

02	27.02.2018	Revised Issue- Changes made as per TCS dtd 27.02.18	MRM	RA	RA
01	12.02.2018	Revised Issue- Changes made as per TCS dtd 12.02.18	MRM	RA	RA
00	06.12.2017	Fresh Issue	MRM	RA	RA
REV	DATE	DESCRIPTION / NOTE	PRD	CHD	APD

REVISIONS

TITLE :

QUALITY PLAN FOR AHP SILOS

OWNER / PROJECT:



**BANGLADESH-INDIA FRIENDSHIP POWER
COMPANY PVT. LTD, DHAKA, BANGALADESH 2x660
MW MAITREE STPP, RAMPAL, BANGLADESH**

CUSTOMER CONSULTANT :

FICHTNER

M/s FICHTNER GmbH & Co KG,
Stuttgart, GERMANY

EPC CONTRACTOR :



**BHARAT HEAVY ELECTRICALS LTD.
BOILER AUXILIARIES PLANT, RANIPET**

	NAME	DATE	
PREPARED BY	RAJAMANICKAM.M	27.02.2018	STATUS : <i>FOR APPROVAL</i>
CHECKED BY	R ARUNACHALAM	27.02.2018	BHEL CUST NO : R4R5 & R4R6
APPROVED BY	R ARUNACHALAM	27.02.2018	BHEL DOC NO : MAIT:AHPSILO:R4R5-R4R6
			REV NO : 00
			QP category: Cat- I as per Vol. I.B
			SHEET NO : 1 OF 1
CUSTOMER DRG./DOC NO.: MAITREE-0-UET-MQA-200343-RPT-A			

 RANIPET	MANUFACTURER'S NAME AND ADDRESS M/S BHEL: BAP: RANIPET 632 406 TAMIL NADU & BHEL APPROVED VENDORS	MANUFACTURING QUALITY PLAN		PROJECT : 2X660MW MAITREE STPP PACKAGE : CHP&AHP CUST NO. : R4R5-R4R6 CONTRACT NO : BIFPCL/EPC-MAIN PLANT/2016/215 MAIN-SUPPLIER: BHEL, RANIPET
		ITEM: AHP SUB-SYSTEM: SILOS QP CAT: Cat. I as per Vol. I.B	QP NO.: MAIT:AHP SILO: R4R5-R4R6 REV. NO.: 02 DATE: 27.02.2018 PAGE: 01 OF 03	

SL. NO	COMPONENT & OPERATIONS	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK		REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD		AGENCY			REMARKS
					M	C / B					M	C	B	
1.	2.	3.	4.	5.	6.		7.	8.	9.	D*	** 10.			11.
1.0	RAW MATERIAL													
1.1	Plates, Rolled Section	Chemical & Mechanical properties (*) Soundness of plates >25mm	Major Major	Chemical and Tensile test UT	One/ heat 100%	One/ heat 100%	Respective material specification & Approved/ Mfr drawing ASTM A435		TC TC	√ √	P P	V V	- -	(*) Typical TCs for plates thk> 40mm will be submitted to customer for verification
2.0	IN-PROCESS CONTROL	Welders are pre-qualified to AWS D1.1& procedures are pre-qualified as per AWS D1.1-PQR, WQR, WPS								→	P	V	V	
2.1	Welding of plates	Completeness after welding- Dimension	Major	Visual& LPI	10%	10% random	ASTM E165 BHE:NDT:RP:PT:01 (Latest)		DR		P	W	-	
2.2	Full penetration welds/ butt welds of thk >16mm	NDT	Major	UT/ RT MPI*	10%	10%	AWS D1.1 BHE:NDT:RP:MT:01 (Latest) BHE:NDT:RP:RT:01 (Latest)		R	√	P	W	-	*- For Butt Welds< 16mm-MPI On Both Sides

 MANUFACTURER/ SUB-SUPPLIER	 MAIN-SUPPLIER	LEGEND: * RECORDS, IDENTIFIED WITH "TICK" (√) SHALL BE ESSENTIALLY INCLUDED BY SUPPLIER IN QA DOCUMENTATION. ** M: MANUFACTURER/SUB-SUPPLIER C: MAIN SUPPLIER, B: BIFPCL P: PERFORM W: WITNESS AND V: VERIFICATION. AS APPROPRIATE, CHP: BIFPCL SHALL IDENTIFY IN COLUMN "B" AS 'W' TC- TEST CERTIFICATE, DR- DIMENSION REPORT, R- REPORT	FOR BIFPCL USE	DOC. NO.:	REV..... CAT.....
				REVIEWED BY	APPROVED BY



 RANIPET		MANUFACTURER'S NAME AND ADDRESS M/S BHEL: BAP: RANIPET 632 406 TAMIL NADU & BHEL APPROVED VENDORS		MANUFACTURING QUALITY PLAN			PROJECT : 2X660MW MAITREE STPP PACKAGE : CHP&AHP CUST NO. : R4R5-R4R6 CONTRACT NO : BIFPCL/EPC-MAIN PLANT/2016/215 MAIN-SUPPLIER: BHEL, RANIPET							
				ITEM: AHP SUB-SYSTEM: SILOS QP CAT: Cat. I as per Vol. I.B		QP NO.: MAIT:AHP SILO: R4R5-R4R6 REV. NO.:02 DATE: 27.02.2018 PAGE: 02 OF 03								
SL. NO	COMPONENT & OPERATIONS	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK		REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD		AGENCY			REMARKS
					M	C / B				D*	M	C	B	
1.	2.	3.	4.	5.	6.		7.	8.	9.	D*	** 10.			11.
3.0	FINAL INSPECTION													
3.1	Segments of cylindrical shell, cone & base	Dimensional Check, Visual	Major	Visual/ Measurement(\$)	100%	100%	Approved Drawing/ Mfg drawing		DR	√	P	W	W*	*Witness of one segment/project for conical & cylindrical portions
3.2	Assembly	Visual, Mock-up	Major	Measurement	\$\$	As per Remarks	Approved Drawing/ Mfg drawing		R	√	P	W	W*	*Witness of one mock-up shell segment assembly per project
3.3	Surface preparation & Painting	Finish / DFT	Major	Visual/ Measurement	Random	--	As Per Approved Painting Scheme		R	√	P	V	V	

(\$)- Circumference& height of individual segments also shall be measured for conical & cylindrical portions

(\$\$)- Assembly of one segment/tier of shell in complete ring for cylinder and cone separately.

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MANUFACTURER/ SUB-SUPPLIER				MAIN-SUPPLIER				
SIGNATURE								
					REVIEWED BY	APPROVED BY	APPROVAL SEAL	



 RANIPET	MANUFACTURER'S NAME AND ADDRESS M/S BHEL: BAP: RANIPET 632 406 TAMIL NADU & BHEL APPROVED VENDORS	MANUFACTURING QUALITY PLAN		PROJECT : 2X660MW MAITREE STPP
		ITEM: AHP SUB-SYSTEM: SILOS QP CAT: Cat. I as per Vol. I.B	QP NO.: MAIT:AHP SILO: R4R5-R4R6 REV. NO.:02 DATE: 27.02.2018 PAGE: 03 OF 03	PACKAGE : CHP&AHP CUST NO. : R4R5-R4R6 CONTRACT NO : BIFPCL/EPC-MAIN PLANT/2016/215 MAIN-SUPPLIER: BHEL, RANIPET

Notes:

- 1) All material/ information shall be as per approved drawing/ data sheet. In case not mentioned in the approved drawing/ data sheet, then manufacturing drawing/ data sheet shall be applicable
- 2) All structures shall be inspected and despatched in despatchable welded sections.
- 3) Loose items and other minor items like fasteners, clips, clamps, plates, rolled sections & fabricated items of rolled sections etc (as applicable) which do not involve matching at shop of Cat-I PGMAs can be considered as Cat- III items.
- 4) Vertical butt welds to be staggered between the adjacent shells as given in the drawing.
- 5) Materials shall be procured in compliance to functional technical specification.
- 6) Inspection shall be in compliance with vendor approved document/ approved quality control procedure for the product.
- 7) Welding shall be carried out by qualified welders with traceable WPQ in line with approved WPS and qualified PQR, as per ASME Sec. IX or AWS D1.1 with approved welding consumables.
- 8) NDT shall be carried out by qualified personnel with compliance to approved NDT procedures and acceptance norms as per ASME section v.
- 9) Gauges and measuring instruments, with valid calibration only shall be used.
- 10) Cleaning and painting of products shall be carried out as per approved painting schedule.
- 11) Finished products shall be packed to comply with approved packing schedule.

RECORD OF REVISION

REV NO	EFFECTIVE DATE	DETAILS OF REVISION MADE
REV.00	06.12.2017	Original Issue- First submission
REV.01	12.02.2018	Revised Issue- Changes made as per TCS dtd 12.02.2018
REV.02	27.02.2018	Revised Issue- Changes made as per TCS dtd 27.02.2018

 MANUFACTURER/ SUB-SUPPLIER	 MAIN-SUPPLIER	LEGEND: * RECORDS, IDENTIFIED WITH "TICK" (✓) SHALL BE ESSENTIALLY INCLUDED BY SUPPLIER IN QA DOCUMENTATION. ** M: MANUFACTURER/SUB-SUPPLIER C: MAIN SUPPLIER, B: BIFPCL P: PERFORM W: WITNESS AND V: VERIFICATION. AS APPROPRIATE, CHP: BIFPCL SHALL IDENTIFY IN COLUMN "B" AS 'W' TC- TEST CERTIFICATE, DR- DIMENSION REPORT, R- REPORT	FOR BIFPCL USE	DOC. NO.: REV..... CAT.....		
				REVIEWED BY	APPROVED BY	APPROVAL SEAL