part. a) Material Identification for shell. Dished ends, Shaft	Dimension, Physical and Chemical properties	As per respective material Specn & Mfgr's Test Certificates and approved Drgs.	Inspection Report	W	R
	b) Nozzle pipe & Nozzles Flanges	Chemical	"	"		
4.	Non-Pressure Parts. Materials Identification for Lugs, lifting lug, name plate bracket, gussets etc.	Dimensions, Surface Defects	As per respective Materials specn. & Approved Drgs.	Internal Inspection Report	W	R
5	PQR	Weld soundness, physical test.	ASME sec IX	Test Reports	P	R
6	Material stamp transfer for shell, dished end, etc.	Dimensions, Material grade Moly test	As per respective Materials specn. & Approved Drg	Inspection Report		R
7	Set up of long seams of main shell courses, dish ends and fabricated pipes etc	Weld geometry offset. Profile W.R.T Template ID, ovality. Etc.	ASME Sec VIII Div I	Internal Inspection Report	W	R
8	D.P. test of back chip of long seam welding	Welding defects.	ASME Sec V	Internal Inspection Report.	W	R
9	Dished ends Forming	Profile as per the template and Dimensions Including thinning at KR, SF, DP test	ASME Sec VIII Div I & Approved Drg.	Internal Inspection Report.	W	R



SR. No.	COMPONENTS & OPERATION	CHARACTERISTICS CHECKS	REFERENCE DOCUMENT ACCEPTANCE NORMS	FORMAT OF RECORD	HOLD POINTS	
					W	R
10	Circ Seams set up of Shell courses.	Weld geometry offset, Alignment & Dimensions.	ASME Sec VIII Div I & Approved Drg.	Internal Inspection Report.	W	R
11	Back chip & D.P.test of Circ Seam welding of Shells.	Welding defects	ASME Sec V	Internal Inspection Report	W	R
12	RT of long seam, Circ seam and T- Joints	100% Radiography	ASME Sec V	R.T. Report	P	R
13	Set up of nozzle pipes to Nozzle Flanges.	Weld Geometry, Gasket Seat facing tell/tale hole.	Approved Drg.	Inspection Report	W	R
14	Set up of Nozzles on Top dished end.	Weld geometry, orientations, height, bolt hole Straddling	ASME sec VIII Div I & Approved Drg.	Internal Inspection Report	W	R
15	Back chip & D.P.test of nozzles to dished end welding.	Welding Defects	ASME sec V	Inspection Report.	W	R
16	Circ seam set up of bottom dished end to main shell.	Weld geometry, orientation etc.	ASME Sec VIII Div I & Approved Drg.	Inspection Report	W	R
17	Back chip & D.P.test of Bottom dished end to shell welding.	Welding Defects	ASME Sec V	Inspection Report	W	R
18	Limpet coil fit up on bottom dish and on shell	Weld geometry, No. of turns on shell and bottom dish	ASME Sec VIII Div I & Approved Drg.	Internal Inspection Report	W	R
19	Limpet coil root run pneumatic test	Press: 1.25 Kg/cm ² (g) to be tested with soap solution	ASME Sec VIII Div I.	Internal Inspection Report	W	R
20	Set up of top Dished end to main shell.	Weld geometry, orientation etc.	ASME Sec VIII Div I & Approved Drg.	Internal Inspection Report	W	R
21	Back chip & D.P.test of Top dished end to shell welding.	Welding Defects	ASME Sec V	Internal Inspection Report	W	R
22	RT of Top dished end to shell welding.	100% Radiography	ASME sec V	R.T. Report	P	R
23	Flush grinding of all nozzles from inside and rounding off of corners	Corners to be rounded off to a minimum of 3-mm radius.	ASME sec VIII div 1	Internal Inspection Report	P	R
24	Pneumatic test of Nozzle RF pads	Press: 1.25 Kg/cm ² (g) to be tested with soap solution	ASME Sec VIII Div I.	Internal Inspection Report	W	R



SR. No.	COMPONENTS & OPERATION	CHARACTERISTICS CHECKS	REFERENCE DOCUMENT ACCEPTANCE NORMS	FORMAT OF RECORD	HOLD POINTS	
					EDES	CLIENT
25	Fabrication and machining of Lantern stool, bearing housing, jacketed stuffing box, Agitator shaft and Anchor blades etc.	Dimensions as per the approved drg.	Approved Drawing	-	W	-
26	Set up of Lugs support, Lifting Lugs pads & support to Shell	Tightness of Wear Plates, elevation orientation, overall Dimensions etc.	ASME sec VIII Div 1 Approved Drgs.	Internal Inspection Report	P	R
27	Bottom pad fit up on Bottom Dish end	Dimensions, weld geometry.	ASME sec VIII Div I & Approved Drg.	Inspection Report	W	R
28	Assembly of Drive system & air running trial outside the vessel without Stuffing box Note : Agitator static balancing to be done before assembly	Run out of shaft at top, bottom, and at stuffing box, concentricity and perpendicularity, Sweep diameter of anchor blade	Approved Drg	Inspection Report	W	W/R
29	Final inspection & dimensional check of vessel prior to Hydrostatic test.	All dimensions to be checked, Internal & External Surface to be checked for under cut weld defects & arc strikes etc.	ASME Sec VIII Div I & Approved Drgs.	Inspection Report	W	W/R
30	Hydrostatics Testing of Limpet and Shell side	Test pressure as per Approved drg. Medium: water Duration: 30 min.	ASME sec VIII Div I & Approved Drgs.	Inspection Report	H	W
31	Load running trial of the vessel	RPM, current drawn at different water level, run out at top	Approved Drgs.	Inspection Report	H	W
32	Polishing	Surface finish	ASME Sec VIII Div I	Internal Inspection Report	P	W
33	Stamping & marking	Design details	ASME sec VIII Div drgs & I.	Rub off	W	R
34	Painting of external CS parts	-	-	-	W	R
35	Pre- dispatch & Issue of Release note.	Review of documents like Material Heat Chart, Test Certificates Inspection Reports for previous stages etc	-	Inspection Report	R	R