

FGD: BHUS: SLP: 253

Dt. 02-09-2021

Item Name	Indent No	Indent Dt.	PGMA	Technical Specification
SLURRY PUMPS WITH MOTOR and ACC.	RFW11288	31.08.2021	FW701	ROS:9081, Rev:00, Dt:06.08.2021 and
	RFW11289	31.08.2021	FW701	TECI:LT MOTOR:REV:05, Dt:28.07.2021
	RFW11347	31.08.2021	FW997	

Project: NTPL- TUTICORIN (2X500 MW).

1. Since Slurry Pump appears under Sub-QR item, Sub-QR approved vendor by Our Engg and Customer/ acceptable to Quality.
2. Customer acceptance if any on Vendor, shall be obtained from Commercial Coordinator.
3. Inspection and testing shall be done as per approved Quality plan, Quality plan to be approved by Customer/ after review of BHEL.
4. Painting shall be as per Customer approved Painting schedule.
5. Arrange MQP from sub QR Cleared vendor for taking up with Customer for their review and approval. Find herewith-attached typical MQP (QP NO.FGS: SLP:723/00, DT: 08.01.2021). This MQP involves minimum check only and actual Quantum of Check/Stage may differ based on Project/Customer requirement and their approved MQP.
6. All the Pumps shall be inspected at supplier works as per approved QP/Approved Drawing/Approved datasheet and Specification.
7. Packing of items shall be as per BHEL Engg Approved Packing Drawing/BHEL Specifications.
8. BHEL Authorized representatives shall have the right to witness the necessary inspection and testing of goods mentioned in the PO. The supplier shall inform BHEL in advance about the readiness of the goods for inspection and testing. Inspection / Inspection wavier / approval by BHEL does not absolve Supplier's responsibility for conformity of the specification as per the terms of PO. Material Test Certificates shall be submitted to BHEL.
9. Annexure 'Q' and BOI's Details shall be part of enquiry File and shall be filled by Supplier with their duly sign and seal.
10. **Vendor Quality Plan shall contain following Inspection Notes:**
 - a. Latest version of standards & Specification shall be applied.
 - b. Materials shall be procured in compliance to Functional Technical specification.
 - c. Gauges and measuring instruments with valid calibration only shall be used.
 - d. Inspection / Inspection wavier / approval by BHEL does not absolve Supplier's responsibility for conformity of the specification as per the terms of PO.
 - e. BHEL /BHEL Authorized representatives shall have the right to witness the necessary inspection and testing of goods mentioned in the PO
 - f. In case of Vendor Drawing & Datasheet, it needs approval by BHEL Engineering.
 - g. This QP shall be read along with relevant PO, BHEL Specification / Approved Drawing / Datasheet.



Prepared by.
Rakesh Kr Madhu (Dy.Mgr/QA)



Reviewed & Approved by.
K Renjith(Mgr/QA)

4/04/2021 BARQA-MECH

SL. NO		COMPONENT & OPERATIONS	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD	AGENCY	REMARKS		
1.		2.	3.	4.	5.	6.	7.	8.	9.	D*	** 10.	11.	
1.0		RAW MATERIALS											
1.1	Volute Casing, Casing Cover	Chemical & Mechanical Properties	Major	Chemical & Mechanical Properties, Hardness check	1 Sample / Heat	NTPC Approved GA Drawing / Data Sheet/ Specification	MTC	√	P	V	V		
1.2	Impeller, Wear Plate.	Chemical & Mechanical Properties	Major	Chemical & Mechanical Properties, Hardness check	1 Sample / Heat	Drawing & Specification	MTC	√	P	V	V		
1.3	Volute Casing	Surface Defects	Major	DPT on machined surface	100%	ISO4987	ISO 4987, Level 2	DPT Report	√	P	V	V	
1.4	Cover Plate & Frame Plate	Soundness	Major	RT *	100 %	ASME Sec V, ASTM - E446 Level - 5	Test Report	√	P	V	V	*For Gypsum Bleed Pumps	
1.5	Shaft	Chemical Composition	Major	Chemical composition	1 Sample /Heat	Drawing/Specification	Test Report	√	P	V	V		
		Mechanical Properties		Mechanical Tests, Heat treatment if applicable		Drawing/Specification	Test Report	√	P	V	V	HT Chart Review.	

Manufacturer Sign & Seal		Legend: * Record, identified with "tick" (√) under column 'D' shall be submitted to customer as a QA documentation package. M: Manufacturer / Sub supplier, C: Main Contractor/BHEL/BHEL AIA. N: NTPC P: Perform: witness, V: review of records, MA: Major and MI: Minor, DPT: Dye Penetrant Test, UT: Ultrasonic Testing TC: Test Certificate, IR: inspection report, MTC: Material Test Certificate. COC: Certificate of conformance.					 Rakesh Kr Madhu (Dy Mgr / QA)		 K Renjith (Mgr / QA)		 R Arunachalam (DGM/QA)	
							Prepared by		Reviewed by		Approved by	

4/04/2021/BAR-QA-MECH

SL. NO		COMPONENT & OPERATIONS		CHARACTERISTICS		CLASS		TYPE OF CHECK		QUANTUM OF CHECK		REFERENCE DOCUMENT		ACCEPTANCE NORMS		FORMAT OF RECORD		AGENCY		REMARKS							
1.		2.		3.		4.		5.		6.		7.		8.		9.		D*		** 10.		11.					
				Hardness Test				Mechanical Hardness		100%		Drawing/Specification		Test Report		√		P		V		V					
				Internal Soundness				UT		100%		ASTM A 388		ASTM A 788		UT Report		√		P		V		V			
				Surface & Sub Surface Defects				MT-on m/c Surface		100%		ASTM E709		ASTM A 788		MT Report		√		P		V		V		MT- Magnetic Particle Test	
1.6		Impeller		Surface & Sub Surface Defects		Major		DPT		Accessible Areas		ISO4987		ISO 4987, Level 2		DPT Report		√		P		V		V			
2.0 IN PROCESS INSPECTION																											
2.1		Impeller/Volute Casing/ Wear Plate / Casing Cover/ Shaft After Machining		Surface Condition/ Defects/ Measurement		Major		Visual and Measurement		100%		Drawing		IR (Protocol)		P		-		-							
2.2		Couplings		Verification of TC		Major		Review of TC		100%		Technical Specification / Drawing		COC/TC		√		P		V		-					
2.3		Rotating Parts		Balancing		Major		Static & Dynamic Balancing		100%		ISO 1940		ISO 1940, grade 2.5 or lower		Balancing Report		√		P		V		V			
2.4		Volute Casing		Soundness		Major		Static		100		20%		See		No Leakage		Test		√		P		W		Test	
		Legend: * Record, identified with "tick" (√) under column 'D' shall be submitted to customer as a QA documentation package. M: Manufacturer / Sub supplier, C: Main Contractor/BHEL/BHEL AIA. N: NTPC P: Perform: witness, V: review of records, MA: Major and MI: Minor, DPT: Dye Penetrant Test, UT: Ultrasonic Testing TC: Test Certificate, IR: inspection report, MTC: Material Test Certificate. COC: Certificate of conformance.																									
Manufacturer Sign & Seal												Rakesh Kr Madhu (Dy Mgr / QA)				K Renjith (Mgr / QA)				R Arunachalam (DGM/QA)							
												Prepared by				Reviewed by				Approved by							



Ranipet

MANUFACTURER'S NAME AND ADDRESS

Customer Approved Source

MANUFACTURING QUALITY PLAN

ITEM: SLURRY PUMP

PROJECT: AS PER PO

SYSTEM: FGD APPLICATION

BHEL WO : AS PER INTERNAL W/O

QP NO.

FGS:SLP:723, REV:00

DATE: 08.01.2021

MAIN CONTRACTOR

M/S BHEL, RANIPET

PAGE NO:

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SL. NO	COMPONENT & OPERATIONS	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK		REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD		AGENCY			REMARKS
					M	C/N				D*	M	C	N	
1.	2.	3.	4.	5.	6.	7.	8.	9.	D*	** 10.				11.

		Hardness Test		Mechanical Hardness	100%	Drawing/Specification		Test Report	√	P	V	V	
		Internal Soundness		UT	100%	ASTM A 388	ASTM A 788	UT Report	√	P	V	V	
		Surface & Sub Surface Defects		MT-on m/c Surface	100%	ASTM E709	ASTM A 788	MT Report	√	P	V	V	MT- Magnetic Particle Test
1.6	Impeller	Surface & Sub Surface Defects	Major	DPT	Accessible Areas	ISO4987	ISO 4987, Level 2	DPT Report	√	P	V	V	

2.0 IN PROCESS INSPECTION

2.1	Impeller/Volute Casing/ Wear Plate / Casing Cover/ Shaft After Machining	Surface Condition/ Defects/ Measurement	Major	Visual and Measurement	100%	Drawing		IR (Protocol)		P	-	-	
2.2	Couplings	Verification of TC	Major	Review of TC	100%	Technical Specification / Drawing		COC/TC	√	P	V	-	
2.3	Rotating Parts	Balancing	Major	Static & Dynamic Balancing	100%	ISO 1940	ISO 1940, grade 2.5 or lower	Balancing Report	√	P	V	V	
2.4	Volute Casing	Soundness	Major	Static	100	20%	See	No Leakage	Test	√	P	W	Test

Legend: * Record, identified with "tick" (√) under column 'D' shall be submitted to customer as a QA documentation package. **M:** Manufacturer / Sub supplier, **C:** Main Contractor/BHEL/BHEL AIA.**N:** NTPC **P:** Perform: witness, **V:** review of records, **MA:** Major and **MI:** Minor, **DPT:** Dye Penetrant Test, **UT:** Ultrasonic Testing **TC:** Test Certificate, **IR:** inspection report, **MTC:** Material Test Certificate. **COC:** Certificate of conformance.

Manufacturer Sign & Seal

											
Rakesh Kr Madhu (Dy Mgr / QA)				K Renjith (Mgr / QA)				R Arunachalam (DGM/QA)			
Prepared by				Reviewed by				Approved by			

4/04/2021 BAR QA MECH

SL. NO		COMPONENT & OPERATIONS	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK		REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD		AGENCY	REMARKS	
1.		2.	3.	4.	5.	M	C/N	7.	8.	9.	D*	M C N	11.	
					Pressure Testing of Casing	%	/10 % of each type	Remarks Column		Report			W	Pressure at 2x rated head or 1.5x shut of head whichever is higher for 30min.
3.0 FINAL INSPECTION														
3.1	Complete Pump Assembly	Completeness	Major	Visual & Dimensional	100 %	*		Approved GA Drawing	IR	√	P	W	W	
		Measurement- Flow vs Head(Complete operating range), Power, Efficiency	Major	Performance testing of pump	100 %	*		Approved Drawing /Data Sheet	Performance Test Report	√	P	W	W	*BHEL to witness 20% of each type of Pump and NTPC-one Pump per type.
		Vibration Velocity RMS [MM/S] Bearing Temperature Noise Level RMS[MM/S]		Measurement	100 %	*		Approved Drawing. Approved Data Sheet	Performance Test Report	√	P	W	W	
		NPSH Test	Major	Measurement	1 Pump / each type			Design Standard of Pump	NPSH Test	√	P	W	W	
Manufacturer Sign & Seal		Legend: * Record, identified with "tick" (√) under column 'D' shall be submitted to customer as a QA documentation package. M : Manufacturer / Sub supplier, C : Main Contractor/BHEL/BHEL AIA. N : NTPC P : Perform: witness, V : review of records, MA : Major and MI : Minor, DPT : Dye Penetrant Test, UT : Ultrasonic Testing TC : Test Certificate, IR : inspection report, MTC : Material Test Certificate. COC : Certificate of conformance.												
								Rakesh Kr Madhu (Dy Mgr / QA)		K Renjith (Mgr / QA)		R Arunachalam (DGM/QA)		
								Prepared by		Reviewed by		Approved by		

MANUFACTURING QUALITY PLAN

ITEM: SLURRY PUMP

PROJECT: AS PER PO

SYSTEM: FGD APPLICATION

BHEL WO : AS PER INTERNAL W/O

QP NO.

FGS:SLP:723, REV:00

DATE: 08.01.2021

MAIN CONTRACTOR

M/S BHEL, RANIPET

PAGE NO:

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SL. NO

COMPONENT & OPERATIONS

CHARACTERISTICS

CLASS

TYPE OF CHECK

QUANTUM OF CHECK

REFERENCE DOCUMENT

ACCEPTANCE NORMS

FORMAT OF RECORD

AGENCY

REMARKS

1.

2.

3.

4.

5.

6.

7.

8.

9.

D*

** 10.

11.

Pressure Testing of Casing

%
/10 % of each type

Remarks Column

Report

W
Pressure at 2x rated head or 1.5x shut of head whichever is higher for 30min.**3.0 FINAL INSPECTION**

3.1	Complete Pump Assembly	Completeness	Major	Visual & Dimensional	100 %	*		Approved GA Drawing	IR	√	P	W	W	
		Measurement- Flow vs Head(Complete operating range), Power, Efficiency	Major	Performance testing of pump	100 %	*		Approved Drawing /Data Sheet	Performance Test Report	√	P	W	W	*BHEL to witness 20% of each type of Pump and NTPC-one Pump per type.
		Vibration Velocity RMS [MM/S] Bearing Temperature Noise Level RMS[MM/S]		Measurement	100 %	*		Approved Drawing. Approved Data Sheet	Performance Test Report	√	P	W	W	
		NPSH Test	Major	Measurement	1 Pump / each type			Design Standard of Pump	NPSH Test	√	P	W	W	

Legend: * Record, identified with "tick" (√) under column 'D' shall be submitted to customer as a QA documentation package. **M**: Manufacturer / Sub supplier, **C**: Main Contractor/BHEL/BHEL AIA.**N**: NTPC **P**: Perform: witness, **V**: review of records, **MA**: Major and **MI**: Minor, **DPT**: Dye Penetrant Test, **UT**: Ultrasonic Testing **TC**: Test Certificate, **IR**: inspection report, **MTC**: Material Test Certificate. **COC**: Certificate of conformance.



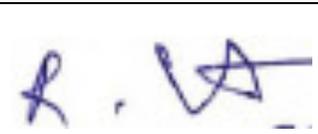
Rakesh Kr Madhu (Dy Mgr / QA)

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Reviewed by



R Arunachalam (DGM/QA)

Approved by

SL. NO		COMPONENT & OPERATIONS	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD	AGENCY			REMARKS
1.		2.	3.	4.	5.	M C/N	6.	7.	8.	9.	D*	** 10.	11.
						/ design			Report				
3.2	Complete Pump Assembly	Leak test	Major	Leakage testing	100%		Mfg. Drawing, Approved Data Sheet	No Leakage	Report	√	P	W	W
3.3		Strip Down Test (Not Required If Performance Test is Fine.)	Major	Visual	100%		Mfg. Drawing, Approved Data Sheet		Report	√	P	W	W
3.4	Painting	Dry Film Thickness/Paint shade	Major	Visual & Measurement	100%		NTPC Approved Painting Schedule		IR(Protocol)	√	P	V	V
3.5	Packing	Preservation	Major	Visual & Measurement	100%		Technical Spec/ BHEL approved Packing Procedure/Drawing		COC	√	P	V	-
4.0 DOCUMENTATION													
4.1	Check of Quality Assurance Documentation	Compliance to MQP	Major	Check of Compliments	100%		Manufacturing Quality Plan		Protocol	√	V	V	V

NOTE: 1. (\$) – 10 % of each type for NTPC (Customer).

Manufacturer Sign & Seal	Legend: * Record, identified with "tick" (√) under column 'D' shall be submitted to customer as a QA documentation package. M: Manufacturer / Sub supplier, C: Main Contractor/BHEL/BHEL AIA. N: NTPC P: Perform: witness, V: review of records, MA: Major and MI: Minor, DPT: Dye Penetrant Test, UT: Ultrasonic Testing TC: Test Certificate, IR: inspection report, MTC: Material Test Certificate. COC: Certificate of conformance.			
		Rakesh Kr Madhu (Dy Mgr / QA)	K Renjith (Mgr / QA)	R Arunachalam (DGM/QA)
		Prepared by	Reviewed by	Approved by

4/04/2021/BAR-QA-MECH

SL. NO		COMPONENT & OPERATIONS		CHARACTERISTICS		CLASS		TYPE OF CHECK		QUANTUM OF CHECK		REFERENCE DOCUMENT		ACCEPTANCE NORMS		FORMAT OF RECORD		AGENCY		REMARKS			
1.		2.		3.		4.		5.		6.		7.		8.		9.		D*		** 10.		11.	
4/04/2021/BAR-QA-MECH		Customer Approved Source		MANUFACTURER'S NAME AND ADDRESS		MANUFACTURING QUALITY PLAN										PROJECT: AS PER PO		BHEL WO : AS PER INTERNAL W/O		M/S BHEL, RANIPET		Page 5 of 5	
Ranipet						Q.P. NO.		FGS:SLP:723, REV:00		DATE: 08.01.2021		MAIN CONTRACTOR		PAGE NO:									

- All other items, which are not cover under this QP, shall be manufactured inspected as per OEM (Original equipment Manufacturer)/BHEL standard practice and relevant standard. Relevant TC/COC will be submitted for the same.
- This QP is applicable for Mandatory Spare supply also.
- Separate MQP to be submitted for Electric Motor.

Sl No	Types of Pumps	Quantity	No of Pumps as Per Approved Datasheet / GA Drawing
01.	Limestone slurry feed Pump	06	
02.	Gypsum bleed Pump	06	
03.	Primary hydro cyclone feed tank Pump	02	
04.	Filtrate water tank Pump	02	
05.	Secondary hydrocyclone feed tank	02	
06.	Waste water tank Pump	04	
07.	Auxiliary absorbent tank Pump	02	
08.	Emergency transfer Pump	03	
09.	Absorber area drain sump Pump	06	
10.	Gypsum area drain sump Pump	02	
11.	Limestone area drain sump Pump	02	

Record of revision

Rev no	Date	Description
00	08.01.2021	Original Issue – First submission.

Manufacturer Sign & Seal	Legend: * Record, identified with "tick" (√) under column 'D' shall be submitted to customer as a QA documentation package. M : Manufacturer / Sub supplier, C : Main Contractor/BHEL/BHEL AIA. N : NTPC P : Perform: witness, V : review of records, MA : Major and MI : Minor, DPT : Dye Penetrant Test, UT : Ultrasonic Testing TC : Test Certificate, IR : inspection report, MTC : Material Test Certificate. COC : Certificate of conformance.			
		Rakesh Kr Madhu (Dy Mgr / QA)	K Renjith (Mgr / QA)	R Arunachalam (DGM/QA)
		Prepared by	Reviewed by	Approved by

Annexure Q

Indent No:		Enquiry no:	
Sl.No	BHEL / Customer Requirements	## Specific confirmations by the manufacturer (Acceptable/Not acceptable)	
	Quality Plan Requirement: (If SQP is not given & Vendor QP applicable)		
	(i) MQP (Manufacturing Quality Plan) shall be submitted in attached format for BHEL/Customer review & approval. Our SQP/Typical MQP/ MQP Format is attached for guidance & use.		
	(ii) MQP shall invariably cover w.r.t Inward inspection including on Raw material Procurement, In process and Final inspection in elaborated way/details.		
	(iii) Bidder shall also to give specific confirmation that on need basis, their competent officials shall visit to BHEL / customer for finalization of Quality plan including test procedure/methodology during preaward / post award approval / detailed engineering in the event of an order.		
	(iv) No deviation on BHEL/Customer approved MQP/ SQP (In case BHEL SQP is provided) is acceptable.		
1	(v) Bidder shall agree to submit all cross referred documents other than codes/standards to BHEL/Customer/Consultant.		
	Important Notes shall be included in MQP : (a) Latest revision of Standard s & Specification shall apply. Only International Standards are applicable. (b) Materials shall be procured in compliance to Functional Technical Specification. (c) Inspection shall be in compliance with Approved Quality Control Procedure for the Product. (d) NDT shall be carried out by Qualified Personnel with compliance to Approved NDT Procedures and Acceptance Norms, as per ASME standard. (e) Gauges and measuring Instruments, with valid calibration only shall be used. (f) Cleaning and Painting of products shall be carried out as per Approved Painting Schedule. (g) Finished Products shall be packed to comply with Approved Packing Schedule. (h) Welding shall be carried out by Qualified Personnel with compliance to Approved NDT Procedures and Acceptance Norms, as per ASME standard.		
2	Domestic / Inland Inspection will be carried out by BHEL/BHEL appointed Third Party Inspection Agency (TPIA) / Customer/Customer Appointed Inspection Agency/Consultant. This is applicable for all Stage inspection and Final Inspection identified as "W" - Witness or "CHP" - Customer Hold Point as per customer approved Quality Plan/ Technical specification / Approved Drawing/ Approved Data sheet / Scheme / PID / PFD / SLD (Process Instrumentation Diagram / Process Flow Diagram / Single Line Diagram) etc. (as applicable).		
3	Inspection Agency for Foreign Bidders and also for Indian Bidder but importing from Foreign Sources: (1) Any one of the following Third Party Inspection Agency (TPIA) shall be appointed by the bidder and same shall be furnished by the bidder in techno commercial bid itself. (2) The details of TPIA with contact details like Name of the official, Phone no, Email id shall also to be submitted during pre/post award. However cost for such inspection agency shall be borne by the bidder only. Inspection charges for such inspection agency shall be indicated separately so that if BHEL/Customer is undertaking the inspection by on their own , then these charges are non claimable by the bidder. List of TPIA 1.M/s Bureau Veritas 2.M/s TUV-Nord 3.M/s TUV-SUD 4.M/s TUV Rheinland 5.M/s Lloyds Register 6.M/s SGS 7.M/s Germanischer Lloyds 8.M/s QUEST 9.M/s Certification Engineers International 10.M/s Intertek 11.M/s IR Class Systems and Solutions 12.M/s DNV 13. M/s Fichtner 14. M/s ABS Inspection Services		

440489/2021/BAP-QA-ELEC Sl.No	BHEL / Customer Requirements	## Specific confirmations by the manufacturer (Acceptable/Not acceptable)
4	Stage Inspection during manufacturing Process : Stage Inspection during manufacturing shall be carried out as per approved quality plan and all necessary documents shall be provided for review, verification and clearance for further processing. This inspection call shall be given well in advance (at least 2 weeks before) to TPI/Bidder's own inspection agency to avoid delay in the manufacturing processes.	
5	Inspection before despatch for domestic supplier : Inspection before despatch at supplier's works shall be carried out by BHEL appointed Inspection agency (as in Sl no. 2). Inspection shall be done as per approved Quality plan/ Technical specification/ Approved Drawing/ Approved Data sheet .	
6	Inspection at Foreign Source/Supplier: (a) As in sl no: 3. shall be ensured without fail (b) No material / items shall be despatched without getting the written communication from BHEL / Customer inspection carried out by Bidder appointed Third Party Inspection Agency (As per Sl no.3) / Customer/Customer Appointed Inspection Agency/Consultant. This is applicable for all Stage inspection and Final Inspection identified as "W" - Witness or "CHP" - Customer Hold Point as per customer approved Quality Plan/ Technical specification / Approved Drawing/ Approved Data sheet / Scheme / PID / PFD / SLD (Process Instrumentation Diagram / Process Flow Diagram / Single Line Diagram) etc. (As applicable). Inspection before despatch for Foreign supplier : Inspection before despatch at supplier's works shall be carried out by bidder appointed inspection agencies having international presence at vendors and or vendor's sub vendor works. Inspection shall be done as per approved Quality plan/ Technical specification/ Approved Drawing/ Approved Data sheet by TPIA mentioned in Sl no: 03 at supplier's cost.	
7	Painting shall be done strictly as per BHEL/Customer approved painting schedule / scheme only. Paint Thickness / Paint shade shall be ensured as per BHEL / Customer approved painting schedule / specification / data sheet etc. No deviation is acceptable unless otherwise accepted by BHEL/Customer in writing. Any conflict if any among BHEL / Customer approved painting schedule / Spec / data sheet etc. shall be brought to the notice of BHEL well in advance before proceeding including the BOI being procured for assy / skid like motors etc.	
8	Specific conformation for document package in the event of an order (2 Hard copies & soft copy in PDF file) is to be given containing the following with proper linkages (i) Index Sheet (ii) MQP/RQP/Endorsement Sheet (As applicable) (iii) TCs identified by BHEL/ Customer for record for "CHP" / "W" and Verification portion ("V") as given in approved QP. (iv) Final inspection report + TC including Chemical + Mechanical + HT + NDT etc. (v) Third party Inspection report + TC (vi) Customer CHP/ MDCC (vii) Type test / Performance Test reports conducted (viii) Type test / Performance Test approval/ clearance obtained from BHEL/Customer (ix) BOM with As Build Drgs with actual make / rating used with BHEL/customer approved drawings.	
9	Packing / Seaworthy Packing shall be as per BHEL Packing schedule / approved drg / sketch. This shall be ensured to take care transit / handling / transshipment in Road / Sea / Air. Photographs are to be submitted for BHEL review before despatching the material as per contract conditions.	
10	Outsourcing of test facilities: Bidder shall ensure all the testing facilities in house. However If any of the test facilities are not available with successful bidder, then bidder shall ensure the same at NABL accredited third party lab / Govt / Govt Lab for major testing such as NDT, Electrical & Mechanical testing.	
11	Important Note: No deviation on the above requirement 01 to 10 is acceptable with respect to Quality Requirement and those offers not meeting these specific customer requirement is liable for rejection and hence the bidder shall submit all the required documentary evidences in the offer itself.	
12	## Necessarily to be filled up by the bidder at the time of offer itself otherwise the offer may not be considered w.r.t Quality Requirement being customer specific requirement.	
VENDOR SIGN AND STAMP:		Vendor Name & Address:

CONTRACT QUALITY REQUIREMENTS (CQR) for LT MOTORS

447373/2021/BAP-QA_MECH

PROJECT: NTPL Tuticorin 2 x 500 MW (BHEL W.O no: G515, G516) PACKAGE: FGD PACKAGE MAIN CONTRACTOR: BHEL - RANIPET SUB CONTRACTOR (OEM) & ADDRESS: (To be filled by OEM VENDOR)		CONTRACT QUALITY REQUIREMENTS (CQR) for LT MOTORS used in <u>Slurry Pumps for FGD application</u> NTPL Tuticorin 2 x 500 MW FGD Project (BHEL W.O no: G515, G516)		DOC.NO: BAP/QR/G515,G516 /NTPL Tuticorin/ LTM/Slurry Pumps: 001 Rev NO.: 00 PAGE : Page 1 of 2 DATE: 06.09.2021		##Enquiry No: ## OEM Supplier Name & Address: ##Offer reference: ##Date: Contact Official Name: Mobile no: Email id:	
Sl. NO.	DESCRIPTION	BHEL and Ultimate Customer - NTPL Quality Requirements				##Specific confirmations by the vendor	

ITEM: LT Motors

01	Quality Plan Requirement	<ol style="list-style-type: none"> 1. MQP is applicable for these LT Motors and accordingly Actual LT Motor Manufacturer and OEM shall submit the MQP for BHEL and ultimate customer NTPL and its consultant DCPL approval. 2. If any of LT Motor manufacturer is having, ultimate customer NTPL and its consultant DCPL approved MQP (Manufacturing Quality Plan) / NTPC approved RQP (Reference Quality Plan) and having validity, the same is applicable for these LT Motor for inspection subject to obtaining ultimate customer NTPL and its consultant DCPL formal approval in the event of an order. 3. If LT Motor Manufacture / OEM vendor does not have MQP/RQP, they should submit a fresh MQP to BHEL/NTPL (in BHEL format) for review & approval. (copy attached). 	
02	BHEL / Ultimate Customer – NTPL approved vendors	LT Motors are to be procured only from Ultimate Customer - NTPL approved vendors and no deviation on this specific customer requirement is acceptable.	
03	Inspection Methodology to be adopted at Actual LT Motor Manufacture works by OEM vendor	BHEL/ BHEL AIA (BHEL authorized inspection Agency) / Ultimate Customer-NTPL to witness / perform inspection at LT Motor Supplier works and submit all the inspection documents and routine & Type test reports including Degree of Protection Test Reports (IP 55) as per approved MQP & approved data sheet / drg / spec / as per relevant BIS (Bureau of Indian Standard) - BIS 325 /IS 12615/ IEC 60034 etc. No material shall be dispatched without BHEL / BHEL AIA and Ultimate Customer – NTPL Inspection and dispatch clearance.	
04	Painting Requirements	Painting requirement like paint shade and painting thickness including no of coats if any are to be ensured by the OEM vendor for these LT Motors as per BHEL/ Ultimate Customer - NTPL and its consultant M N Dastur approved data sheet/drg/spec (As applicable).	
05	Packing	Packing shall be as per Specification / Drg. / Data sheet including sea worthy packing if any to avoid any transit & handling damages.	
06	For Inspection call	Inspection call by OEM Vendor for LT Motor inspection at Actual LT Motor Manufacture works to be raised for BHEL/BHEL AIA inspection / Ultimate Customer – NTPL including for type test witnessing to be ensured / addressed to Mr R Kesavan., DGM (QC-Proc)., Mobile no: +91 9443006303., Email id: kesavan@bhel.in and Mr Zeeshan Ali., Sr.Engineer (QC-Proc)., Mobile no: +91 9443149691., Email id: kovak@bhel.in including for inspection related activities for immediate response / resolution.	
07	Document Package /	Specific confirmation for Document Package in the event of an order (3 hard copies + soft copies in PDF file) is to be given containing the	

ANNEXURE-II: MANUFACTURING QUALITY PLAN

MFGR.'s LOGO		MANUFACTURER'S NAME AND ADDRESS		MANUFACTURING QUALITY PLAN				PROJECT : NLC TAMILNADU POWER LTD (2 X 500 MW)					
								PACKAGE : FGD PACKAGE					
								CONTRACT NO. :					
								MAIN-SUPPLIER : BHEL RANIPET					
				ITEM: LT MOTOR SUB-SYSTEM: SLURRY PUMPS		QP NO.: REV. NO.:							
						DATE:							
						PAGE: OF....							
SL. NO	COMPONENT & OPERATIONS	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD	AGENCY			REMARKS	
									M	C	L		
1.	2.	3.	4.	5.	6.	7.	8.	9.	D*	10.			11.
				LEGEND: * RECORDS, IDENTIFIED WITH "TICK" (√) WILL BE ESSENTIALLY INCLUDED BY SUPPLIER IN QA DOCUMENTATION.				DOC. NO.:		REV.....			
				** M: MANUFACTURER/SUB-SUPPLIER				CAT.....					
				C: SUPPLIER/NOMINATED INSPECTION AGENCY, L: PURCHASER									
				P: PERFORM W: WITNESS AND V: VERIFICATION. AS APPROPRIATE,									
				CHP: PURCHASER WILL IDENTIFIED IN COLUM "N"									
MANUFACTURER/ SUB-SUPPLIER		MAIN-SUPPLIER (BHEL)						FOR PURCHASE R USE					
SIGNATURE										REVIEWED BY		APPROVED BY	APPROVAL SEAL