

NIT 2026OVM002

SECTION-II D

SCOPE FOR DRUM FABRICATION

PROJECT : Coal Gasifier 2000 TPD CFBC 3X140 Unit 1 , 2 & 3

CUST NO : 5327 , 5328 & 5329

SNO	OPERATIONS
I	General
	1. Procure all applicable raw materials as per BHEL TDC from BHEL approved sources Ensure the IBR stamping on Shell,Dend& Test plates. Required Test certificates and Traceability to be maintained as per Quality Documents of BHEL
	2.Cirseam welding, SR clearance work, SR, Hydro and Internal assy to be carried out as per the detailed scope of operations and the reference document given below
	3. Refer the following documents with latest applicable revisions. a) Drgs Longseam/Cirseam welding Nozzles & attach welding Internal assembly
	Refer applicable Quality Plan, Contract Quality plan and Painting schedule.
	4 . Welding Consumable Supply detail : All the welding consumables are to be procured from BHEL approved sources
	5. Welding shall be done by IBR qualified welder / welding operator as per approved WPS. Vendor has to prepare and submit the WPS and get it approved by BHEL / WTC (Welding Technology Centre) All NDT Processes are in Vendor scope. Only BHEL Approved NDTL Agencies shall be engaged for all NDTL activities. If Vendor is having capability, the same shall be approved by NDTL department of BHEL. Vendor has to arrange the raw material and consumables for all WPS & NDTL process approvals.
	6. No repair on test plates shall be carried out.
	7. Job should be loaded on IBR approved firm.
	8 . Necessary Statutory Fees are to be borne by the Vendor.
II	Detailed Scope:
	1. Procure all applicable raw materials as per BHEL TDC from BHEL approved sources Ensure the IBR stamping on Shell,Dend& Test plates. Required Test certificates and Traceability to be maintained as per Quality Documents of BHEL
	2.Cirseam welding, SR clearance work, SR, Hydro and Internal assy to be carried out as per the detailed scope of operations and the reference document given below
	For Components:
01	All components like Nozzles, Attachments & Internals etc., to be manufactured separately as per respective part drg/main drg.
	For Shells:
01	Mark the plates for cutting the Test plates as per Test Plate Details: TPLS = 60 x 200 x 1200 - 2 Nos per Shell (Total 2 x No of Rolled Shells) TPCS = 60 x 200 x 800 - 2 Nos per Drum (Total 2 Nos)
02	Mark for necessary prebending allowance and roll the shells as per the drawing.
03	Mark for cutting the unbent portion. And Edge prepare the Long Seam of each shell as per drawing by gas cutting or machinng.
04	Clean and grind the gas cut areas if EP done by gascutting.
05	Conduct MT / PT.
06	Fit, align and tackweld for longseam weld with start up and Prodn.test plates Ref,SIP:PP:05. Mark 200 mm reference line for joint centre. Refer WPS.
07	Weld longseam joint from inside. Refer WPS.
08	Back gouge/grind to get sound metal from outside.
09	Clean and grind.
10	Conduct MT/PT
11	Weld the longseam joint from outside. Refer WPS.
12	Clean and flush grind.
13	Check the weld surface and conduct MT, RT & UT Ref.SIP:PP:02

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14	If any defects found, get approval from IBR for repair welding Note: No repair on test plates shall be carried out.
15	Gouge/grind the defective area.Clean and grind. Conduct MT
16	Weld the defect removed areas. Refer WPS.
17	Clean and grind. Conduct MT,RT&UT.
18	Remove the test plate. Conduct SHT & Mech.testing on LS test plate from defect free portion. Note: Shell Cirseam EP to be taken based on LS simulation result
19	Check circularity of shell and record.
20	Mark for extra length of the shell for cirseam edge preparation.
21	Edge prepare for cirseam on shell,by machining/gascutting.
22	Clean and grind the gas cut areas if EP done by gascutting.
23	Conduct MT / PT.
24	Inspect for EP dimensions and record.
	<u>For Dished Ends :</u>
25	Procure / Manufacture Dish ends as per Quality & Drawing requirement. Mark for manhole opening as per drg detail.
26	Gas cut the manhole and edge prepare for MH by machining
27	Mark for height of D.End and Cirseam edge preparation
28	Edge prepare on D.end for cirseam, by machining/gascutting
29	Clean and grind the gas cut areas if EP done by gascutting.
30	Conduct MT / PT.
31	Inspect for EP dimensions and record
	<u>For Shell & Dished Ends (Nozzles & Attachments):</u>
32	Mark the 4 axis and for the location of nozzles and nipples as per drawing. Ref.SIP:PP:06.
33	Gas cut the shell for full throat nozzle opening as per marking /drg
34	Clean and grind the gas cut edges.Conduct MT/PT. Conduct UT around nzl opg area
35	Drill and edge prepare for nozzle/nipple openings as per drg.
36	Fit the full throat nozzles with backing Plate.

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	If necessary provide stiffeners.
37	Weld on outside. Refer WPS.
38	Gouge and remove backing Plate
39	Back gouge to get sound metal.
40	Clean and grind. Conduct MT/PT
41	Complete the weld from inside. Refer WPS.
42	Clean and grind the welds.Check the weld surface.Refer SIP:PP:02
43	Conduct MT & UT.
44	If any defects found, get approval from IBR for repair welding.
45	Gouge/grind the defective area. Clean and grind. Conduct MT/PT.
46	Weld the defect removed area. Refer WPS.
47	Clean and grind.Conduct MT & UT
48	Fit the Nipples on shell & dished ends as per drg.
49	Weld. Refer WPS.
50	Clean and grind. Check the weld surface.Conduct MT/PT on welds. Refer SIP:PP:02.
51	If any defects found. Remove the defective area by grinding.
52	Conduct MT/PT
53	Weld the defect removed area. Refer WPS
54	Clean and grind. Conduct MT/PT.
55	Mark for attachments inside & out side on shells and dished ends including manhole door assy.Refer SIP;PP:06.
56	Fit and tack weld all the internal and external attachments.
57	Weld. Refer WPS..
58	Clean and grind.Conduct MT.
59	Place the MH doors inside the shell before closing the dished end.
	<u>For Shell to Shell/Dished end Cirseam welding:</u>
60	Fit, align and tackweld for cirseam welds. Match the top axis of shell with shell/dished end. Match the cir- seam test plate separately.Refer WPS.
61	Weld Cirseam joint from inside. Refer WPS.
62	Back gouge to get sound metal from outside.
63	Clean and grind.

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64	conduct MT/PT
65	Weld cs joint from outside and complete. Refer Wps. Follow the same welding discipline to test plate also, with the same consumables,welder & machine Weld the test plate parallelly with shell cir-seam welding.
66	Clean and grind
67	Check the weld surface on shell/D.end & CS Test plate. conduct MT,RT & UT. Refer SIP:PP:02.
68	If any defects found, get approval from IBR for repair welding Note: No repair on test plates shall be carried out.
69	Gouge/Grind the defective area.Clean and grind. Conduct MT.
70	Weld the defect removed area. Refer WPS.
71	Clean and grind. Conduct MT, RT & UT.
	For Drum SR clearance:
72	Fit and weld the MH door components with D.End. Refer WPS.
73	Clean and grind the weld. Conduct MT.
74	Weld the hydro dummies on nozzles/nipples as applicable.
75	Verify the surface on both inside and outside for deep depressions
76	Depression if any < 3mm, merge it by grinding.
77	Depressions if any >3mm, weld the depressions. Refer WPS.
78	Clean and grind the weld. Conduct MT.
	For Drum SR and HYDRO
79	Final PWHT along with all test plates, NDT after PWHT , Mech.testing on production test plate and Hydro test shall be carried out by vendor.
	For Drum Final m/cing, Internal assy & H/O.
80	Mark for m/c ing of dummy welded nozzle.
81	Gascut and edge prepare the gascut nozzle.
82	Inspect for EP dimn of nozzles
80	Mark for m/c ing of dummy welded nozzle.
83	Fit and assemble the Separating Chamber, Final scrubber box assy, and Feed header as per drawing.
84	Fit and weld the feed tube connection,Phosphate dosing,CBD header and other pipings, internals etc. Refer applicable WPS.
87	Inspect for visual and Dimensional measurement of internal assy
88	Clean inside the Drum and place the silicagel.Close all openings.
89	Clean outside surface and apply the paint.Mark axis,important locations. Provide identification marks. Note: Paint should be as per painting schedule.
90	Inspect.Stamp authorised inspector seal. Record all dimensions and deviations. Submit IB cleared all Inspection reports, NDE reports, Ht charts , IBR Forms as data folder to BHEL/Trichy before despatch to site.
91	Deliver the finished Drum to following site : Bharat Coal Gasification and Chemicals Limited, Lakhanpur, Jharsuguda, Odisha.