Bharat Heavy Electricals Limited Ranipet-632406, India. Quality Assurance (Mech)

FGD: RMGD: SLP: 238

Dt. 14-08-2021

Item Name	Indent No	Indent Dt.	PGMA	Technical Specification
SLURRY PUMPS with	RFW11285	12.08.2021	FW701	ROS:9081, Rev:00, Dt:06.08.2021 and
MOTOR & ACC.	RFW11286	12.08.2021	FW701	TECI:LT MOTOR:REV:05, Dt:28.07.2021
	RFW11287	12.08.2021	FW997	

Project: RAMAGUNDAM (3X200 MW + 3X500 MW).

"Customer/NTPC has informed that in case the item is covered under Sub-QR list, the proposed vendors for the same shall be accepted by QA after acceptance of vendor by NTPC Engg."

- 1. Since Slurry Pump appears under Sub-QR item, Sub-QR approved vendor by NTPC Engg. Acceptable to Quality also.
- **2.** Inspection and testing shall be done as per approved Quality plan, Quality plan to be approved by Customer/ NTPC after review of BHEL.
- **3.** Painting shall be as per Customer approved Painting schedule.
- **4.** 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.
- **5.** Already NTPC approved latest MQP for similar application if available specific to Vendor may be shared for obtaining faster approval from Customer/Customer Consultant.
- **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)

11546	/2021/	BARTQAC	MRGP'S NAME AND						MANUFAC'.	ΓURIN	G OUA	LIT	Y PLAN					
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411576	/2021/		RGP'S NAME AND		MANUFACTURING QUALITY PLAN																			
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2.3	Rotati	ng Parts	Balancing	Major	Static Dyna Balar	ımic	100%	, 0	ISO 1940	Ç	ISO 194 grade 2. lower	-	Balancin g Report	V	Р	٧	٧							
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3.2		Leak test	Major	Leakage	100%	Drawing,	No Leakage	Report		Р	W	W			
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	Documentation			S											

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

	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	de la	Relights_	R. D
	Penetrant Test, UT: Ultrasonic TestingTC: Test Certificate,	Rakesh Kr Madhu (Dy Mgr / QA)	K Renjith (Mgr / QA)	R Arunachalam (DGM/QA)
Manufacturer Sign & Seal	IR: inspection report, MTC: Material Test Certificate.			
	COC: Certificate of conformance.	Prepared by	Reviewed by	Approved by

41157	5/2021		RGP'S NAME AND						MA	ANUFA	CTURING	G Q	UALITY	PLAN					
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- 2. 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.
- 3. This QP is applicable for Mandatory Spare supply also.
- 4. Separate MQP to be submitted for Electric Motor.

SI No	Types of Pumps	Quantity	
01.	Limestone slurry feed Pump	06	
02.	Gypsum bleed Pump	06	
03.	Primary hydro cyclone feed tank Pump	02	No of Diverse on Day
04.	Filtrate water tank Pump	02	No of Pumps as Per Approved Datasheet
05.	Secondary hydrocyclone feed tank	02	/ GA Drawing
06.	Waste water tank Pump	04	/ art brawing
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.

	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	de H	Relight	R. A
	Penetrant Test, UT: Ultrasonic TestingTC: Test Certificate,	Rakesh Kr Madhu (Dy Mgr / QA)	K Renjith (Mgr / QA)	R Arunachalam (DGM/QA)
Manufacturer Sign & Seal	IR: inspection report, MTC: Material Test Certificate. COC: Certificate of conformance.	Prepared by	Reviewed by	Approved by

411575/2021/BAP-QA_MECH

	Annexure Q	
SI.No	Indent No: Enquiry no: BHEL / Customer Requirements	##Specific confirmations by the manufacture(Acceptable/Not acceptable)
	Quality Plan Requirement: (If SQP is not given & Vendor QP applicable)	
	(i) MQP (Manuafcutering 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 invaribly cover w.r.t Inward inspection including on Raw materail 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/standrads 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 Section V. (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 Section V.	
2	Domastic / Inland Inspection will be carried out by BHEL/BHEL apointed Third Party Inspection Agency (TPIA) / Customer/Customer Apointed Inspection Agency/Consulatnat. 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 Instrumentaion Diagram / Process Flow Diagram / Single Line Diagram) etc (As applicable).	
3	Inspection Agency for Foreign Bidders and also for Indian Bidder but importing from Forgign Sources: (1) Any one of the filowing 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 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	

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Sl.No	BHEL / Customer Requirements	##Specific confirmations by the manufacture(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 clearanace for further processing. This inspection call shall be given well in advance (atleast 2 weeks before for Indeginious and 45 days forforeign) 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 Bidder appointed Inspection agency(As in SI no.3.) Inspection shall be done as per approved Quality plan/ Technical specification/ Approved Drawing/ Approved Data sheet.	
6	Inspection at Forign Source/Supplier: (a) As in sl no: 3. shall be ensured without fail (b) No materail / items shall be despatched without getting the written communication from BHEL / Customer inspection carried out by Bidder apointed Third Party Inspection Agency (As per Sl no.3) / Customer/Customer Apointed Inspection Agency/Consulatnat. 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 Instrumentaion 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 strictely 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 to BHEL well in adavnce before proceding 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/Endorsemment Sheet (As applicable) (iii) TCs identfied by BHEL/ Customer for record for "CHP" / "W" and Verification portion ("V") as given in approved QP. (iv) Final inspection report + TC including Chemical + Mechnaical + 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 tarnsit / handling / transhipment 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 accreadted 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 w.r.t 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 evidances in the offer itself.	
12	## Necessorily 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.	
13	If the OEM/Principal engaging the services of an agent to participate on their behalf, Then mention OEM /vendor Name & address as well as agent details with their sign and seal.	
	VENDOR SIGN AND STAMP:	Vendor Name & Address:

Details of BOI's/ Sub Systems with respect to Main Items

Item/ Sub system Name	Quantity	Supplier Name	Place of Manufacturing
GINAL EQUIPMENT MANUFACT	URER) SEAL A	ND SIGN.	
			Item/ Sub system Name Quantity Supplier Name

W.r.t FOREIGN OEM VENDORS ONLY

SI	Description & Quality Requirements	Specific confirmation by
no		the vendor
		(Confirmed/Not
		Confirmed)
01	OEM vendor shall meet all the requirements as in Annexure-II and also OEM Vendor shall endorse (Signature and Stamp in all the pages) in attached CONTRACT QUALITY REQUIREMENTS (CQR) for LT MOTORS(IE3) Up to 200KW used in Slurry Pumps (DOC.NO: BAP/QR/ G208-G210 & G509-511/NTPC Ramagundam/ LTM/ Slurry Pumps: 002 Rev No. 01 dt 17.08.2021) and send us the same to follow / ensure all the requirements in the event of an order.	,
02	OEM vendor shall ensure Credentials of design and Manufacturing capabilities w.r.t. LT Motors by their LT Motor manufacture.	
03	OEM Supplier shall submit other details like that they are already approved vendor by Ultimate Customer – NTPC (National Thermal Power Corporation Limited) specifically for proposed supply of LT Motor against BHEL/Ranipet. The details of PO already executed preferably through various other BHEL units for any NTPC projects with CHP/MDCC including technical catalogue, PO received so far for similar supply of LT Motors may also be submitted.	
04	Accordingly OEM vendor shall be suitably informed that If Ultimate Customer – NTPC (National Thermal Power Corporation Limited) vendor approvals is not there /not available, then their offer will not be considered for further processing / ordering for the supply of LT Motors to take care of overall equipment/system requirements. No material shall be dispatched without BHEL/ Ultimate Customer – NTPC (National Thermal Power Corporation	
	Limited) inspection - CHP/MDCC clearances.	

Annexure-II

CONTRACT QUALITY REQUIREMENTS (CQR) for LT MOTORS(IE3) Up to 200KW

(For FOREIGN (OUTSIDE INDIA) OEM VENDOR ONLY)

PROJECT: NTPC Ramagundam Stage I & II Project (3 X 200 MW + 3 X 500 MW) (BHEL W.O no: G208-G210 & G509-511) NTPC CONTRACT NO: CS-3120/3130-109(3)-9-FC-NOA-6845 PACKAGE: FGD PACKAGE MAIN CONTRACTOR: BHEL - RANIPET SUB CONTRACTOR (OEM) & ADDRESS: (To be filled by OEM VENDOR)		LT MOTORS(IE3) - Up to 200KW used in Slurry Pumps LT MOTORS(IE3) - Up to 200KW used in Slurry Pumps BAP/QR/ G208-G210 & G509-511/NTPC Ramagundam/ Slurry Pumps: 002 Rev NO.: 01 PAGE: Page 1 of 6 DATE: 17.08.2021					
SI. DESCRIPTION	BHEL a	nd Ultimate Customer - NTPC (Nation Corporation)., India Quality Requ	##Specific confirmations by the vendor				
O1 Type Test Requirements	SL NO: (ultimate should be those prophave been witnessed (or) Ultimate respective. B. However,	hall submit the type test reports of all (D) below and carried out within Customer NTPC bid opening dt 2 e for the test conducted on the identiposed to be supplied under this enquiry a conducted at an independent laborate by BHEL/BHEL AIA (BHEL Appoint to Customer NTPC (National Therme LT Motor Manufacture of OEM vender if vendor is not able to submit the sper above condition in 01 (A) (or) in the conduction of the customer of	10 years from the data of 4.04.2019. These reports ical/similar LT Motors to y and test (s) either should ory (or) should have been sinted Inspection Agency) nal Power Corporation) at dor.				

line with NTPC approved data sheet / BOM (Bill of Material) /GA

(General Arrangement) Drawing etc.

Annexure-II CONTRACT QUALITY REQUIREMENTS (CQR) for LT MOTORS(IE3) Up to 200KW

(For FOREIGN (OUTSIDE INDIA) OEM VENDOR ONLY)

NTP (3 X (BHI NTP CS- 684: PAC MAI BHE SUB ADD	200 MW + 3 X 500 MV EL W.O no: G208-G21 C CONTRACT NO: 3120/3130-109(3)-5 5 KAGE: FGD PACKAON N CONTRACTOR: L - RANIPET CONTRACTOR (OEL	In Slurry Pumps G509-511/NTPC Ramagundam LTM Slurry Pumps G509-511/NTPC Ramagundam LTM Slurry Pumps 002 Rev NO.: 01 PAGE : Page 2 of 6 DATE: 17.08.2021 Project G3 X 200 MW + 3 X 500 MW CBHEL W.O no: G208-G210 & G509-S11/NTPC CRAMAGUNDAM CBHEL W.O no: G208-G210 & G509-S11/NTPC CBHEL W.O					
SI.	DESCRIPTION	BHEL a	nd Ultimate Customer - NTPC (Nation		##Specific		
NO.			Corporation)., India Quality Requi	rements	confirmations by the vendor		
			ITEM: LT Motors(IE3) - Up to	200KW	vendor		
01	Type Test Requirement(Contd)	for above Standard) i. Meas (if ap ii. No los speed iii. Open motor iv. Full l v. Temp vi. Mom vii. High viii. Test obelir maxi x. Over xi. Degraxii. Type proof E. The TCs/	wing Type test reports to be submitted 50KW LT Motor as per relevant - BIS 325 / IEC 60034 etc uring of resistance of winding of plicable) and test at rated voltage to determine . circuit voltage ratio of wound rotor				
02	Quality Plan Requirement	b. If any of I approved same is apobtaining	nufacturing Quality Plan) is applicable dingly Actual LT Motor Manufacture ustomer – NTPC format for review and Customer - NTPC. T Motor manufacture is having, ultimate MQP (Manufacturing Quality Plan) and applicable for these LT Motor for inspecultimate customer NTPC formal apprough endorsement sheet approval routed.				

Annexure-II CONTRACT QUALITY REQUIREMENTS (CQR) for LT MOTORS(IE3) Up to 200KW

(For FOREIGN (OUTSIDE INDIA) OEM VENDOR ONLY)

NTP(3 X : (BHI) NTP(CS-: 684!) PAC MAI BHE SUB ADD	PROJECT: NTPC Ramagundam Stage I & II Project (3 X 200 MW + 3 X 500 MW) (BHEL W.O no: G208-G210 & G509-511) NTPC CONTRACT NO: CS-3120/3130-109(3)-9-FC-NOA-6845 PACKAGE: FGD PACKAGE MAIN CONTRACTOR: BHEL - RANIPET SUB CONTRACTOR (OEM) & ADDRESS: (To be filled by OEM VENDOR)		CONTRACT QUALITY REQUIREMENTS (CQR) for LT MOTORS(IE3) - Up to 200KW used in Slurry Pumps NTPC Ramagundam Stage I & II Project (3 X 200 MW + 3 X 500 MW) (BHEL W.O no: G208-G210 & G509-511)	##Enquiry No: ## OEM Supplier Name & Address: ##Offer reference: ##Date: Contact Official Name: Mobile no: Email id:					
SI. NO.	DESCRIPTION	BHEL a	nd Ultimate Customer - NTPC (Nation Corporation)., India Quality Requ		##Specific confirmations by the vendor				
	<u> </u>	<u>l</u>	ITEM: LT Motors(IE3) - Up to	200KW	venuoi				
02	Quality Plan Requirement	c. According filled up F approved from BHF							
		e. Typical Ir and it is n	abmit a fresh MQP to BHEL/NTPO approval. (copy attached). Indicative MQP is attached for inf and ot final and binding on BHEL / Ultim						
03	Inspection Methodology to be adopted at Actual LT Motor Manufacture	inspection MQP & Indian St	. All LT Motors are to be inspected by BHEL AIA (BHEL authorized inspection Agency) at LT Motor manufacture works as per approved MQP & approved data sheet/drg/spec/ as per relevant BIS (Bureau of Indian Standard) - BIS 325 / IEC 60034 etc by BHEL / Ultimate Customer-NTPC						
	works by OEM vendor	inspection MQP & a	ne Tests are to be witnessed by BHE a Agency) at LT Motor manufacture approved data sheet/drg/spec / as per andard) - BIS 325 / IEC 60034 e-NTPC	e works as per approved relevant BIS (Bureau of					
		NTPC wi Degree of	A (BHEL authorized inspection Ager ill also ensure LT Motor type tests Protection Test Reports & acceptance data sheet / drg / spec / as per relevation BIS 325 / IEC 60034 etc.	reports review including e as per approved MQP &					
		Customer works and reports in approved	JA (BHEL authorized inspection -NTPC to witness / perform inspect d submit all the inspection documents cluding Degree of Protection Test Re MQP & approved data sheet / drg / sf Indian Standard) - BIS 325 / IEC 6	tion at LT Motor Supplier s and routine & Type test sports (IP 55) as per spec / as per relevant BIS					

Annexure-II

CONTRACT QUALITY REQUIREMENTS (CQR) for LT MOTORS(IE3) Up to 200KW

(For FOREIGN (OUTSIDE INDIA) OEM VENDOR ONLY)

	(1011	ORLIGI	(OUISIDE INDIA)	SENT VENDOR	GIVE I)		
NTP (3 X (BHI NTP CS- 684: PAC MAI BHE SUB ADD	PROJECT: NTPC Ramagundam Stage I & II Project (3 X 200 MW + 3 X 500 MW) (BHEL W.O no: G208-G210 & G509-511) NTPC CONTRACT NO: CS-3120/3130-109(3)-9-FC-NOA-6845 PACKAGE: FGD PACKAGE MAIN CONTRACTOR: BHEL - RANIPET SUB CONTRACTOR (OEM) & ADDRESS: (To be filled by OEM VENDOR)		CONTRACT QUALITY REQUIREMENTS (CQR) for LT MOTORS(IE3) - Up to 200KW used in Slurry Pumps NTPC Ramagundam Stage I & II Project (3 X 200 MW + 3 X 500 MW) (BHEL W.O no: G208-G210 & G509-511)	DOC.NO: BAP/QR/ G208-G210 & G509-511/NTPC Ramagundam/ LTM/ Slurry Pumps: 002 Rev NO.: 01 PAGE: Page 4 of 6 DATE: 17.08.2021	##Enquiry No: ## OEM Supplier Name & Address: ##Offer reference: ##Date: Contact Official Name: Mobile no: Email id:		
SI. NO.	DESCRIPTION	BHEL a	nd Ultimate Customer - NTPC (Nation Corporation)., India Quality Requi		##Specific confirmations by the vendor		
		200KW					
03	Inspection Methodology to be adopted at Actual LT Motor Manufacture works by OEM vendorcontd	All Routine te are to be inspective (BHEL author per approved I (Bureau of Inc. Test Reports v Customer – N' LT Motor Marthat the above specific require variation, hot substitute to between centre with approved Inspective Inspectiv	sts on LT Motors are to be ensured by cted & witnessed by OEM Vendor / Fized inspection Agency) at LT Motor MQP & approved data sheet /drg / spectian Standard) - BIS 325 / IEC 60034 evith Inspection report (IR) to be submit TPC for review and to obtain inspection ufacturer has to issue COC (Certifical motor/ motors was manufactured taking ements regarding ambient temp., volta starts, pull out torque, starting KVA/K evof stud and gland plate, space heater drawing/data sheets.	o OEM Vendor & same BHEL / BHEL AIA manufacture works as color as per relevant BIS etc and all the Routine tted for BHEL/Ultimate on and dispatch clearance. The of Conformance) states and care of Customer age and frequency W, temp. rise, distance and tested in accordance			
		All Routine T same are to authorized in including rev Reports (IP sheet/drg/spe 325 / IEC 60 report (IR) to and to obtain in Above 50KV All Routine & Vendor at Act BHEL/ BHEL Customer-NTI Protection Tes with endorsem relevant BIS (the Routine T	ests on LT Motors are to be ensured be inspected & witnessed by BH aspection Agency) at LT Motoriew of Type Test Reports and Describer of Type Test Reports and Ithe Routine Test be submitted for BHEL/Ultimate Cust and all the Routine Test be submitted for BHEL/Ultimate Cust anspection and dispatch clearance. Wand up to 200KW – Inspection Company Type Tests if any on LT Motors are ual LT Motor Manufacture Works and LAIA (BHEL authorized inspection PC for inspection & witnessing include the Reports as per approved MQP /RQI approved data Bureau of Indian Standard) - BIS 325 Test Reports with Inspection report of the Courtower				

BHEL/Ultimate Customer - NTPC review and to obtain inspection and

dispatch clearance.

Annexure-II CONTRACT QUALITY REQUIREMENTS (CQR) for LT MOTORS(IE3) Up to 200KW

(For FOREIGN (OUTSIDE INDIA) OEM VENDOR ONLY)

NTP(3 X (BHI NTP) CS-6843 PAC MAI BHE SUB ADD	JECT: C Ramagundam Stage 200 MW + 3 X 500 MV EL W.O no: G208-G21 C CONTRACT NO: 3120/3130-109(3)-5 KAGE: FGD PACKAON CONTRACTOR: L - RANIPET CONTRACTOR (OEI RESS: be filled by OEM	W) 0 & G509-511) 9-FC-NOA- GE M) &	CONTRACT QUALITY REQUIREMENTS (CQR) for LT MOTORS(IE3) - Up to 200KW used in Slurry Pumps NTPC Ramagundam Stage I & II Project (3 X 200 MW + 3 X 500 MW) (BHEL W.O no: G208-G210 & G509-511)	LT MOTORS(IE3) - Up to 200KW used in Slurry Pumps G509-511/NTPC Ramagundam					
SI. NO.	DESCRIPTION	BHEL a	nd Ultimate Customer - NTPC (Nation Corporation)., India Quality Requ		##Specific confirmations by the vendor				
	l	200KW							
03	Inspection Methodology to be adopted at Actual LT Motor Manufacture works by OEM vendorcontd	LT Motor Ma inspection Ag and any cost including for v Works (or) at NTPC are in the As such No ex order and also	s / tests /review of documents / ins nufacture by OEM /BHEL / BHEL / gency) / Ultimate Customer-NTPC implication arising out of due to condi- witnessing of any of the tests at Actual third party etc by BHEL / BHEL AIA he scope of OEM Supplier only. Attra cost if any will be admissible and during execution of the contract. shall be dispatched without BI tomer – NTPC Inspection and disp						
04	Painting Requirements	Painting requirecoats if any are	rement like paint shade and painting to the ensured by the OEM vendor for the Customer -NTPC approved data	hickness including no of or these LT Motors as per					
05	Packing		be as per Specification / Drg. / Data s to avoid any transit & handling dama						
06	For Inspection call	Motor Manu inspection/ witnessing if (QC-Proc)., I and Mr Kova Email id: kov immediate re	all by OEM Vendor for LT Motor facture works to be raised for Ultimate Customer – NTPC ir any to be ensured / addressed to Mobile no: +91 9443006303., Em rathanan., DM (QC-Proc)., Mobile rak@bhel.in including for inspect esponse / resolution.	BHEL/BHEL AIA ncluding for type test of Mr R Kesavan., DGM ail id: kesavan@bhel.in e no: +91 8903502628., ion related activities for					
07	Document Package / Dossier	soft copies in Pl (i) Index (ii) MQP (iii) TCs i (Custo as giv (iv) Final (v) BHE BHEI	nation for Document Package in the event Df file) is to be given containing the follow a Sheet PRQP/Endorsement sheet identified by BHEL/NTPC for record for a omer Hold Point) Verification & Witness en in MQP / RQP / MQP (as applicable). Inspection Report + TC L AIA (BHEL Appointed Inspection Agental Pointer of the Agental Pointer of the Package of	*CHP" "W" portion					

Annexure-II

CONTRACT QUALITY REQUIREMENTS (CQR) for LT MOTORS(IE3) Up to 200KW

(For FOREIGN (OUTSIDE INDIA) OEM VENDOR ONLY)

NTPO (3 X Z (BHE NTPO CS-3 6845 PACI MAII BHE SUB ADD	200 MW + 3 X EL W.O no: G2 C CONTRACT 3120/3130-1	500 MV 208-G21 F NO: 09(3)-9 PACKAO FOR:	0 & G509-511) 9-FC-NOA- GE M) &	CONTRACT QUALITY REQUIREMENTS (CQR) LT MOTORS(IE3) - Up to 2001 in Slurry Pumps NTPC Ramagundam Stage Project (3 X 200 MW + 3 X 500 M (BHEL W.O no: G208-G210 & 511)	for KW used	G509-511 Ramagur Slurry Pt Rev NO.:	/ G208-G210 /NTPC dam/ I imps: 002 01 Page 6 of 6) & LTM/	## OEM Supplier Name & Address: ##Offer reference: ##Date: Contact Official Name: Mobile no: Email id:		
SI.	DESCRIPT	ION	BHEL a	nd Ultimate Customer - NTP	C (Nation	al Therm	al Power		##Specific		
NO.				Corporation)., India Qual	ity Requi	rements			confirmations by	the	
				ITEM: LT Motors(IE3	3) - Un to	200KW			vendor		
07	Document			Customer Hold Point) / MDCC							
	Package /			ance Certificate)	1:41	141.					
	Dossier	contd		test reports conducted/submitted ved data sheet and BOM with ac							
				mer approved drgs.	taar marc	asea with					
08	Important notes		Inspection Cate	egorization: I							
			Inspection Cate Inspection by N Customer – NT Inspection Cate	Papproved and as in sl no:03 tegorization: II Main contractor (BHEL) / BHEL AIA based on Ultimate TPC approved MQP/RQP & based on inspection as in sl no:03 tegorization: III							
			inspection as ir								
			the tests at Acti Customer – NT	eation for conducting checks / to all LT Motor Manufacture Wor PC is in the scope of OEM Supp the event of an order and also d	ks by BHI	EL / BHE and no ext	L AIA / Ulti ra cost if any	mate			
09	Motor deta			hish following LT Motor (upto 200k)			s applicable fo	r this e	nquiry.		
	S. No	gunaam	i Stage I & II Proje	ect (3 X 200 MW + 3 X 500 MW)- Pump	ren rroje	:ct :-	LT Mot	or			
				-		ting	Quantity	Ma	ake and Country of		
	1	Limest	one Slurry Feed Pu	mp	(In	kW)	(in nos)		origin		
	2	Gypsui	m Bleed Pump								
	3 4		y Hydro-cyclone Fe Water Tank Pump	ed Tank Pump							
	5		dary Hydro-cyclone	Feed Tank Pump	+						
	6		Water Tank Pump								
	7		ary Absorbent Tank				· · · · · · · · · · · · · · · · · · ·				
	8		ency Transfer Pump oer Area Drain Sum		+						
	10		m Area Drain Sump		1						
	11	Limest	one Area Drain Sur	np Pump							
	12	Other I	LT motors involved	in the system (if any)]]], (C	ıpplier signature w		

OEM Supplier signature with seal

Necessarily to be filled up & submitted by the OEM vendor at the time of offer itself otherwise the offer may not be considered w.r.t Quality Requirements against LT Motors being BHEL/ ultimate customer – NTPC (National Thermal Power Corporation Limited) specific requirements.

ENDORSEMENT SHEET FOR QP REFERENCE / STANDARD / FIELD QUALITY PLAN (RQP / SQP/RFQP/SFQP)

TO BE FILLED IN BY SUPPLIER AT T	IME OF SUBMISSION	एनरीपीसी NTPC	To be filled in by NTPC			
PROJECT NAME	NTPC Ramagundam Stage I & II Project (3 X 200 MW + 3 X 500 MW) (BHEL W.O no: G208-G210 & G509-511)	2REVIEW & B	ENDORSEMENT BY NTPC ECIFIC QP NUMBER ALLOTTED			
CONTRACT NO.:	CS-3120/3130-109(3)-9-FC-NOA- 6845					
MAIN SUPPLIER	M/S.BHEL, RANIPET , TAMIL NADU., INDIA	QP NO:				
MANUFACTURER WORKS & ADDRESS	(TO BE FILLED BY OEM / LT MOTOR SUPPLIER	REV. NO.: 00 DT:				
ITEM /EQUIPMENT / SYSTEM/ SUB-SYSTEM DETAILS i.e. MODEL TYPE/SIZE/RATING etc.	LT MOTOR(IE3) - SLURRY PUMPS FOR FGD APPLICATION					
APPROVED QP NO.: RQP/SQP/RFQP/SFQP	(TO BE FILLED BY OEM / LT MOTOR SUPPLIER					
Confirmation by Main Supplier (TICK WHICHE)		(TICK APPLICABI	<u> </u>			
I. That the item/ component is identical to that com II. That there are minor changes in the item/ comp the same do not affect the contents of MQP/RQP/S	ponent with respect to that considered for MQP/RQP/SQP approval, however	The MQP/RQA without any ch				
III. That there are minor changes in the item/ com the same affect the MQP/RQP/SQP slightly, as ind	rponent with respect to that considered for MQP/RQP/SQP approval, however licated below / in attached sheet.	as indicated. DISTRIBUTIO A) MQP/RQI 1. MAIN SUPPI MQP/RQP/SQ 2. MANUFACTO 3. RIO 4. CQA-SPL 5. CQA-O/C B) RFQP/SFQ 1. MAIN SUPPI 2. MANUFACTO 3. NTPC FQA (v	LIER (WITH A COPY OF P) URER P: LIER (with a copy of MQP/RQP/SQP			
SIGN.: (Main Supplier) DATE:	(TO BE FILLED BY OEM / LT MOTOR SUPPLIER SIGN.: (Manufacturer) DATE:	NTPC (Review	ved /Approved by/ Date & Seal)			

		OEM SUPP			MANU	FACTURING QU	JALITY PLAN FO	R	MQP:E:LT REV:NO:0		MAGUNDA	M :FGD SLURRY:001
		To be fille	ed by	1.	T MOTOF	R / IIn to TO 200	KW) - FGD Appli	cation	DATE: 06.	_		
D.4.	BHEL	OEM Sup	•	_		1 (OP 10 10 200	itti, - i db Appli	oution	Page :	10.2020		
	P/ RANIPET / AMIL NADU	<u>LT MOTOR</u>										
	INDIA	Manufact	ture									
		To be filled b	v OEM									
		Supplie	-									
S1.No.	. COMPONET/A	CHARACTE-	CLASS	TYPE OF	QUANUTM OF	REFERENCE DOCUMENT	ACCEPTANCE STANDARD	FORMAT OF REC		AGENCY		REMARKS
	SSEMBLY/OPE RATION/TEST S	RISTIC		CHECK	CHECK				D	М	BHEL/ BHEL AIA	
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	1	1.	12.
INCO	MING INSPCI	ETIONS:	*	*		<u> </u>				*		
1.1	Enamelled round copper conductor(Dual	1.Overall diameter	Major	Mechanical	1 sample/lot	IS 13730 1993 Part 13 / IEC 60317-0-1-2008 (As applicable)	IEC 60317-0-1 2008	Plant format		Р	V	
	coated)MM	2.Bare conductor diameter	Major	Mechanical	1 sample/lot	BHEL / NTPC Spec & Apprd Datasheet	BHEL / NTPC Spec & Apprd Datasheet	Plant format		Р	V	
		3.BDV test	Major	Electrical	1 sample/lot	do	do	Plant format		Р	V	
		4. Elongation	Major	Mechanical	1 sample/lot	do	do	Plant format		Р	V	
		$\begin{array}{c} \textbf{5.Continuity} \ (\textbf{insulatio} \\ \textbf{n}) \end{array}$	Major	Electrical	1 sample/lot	do	do	Insp report/ Supplier TC		Р	V	
		6.Tan Delta (If applicable)	Major	Electrical	1 sample/lot	do	do	Insp report/ Supplier TC		Р	V	EC gr purity: -99.6%
1.2	Aluminum Ingots	1.Chemical composition	Major	Chemical	1 sample/lot	do	do	Supplier Tc		Р	V	- 3 1- 3 1- 1- 1- 1- 1- 1- 1- 1- 1- 1- 1- 1- 1-
1.3	FAN	1.Diameter (ID&OD)	Major	Mechanical	1 sample/lot	do	do	Inspection Report		Р	V	
1.4	Bearings (SKF OR FAG)	1.Type & Make	Major	Visual	100%	do	do	Inspection Record		Р	V	
		2.Dimensions - ID,OD&width	Major	Mechanical	1 sample/lot	do	do	Inspection Record		Р	V	
1.5	Terminal Block	1.Dimensions	Major	Mechanical	Plant std.	do	do	Inspection Report		Р	V	
		2.Proof voltage test	Major	Electrical	Plant std.	do	do	Inspection Report		Р	V	

TA	BHEL BAP/ RANIPET / TAMIL NADU INDIA BHEL BAP/ RANIPET / TAMIL NADU INDIA LT MOTOR Manufacture To be filled by OEM Supplier S1.No. COMPONET/A CHARACTE- CLASS		-	T MOTOR	FACTURING QU	MQP:E:LTM:NTPC RAMAGUNDAM :FGD SLURRY: REV:NO:00 DATE: 06.10.2020 Page :						
	SSEMBLY/OPE RATION/TEST S		CLASS	TYPE OF CHECK	CHECK	REFERENCE DOCUMENT	ACCEPTANCE STANDARD	FORMAT OF REC	D	AGENCY M	BHEL/ BHEL AIA	REMARKS
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	1	1.	12.
	OCESS INSPO											
2.1	Stator core	1.Core length dia	Major	Mechanical	100%	do	do	Inspection Record		Р	V	
		2.Core locking	Major	Visual	100%	do	do	Inspection Record		Р	V	
		3.Rigidity of core	Major	Mechanical	100%	do	do	Inspection Record		Р	V	
2.2	Die cast rotor	1.Core length	Major	Mechanical	100%	do	do	Inspection Record		Р	V	
		2.Blow holes	Major	Mechanical	100%	do	do	Inspection Record		Р	V	
2.3	Wound stator (if applicable)	1.Resistance	Major	Electrical	100%	do	do	Inspection Record		P	V	
		2.H.V.Test	Major	Electrical	100%	do	do	Inspection Record		Р	V	
		3.Insulation resisitance	Major	Electrical	100%	do	do	Inspection Record		Р	V	
2.4	Final Assembiy	1.Completeness	Major	Visual	100%	do	do	Inspection Record		Р	V	
		2.Runout in case of flanged motors	Major	Mechanical	100%	do	do	Inspection Record		Р	V	
		3.Mounting dimensions	Major	Mechanical	100%	do	do	Inspection Record		Р	V	

BHEL BAP/ RANIPET / TAMIL NADU INDIA		OEM SUPPLIER To be filled by OEM Supplier LT MOTOR Manufacture To be filled by OEM Supplier		To be filled by OEM Supplier LT MOTOR Manufacture To be filled by OEM Supplier LT MOTOR Supplier LT MOTOR (Up to TO 200KW) - FGD Application								M :FGD SLURRY:0
S1.No.	COMPONET/A SSEMBLY/OPE RATION/TEST S			TYPE OF CHECK	QUANUTM OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE STANDARD	FORMAT OF REC	D	M	BHEL/ BHEL AIA	REMARKS
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.		12.
FINA	L INSPCETIO	N AND TESTING	:									•
3.1	Routine Test	Resistance Measurement on winding & space heater	Major	Electrical		Drawing & Apprd Datasheet and	BHEL / NTPC Spec, GA Drawing & Apprd Datasheet and IS/IEC 60034 (As applicable)	Inspection Record		Р	W	
		2.HV Test	Major	Electrical	100%	do	do	Inspection Record		Р	w	
		3.Phase sequence & direction of rotation	Major	Electrical	100%	do	do	Inspection Record		Р	W	
		4.No load run test	Major	Electrical	100%	do	do	Inspection Record		Р	W	
		5. Vibration test	Major	Mechanical	100%	do	do	Inspection Record		Р	W	
		6.Name plate recheck	Major	Visual	100%	do	do	Inspection Record		Р	W	
		7.Paint shade thickness & adhesion	Major	Visual & Measurement	100%	do	do	Inspection Record		Р	W	
		8.Moutings & Overall dimensions	Major	Mechanical	100%	do	-do-	Inspection Record		Р	W	

		OEM SUPF	PLIER		MANU	FACTURING QU	MQP:E:LTM:NTPC RAMAGUNDAM :FGD SLURRY:001							
		To be fille		1	_		_		REV:NO:00					
			•	LI	MOTOR	(Up to TO 2001	DATE: 06.10	0.2020						
	BHEL	OEM Sup	plier						Page :					
	P/ RANIPET / MIL NADU INDIA	LT MOTO Manufact To be filled b Supplie	ture y OEM											
S1.No.	COMPONET/A	/A CHARACTE- CLASS				REFERENCE DOCUMENT	ACCEPTANCE STANDARD	FORMAT OF REC	AGENCY			REMARKS		
	SSEMBLY/OPE RATION/TEST S	RISTIC		CHECK	CHECK				D		BHEL/ BHEL AIA			
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.		12.		
3.2	TYPE TESTS ###	•	•	•	•		•	•		•		•		
3.3	Preservation and Packing	1.Completeness	Major	Review	100%	do	do	Inspection Record		P	V			
		2.Motors covered with polythene sheets	Major	Visual	100%	do	do	Inspection Record		P	V			
3.Packing		3.Packing	Major	Visual	100%	do	do	Inspection Record		P	٧			

TYPE TEST REQUIREMENTS FOR LT MOTOR INCLUDING DEGREE OF PROTECTION TEST REPORT (IP 55)

BHEL/BHEL AIA (Authorised Inspection Agency) shall review the Identical design type test report during including degree of Protection Test report (IP 55) for acceptance in line with BHEL/Ultimate Customer - NTPC approved Data sheet/Drg/Spec for LT Motor rating up to 50KW and BHEL/Ultimate Customer NTPC approved type test report for LT Motor rating more than 50KW and up to 200KW. If not available for Similar / Identical Design of any of the LT Motor motor, then OEM / LT Motor Manufacture shall conduct all these type tests at Third party lab / Government Approved Lab / Own lab in presence of BHEL/BHEL AIA / without any cost implication to BHEL/Ultimate Customer - NTPC within reasonable time.

- 1. Measurement of Resistence of Stator
- 2. No Load test at Rated Voltage
- 3,. Pull out test
- 4.Temperature Rise Test
- 5.Momentary Excees Torque Torque Test
- 6.High Voltage Test
- 7.Test for Vibration Severity
- 8.Test for Noise Level Measurement
- 9. Over Speed Test
- 10. Degree of Protection TC (IP 55)

LEGEND:

OEM = Orgional Equipement Supplier M = LT Motor Manufacture -

BHEL AIA = BHEL AUTHORISED INSPECTION AGENCY

GA Drawing: General Arrangment Drawing

NTPC - NATIONAL THERMAL POWER CORPORATION (Ultimate Customer)

OEM SUPPLIER: (To be Filled up by **OEM Supplier**)

LT MOTOR Manufacture : (To be Filled up by OEM Supplier)

OEM SUPPLIER NAME AND ADD WITH OEM (TO BE FILLED F				ITEM: LT MOTOR(IE3) UP TO 200KW FOR FGD APPLICATION SUB-SYSTEM: FGD - SLURRY PUMPS				QP NO MOTO REV.N DATE:	O.: 00	NTPC Ramagundam Stage I & II Project (3 X 200 MW + 3 X 500 MW) (BHEL W.O no: G208-G210 & G509-511) FGD PACKAGE NTPC CONTRACT NO: CS-3120/3130-109(3)-9-FC-NOA- 6845 MAIN CONTRACTOR: BHEL - RANIPET SUB CONTRACTOR (OEM) & ADDRESS: (TO BE FILLED BY OEM SUPPLIER)						
SL. NO	COMPONEN OPERATIO		CHARACTERIS	STICS	CLASS	TYPE OF CHECK		NTUM CHECK		ACCEPTANCE NORMS	FORMAT OF RECORD		AGENCY			REMARKS
					4.	5.	M	C/N 6. 7.		8.			M	C	<u> </u>	<mark>11.</mark>
	1. 2. 3.										9.	D*		* 10.		
		$\overline{}$	<u> </u>	EGEND:	* RECOR	RDS, INDENTI	FIED W	ITH "TICK	C"(√) SHALL BE		DOC. NO.:				REV	CAT
_	I MANUFACTURER MOTOR SUPPLIER SIGNA	MAIN SUPPI ATURE	(BHEL)	ESSENTIALLY INCLUDED BY SUPPLIER IN QA DOCUMENTATION. ** M: OEM MANUFACTURER/LT MOTOR SUB-SUPPLIER C: MAIN SUPPLIER – BHEL/BHEL AIA, N: NTPC P: PERFORM W: WITNESS AND V: VERIFICATION. AS APPROPRIATE, CHP: NTPC SHALL IDENTIFIED IN COLUM "N" AS 'W"						FOR NTPC USE	REVIEWED	BY	AJ	PPROVEI) BY	APPROVAL

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W.r.t INDIGENOUS OEM VENDORS ONLY

SI	Description & Quality Requirements	Specific confirmation by
no		the vendor
		(Confirmed/Not
		Confirmed)
01	OEM vendor shall meet all the requirements as in Annexure-I	
	and also OEM Vendor shall endorse (Signature and Stamp in all the pages) in attached CONTRACT QUALITY	
	REQUIREMENTS (CQR) for LT MOTORS (IE3) Up to 200KW used	
	in Slurry Pumps (DOC.NO: BAP/QR/ G208-G210 & G509-	
	511/NTPC Ramagundam/ LTM/ Slurry Pumps: 001 Rev No.	
	01 dt 17.08.2021) and send us the same to follow / ensure all	
	the requirements in the event of an order.	
02	OEM vendor shall ensure Credentials of design and	
	Manufacturing capabilities w.r.t. LT Motors by their LT	
	Motor manufacture.	
03	OEM Supplier shall submit other details like that they are	
	already approved vendor by Ultimate Customer – NTPC	
	(National Thermal Power Corporation	
	Limited) specifically for proposed supply of LT Motor	
	against BHEL/Ranipet. The details of PO already	
	executed preferably through various other BHEL units for any NTPC projects with CHP/MDCC including technical	
	catalogue, PO received so far for similar supply of LT	
	Motors may also be submitted.	
04	Accordingly OEM vendor shall be suitably informed that	
	If Ultimate Customer – NTPC (National Thermal Power	
	Corporation Limited) vendor approvals is not there /not	
	available, then their offer will not be considered for	
	further processing / ordering for the supply of LT Motors	
	to take care of overall equipment/system requirements.	
05	No material shall be dispatched without BHEL/ Ultimate	
	Customer – NTPC (National Thermal Power Corporation	
	Limited) inspection - CHP/MDCC clearances.	

Annexure-I CONTRACT QUALITY REQUIREMENTS (CQR) for LT MOTORS(IE3) Up to 200KW

(For INDIGENOUS OEM VENDOR ONLY)

NTPO (3 X Z (BHE 511) NTPO CS-3 6845 PACI MAII BHE SUB ADD	C CONTRACT NO: 3120/3130-109(3)-	W) 210 & G509- 9-FC-NOA- GE M) &	CONTRACT QUALITY REQUIREMENTS (CQR) for LT MOTORS(IE3) - Up to 200KW used in Slurry Pumps NTPC Ramagundam Stage I & II Project (3 X 200 MW + 3 X 500 MW) (BHEL W.O no: G208-G210 & G509-511)	DOC.NO: BAP/QR/ G208-G210 & G509-511/NTPC Ramagundam/ LTM/ Slurry Pumps: 001 Rev NO.: 01 PAGE: Page 1 of 6 DATE: 17.08.2021	##Enquiry No: ## OEM Supplier Name & Address: ##Offer reference: ##Date: Contact Official Name: Mobile no: Email id:
SI.	DESCRIPTION	##Specific confirmations			
NO.			Corporation)., India Quality Require	by the vendor	
			ITEM: LT Motors (IE3) Up to		
01	Type Test		nall submit the type test reports of all		
	Requirements		: 01 (D) below and carried out within		
			e NTPC bid opening dt 24.04.2019. T		
			est conducted on the identical/similar to be supplied under this enquiry and		
			n conducted at an independent labora		
			essed by BHEL AIA (BHEL Appoint		
		/ BHEL	(or) Ultimate client NTPC at	1	
			ure of OEM vendor.	respective E1 motor	
			if vendor is not able to submit the s	similar / identical type	
			t as per above condition (or) in the ca		
		equirement, the vendor			
			luct all the tests at no additional cost t		
		BHEL AIA (BHEL			
		* *	d Inspection Agency) / BHEL /Ultin reports for review & approval.	nate client NTPC and	
		ne with NTPC approved data sheet / B			

Annexure-I

CONTRACT QUALITY REQUIREMENTS (CQR) for LT MOTORS(IE3) Up to 200KW

(For INDIGENOUS OEM VENDOR ONLY)

NTP (3 X (BHI 511)	DJECT: C Ramagundam Stage 200 MW + 3 X 500 MV EL W.O no: G208-G	e I & II Project W)	CONTRACT QUALITY REQUIREMENTS (CQR) for LT MOTORS(IE3) - Up to 200KW used in Slurry Pumps	##Enquiry No: ## OEM Supplier Name & Address: ##Offer reference: ##Date:						
PAC MAI BHE SUB ADD	3120/3130-109(3)-5 KAGE: FGD PACKA N CONTRACTOR: L - RANIPET CONTRACTOR (OE DRESS: be filled by OEM	GE M) &	NTPC Ramagundam Stage I & II Project (3 X 200 MW + 3 X 500 MW) (BHEL W.O no: G208-G210 & G509- 511)	DATE: 17.08.2021	Contact Official Name: Mobile no: Email id:					
SI.	DESCRIPTION	BHEL and	d Ultimate Customer - NTPC (Nationa		##Specific confirmations					
NO.			Corporation)., India Quality Require		by the vendor					
	T	T =	ITEM: LT Motors (IE3) Up to							
01	Type Test RequirementContd	following	owing Type test reports to be suit for above 50KW LT Motor as per reandard) - BIS 325 / IEC 60034 etc							
		(if ap	i. Measuring of resistance of winding of stator and wound rotor (if applicable)							
		ii. No le and s iii. Open moto								
		v. Temj vi. Mom	load test to determine efficiency power perature rise test. mentary excess load test	r factor and slip						
		viii. Test ix. Test	voltage test for vibration severity of motor of noise levels of motor (Noise level f e							
			be limited to 85dB(A) except for BF naximum limit shall be 90dB(A).)							

Degree of Protection Tests (Minimum Ingress Protection - IP 55).

Type test reports for motors located in fuel oil area having flame

The TCs / Type Test reports shall also be given as PDF file with index sheet & page control through Email & Soft Copy (File size to

proof enclosures as per BIS 2148/ IEC 60079-1

x.

xi.

xii.

Over speed test

less than 9MB).

Annexure-I CONTRACT QUALITY REQUIREMENTS (CQR) for LT MOTORS(IE3) Up to 200KW

(For INDIGENOUS OEM VENDOR ONLY)

NTP((3 X Z) (BHH 511) NTP(CS6843 PAC: MAII BHE SUB ADD	C CONTRACT NO: 3120/3130-109(3)-	W) 210 & G509- 9-FC-NOA- GE M) &	CONTRACT QUALITY REQUIREMENTS (CQR) for LT MOTORS(IE3) - Up to 200KW used in Slurry Pumps NTPC Ramagundam Stage I & II Project (3 X 200 MW + 3 X 500 MW) (BHEL W.O no: G208-G210 & G509-511)	##Enquiry No: ## OEM Supplier Name & Address: ##Offer reference: ##Date: Contact Official Name: Mobile no: Email id:			
SI. NO.	DESCRIPTION	BHEL and	d Ultimate Customer - NTPC (Nationa Corporation)., India Quality Require		##Specific confirmations by the vendor		
			ITEM: LT Motors (IE3) Up to	200KW			
02	Quality Plan Requirement	2. RQP these Manualtim 3. If any NTP (Refe appli obtai even route 4. Acco subm with & see 5. If LT MQP	or MQP is applicable for these LT /MQP (Manufacturing Quality Plate LT Motors and accordingly ufacture and OEM shall submit ate customer – NTPC format. y of LT Motor manufacture is having a capproved MQP (Manufacturing erence Quality Plan) and having we cable for these LT Motor for in ning ultimate customer NTPC for the of an order through endorsement as in sline: 4 below ordingly, LT Motor Manufacture & the filled up Endorsement shoultimate customer approved MQP, all in the event of a Purchase Order Motor Manufacture / OEM ventary of the submit as a submit as	Motor. In) is applicable for Actual LT Motor the RQP/MQP in g, ultimate customer Quality Plan) / RQP validity, the same is spection subject to mal approval in the lent sheet approval OEM supplier shall leet (copy attached) /RQP with signature from BHEL. Idor does not have a fresh MQP to			
03	BHEL / Ultimate Customer – NTPC approved vendors	attace LT Motors Customer - specific requi KEC CGL SIEN ABB, 200k BBL/ NGE Mara Jyoth	Mumbai (Up to 200KW) F/ Bengaluru (Up to 15KW) Ithon / Kolkatta (Up to 200KW) ni / Vadodara (Up to 200KW) ni Hydralics Private Limited (LHP	following Ultimate o deviation on this li (Up to 90KW) Bengaluru (Up to			

Annexure-I

CONTRACT QUALITY REQUIREMENTS (CQR) for LT MOTORS(IE3) Up to 200KW

(For INDIGENOUS OEM VENDOR ONLY)

PROJECT: CONTRACT OUALITY ##Enquiry No: DOC.NO: NTPC Ramagundam Stage I & II Project REQUIREMENTS (CQR) for BAP/QR/ G208-G210 & (3 X 200 MW + 3 X 500 MW) LT MOTORS(IE3) - Up to 200KW used ## OEM Supplier Name & G509-511/NTPC (BHEL W.O no: G208-G210 & G509in Slurry Pumps Address: LTM/ Ramagundam/ 511) Slurry Pumps: 001 ##Offer reference: **Rev NO.: 01** PAGE: Page 4 of 6 NTPC CONTRACT NO: ##Date: DATE: 17.08.2021 NTPC Ramagundam Stage I & II CS-3120/3130-109(3)-9-FC-NOA-Project **Contact Official Name:** 6845 $(3 \times 200 \text{ MW} + 3 \times 500 \text{ MW})$ Mohile no: (BHEL W.O no: G208-G210 & G509-Fmail id: PACKAGE: FGD PACKAGE 511) MAIN CONTRACTOR: **BHEL - RANIPET** SUB CONTRACTOR (OEM) & ADDRESS: (To be filled by OEM VENDOR) SI. **DESCRIPTION BHEL and Ultimate Customer - NTPC (National Thermal Power** ##Specific confirmations NO. Corporation)., India Quality Requirements by the vendor ITEM: LT Motors (IE3) Up to 200KW 04 Inspection LT Motors up to 30KW – Inspection Categorization: III All Routine tests on LT Motors are to be ensured by OEM Vendor & Methodology to be adopted same are to be inspected & witnessed by OEM Vendor / BHEL / BHEL at Actual LT AIA (BHEL authorized inspection Agency) at LT Motor manufacture Motor works as per approved MQP & approved data sheet / drg / spec/ as per relevant BIS (Bureau of Indian Standard) - BIS 325 / IEC 60034 etc and Manufacture all the Routine Test Reports with Inspection report (IR) to be submitted works by OEM vendor for BHEL/Ultimate Customer - NTPC for review and to obtain inspection and dispatch clearance. LT Motor Manufacturer has to issue COC (Certificate of Conformance) states that the above motor/ motors was manufactured taking care of Customer specific requirements regarding ambient temp., voltage and frequency variation, hot starts, pull out torque, starting KVA/KW, temp. rise, distance between centre of stud and gland plate, space heater and tested in accordance with approved drawing/data sheets. LT Motors (30KW to 50KW) – Inspection Categorization: II All Routine Tests on LT Motors are to be ensured by OEM vendor & witnessed by BHEL/BHEL AIA (BHEL authorized inspection Agency) at LT Motor manufacture works including review of Type Test Reports and 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 / IEC 60034 etc and all the Routine Test Reports with Inspection report (IR) to be submitted for BHEL/Ultimate Customer - NTPC for review and to obtain inspection and dispatch clearance. Above 50KW and up to 200KW – Inspection Categorization: I All Routine & Type Tests if any on LT Motors are to be ensured by OEM Vendor and same shall be offered to BHEL/BHEL AIA (BHEL authorized inspection Agency) / Ultimate Customer-NTPC for inspection & witnessing including review of Degree of Protection Test Reports as per approved MQP /RQP with endorsement sheet / approved data sheet / drg / spec / as per relevant BIS (Bureau of Indian Standard) -BIS 325 / IEC 60034 etc and all the Routine Test Reports, Type test Reports including Degree of protection test report with Inspection report (IR) to be submitted for BHEL/Ultimate Customer - NTPC for review and

to obtain inspection and dispatch clearance.

Annexure-I CONTRACT QUALITY REQUIREMENTS (CQR) for LT MOTORS(IE3) Up to 200KW

(For INDIGENOUS OEM VENDOR ONLY)

NTP((3 X) (BHI 511) NTP(CS-6843 PAC MAI BHE SUB ADD	C CONTRACT NO: 3120/3130-109(3)-	W) 210 & G509- 9-FC-NOA- GE M) &	CONTRACT QUALITY REQUIREMENTS (CQR) for LT MOTORS(IE3) - Up to 200KW used in Slurry Pumps NTPC Ramagundam Stage I & II Project (3 X 200 MW + 3 X 500 MW) (BHEL W.O no: G208-G210 & G509- 511)	##Enquiry No: ## OEM Supplier Name & Address: ##Offer reference: ##Date: Contact Official Name: Mobile no: Email id:							
SI. NO.	DESCRIPTION	BHEL and	d Ultimate Customer - NTPC (Nationa Corporation)., India Quality Require		##Specific confirmations by the vendor						
			ITEM: LT Motors (IE3) Up to	200KW							
04	Inspection Methodology to be adopted at Actual LT Motor Manufacture works by OEM vendor Contd	Customer-NTI works and sub reports includi approved MQI (Bureau of Indi No material sh	AIA (BHEL authorized inspection APC to witness / perform inspection at I mit all the inspection documents and ing Degree of Protection Test Reports P & approved data sheet / drg / spec / dian Standard) - BIS 325 /IEC 60034 mall be dispatched without BHEL / BFTPC Inspection and dispatch clearance								
05	Painting Requirements	of coats if any as per BHEL/	rement like paint shade and painting the are to be ensured by the OEM vendor Ultimate Customer -NTPC approved ec (As applicable).								
06	Packing		be as per Specification / Drg. / Da g if any to avoid any transit & handling								
07	For Inspection call	Motor Manufa / Ultimate Cus be ensured / a +91 9443006. DM (QC-Proc including for resolution.	spection call by OEM Vendor for LT Motor inspection at Actual LT otor Manufacture works to be raised for BHEL/BHEL AIA inspection Ultimate Customer – NTPC including for type test witnessing if any to ensured / addressed to Mr R Kesavan., DGM (QC-Proc)., Mobile no: 91 9443006303., Email id: kesavan@bhel.in and Mr Kovarathanan., M (QC-Proc)., Mobile no: +91 8903502628., Email id: kovak@bhel.in cluding for inspection related activities for immediate response /								
08	Document Package / Dossier	copies + soft c proper linkages (i) Index (ii) MQP (iii) TCs i (Custor as giv (iv) Final (v) BHE BHEI (vi) Ultin CHP (Clears (vii) Type	nation for Document Package in the evopies in PDF file) is to be given contain (.) Sheet //RQP/Endorsement sheet dentified by BHEL/NTPC for record for "omer Hold Point) Verification & Witness on in MQP / RQP / MQP (as applicable). Inspection Report + TC L AIA (BHEL Appointed Inspection Agenta report + TC nate customer NTPC (National Thermal Pocaute Customer Hold Point) / MDCC (Material ance Certificate) test reports conducted/submitted with application and the sheet and BOM with actual makers.								

<u>Annexure-I</u> CONTRACT QUALITY REQUIREMENTS (CQR) for LT MOTORS(IE3) Up to 200KW

(For INDIGENOUS OEM VENDOR ONLY)

(3 X 2 (BHE 511)	PC Ramagundam Stage I & II Project (200 MW + 3 X 500 MW) (EL W.O no: G208-G210 & G509-L) (PC CONTRACT NO: -3120/3130-109(3)-9-FC-NOA-				CONTRACT QUALITY REQUIREMENTS (CQR) LT MOTORS(IE3) - Up to 200K in Slurry Pumps NTPC Ramagundam Stage	Address:	## OEM Supplier Name & Address: ##Offer reference:			
PACKAGE: FGD PACKAGE MAIN CONTRACTOR: BHEL - RANIPET SUB CONTRACTOR (OEM) & ADDRESS: (To be filled by OEM VENDOR)					Project (3 X 200 MW + 3 X 500 M (BHEL W.O no: G208-G210 & 511)	1W)			Contact Offi Mobile no: Email id:	cial Name:
,				·		(2)				
SI. NO.	D	ESCRIPT	ION	BHEL and	I Ultimate Customer - NTPC (Corporation)., India Quality	•		l Power		c confirmations the vendor
					ITEM: LT Motors (IE.	•			-7	
				Cust	omer approved drgs.	<u>3) Op to .</u>	200K W			
09	Im	portant								
10	not	•		Inspection Cate Inspection by M Customer – NT Inspection Cate COC by Main of inspection as in Any cost im witnessing of a BHEL / BHEL Supplier only a	SHEL/BHEL AIA and also by PRQP approved and as in sl not egorization: II Main contractor (BHEL) / BHEPPC approved MQP/RQP & bategorization: III Contractor (BHEL) to Ultimate	EL AIA based on inceed continued to the	er – NTPC tests in Manufactus in the so	Itimate us in sl no:04 C based on Including for are Works by cope of OEM		
10				ish following L7	Γ Motor (upto 200 kW) detail	s for the	Pumps ar	plicable for	this enquiry.	
		PC Rama			ect (3 X 200 MW + 3 X 500 MW -		ect :-	•	1 ,	
		S. No			Pump	D.	ting	LT Motor Quantity	Make	
					Make					
		1		one Slurry Feed Pur						
		3		m Bleed Pump y Hydro-cyclone Fe	ad Tank Dump					
		4		Water Tank Pump	ей тапк ғишр					
		5		lary Hydro-cyclone	Feed Tank Pump					
		6		Water Tank Pump	D					
		7 8		ary Absorbent Tank ency Transfer Pump						
		9		per Area Drain Sum						
		10	Gypsu	m Area Drain Sump	Pump					
		11		one Area Drain Sun						
	12 Other LT motors involved in the system (if any)									

OEM Supplier signature with seal

Necessarily to be filled up & submitted by the OEM vendor at the time of offer itself otherwise the offer may not be considered w.r.t Quality Requirements against LT Motors being BHEL/ ultimate customer - NTPC (National Thermal Power **Corporation Limited) specific requirements.**

ENDORSEMENT SHEET FOR QP REFERENCE / STANDARD / FIELD QUALITY PLAN (RQP / SQP/RFQP/SFQP)

TO BE FILLED IN BY SUPPLIER AT T	IME OF SUBMISSION	एनरीपीसी NTPC	To be filled in by NTPC
PROJECT NAME	NTPC Ramagundam Stage I & II Project (3 X 200 MW + 3 X 500 MW) (BHEL W.O no: G208-G210 & G509-511)	2REVIEW & B	ENDORSEMENT BY NTPC ECIFIC QP NUMBER ALLOTTED
CONTRACT NO.:	CS-3120/3130-109(3)-9-FC-NOA- 6845		
MAIN SUPPLIER	M/S.BHEL, RANIPET , TAMIL NADU., INDIA	QP NO:	
MANUFACTURER WORKS & ADDRESS	(TO BE FILLED BY OEM / LT MOTOR SUPPLIER	REV. NO.: 0	0 DT:
ITEM /EQUIPMENT / SYSTEM/ SUB-SYSTEM DETAILS i.e. MODEL TYPE/SIZE/RATING etc.	LT MOTOR(IE3) - SLURRY PUMPS FOR FGD APPLICATION		
APPROVED QP NO.: RQP/SQP/RFQP/SFQP	(TO BE FILLED BY OEM / LT MOTOR SUPPLIER		
Confirmation by Main Supplier (TICK WHICHE)		(TICK APPLICABI	<u> </u>
I. That the item/ component is identical to that com II. That there are minor changes in the item/ comp the same do not affect the contents of MQP/RQP/S	ponent with respect to that considered for MQP/RQP/SQP approval, however	The MQP/RQA without any ch	
III. That there are minor changes in the item/ com the same affect the MQP/RQP/SQP slightly, as ind	rponent with respect to that considered for MQP/RQP/SQP approval, however licated below / in attached sheet.	as indicated. DISTRIBUTIO A) MQP/RQI 1. MAIN SUPPI MQP/RQP/SQ 2. MANUFACTO 3. RIO 4. CQA-SPL 5. CQA-O/C B) RFQP/SFQ 1. MAIN SUPPI 2. MANUFACTO 3. NTPC FQA (v	LIER (WITH A COPY OF P) URER P: LIER (with a copy of MQP/RQP/SQP
SIGN.: (Main Supplier) DATE:	(TO BE FILLED BY OEM / LT MOTOR SUPPLIER SIGN.: (Manufacturer) DATE:	NTPC (Review	ved /Approved by/ Date & Seal)

OEM SUPPLIER NAME AND ADD WITH OEM (TO BE FILLED F				ITEM: LT MOTOR(IE3) UP TO 200KW FOR FGD APPLICATION SUB-SYSTEM: FGD - SLURRY PUMPS				QP NO MOTO REV.N DATE:	O.: 00	NTPC Ramagundam Stage I & II Project (3 X 200 MW + 3 X 500 MW) (BHEL W.O no: G208-G210 & G509-511) FGD PACKAGE NTPC CONTRACT NO: CS-3120/3130-109(3)-9-FC-NOA- 6845 MAIN CONTRACTOR: BHEL - RANIPET SUB CONTRACTOR (OEM) & ADDRESS: (TO BE FILLED BY OEM SUPPLIER)						
SL. NO	COMPONEN OPERATIO		CHARACTERIS	STICS	CLASS	TYPE OF CHECK		NTUM CHECK		ACCEPTANCE NORMS	FORMAT OF RECORD		AGENCY			REMARKS
					4.	5.	M	C/N 6. 7.		8.			M	C	<u> </u>	<mark>11.</mark>
	1. 2. 3.										9.	D*		* 10.		
		$\overline{}$	<u> </u>	EGEND:	* RECOR	RDS, INDENTI	FIED W	ITH "TICK	C"(√) SHALL BE		DOC. NO.:				REV	CAT
_	I MANUFACTURER MOTOR SUPPLIER SIGNA	MAIN SUPPI ATURE	(BHEL)	ESSENTIALLY INCLUDED BY SUPPLIER IN QA DOCUMENTATION. ** M: OEM MANUFACTURER/LT MOTOR SUB-SUPPLIER C: MAIN SUPPLIER – BHEL/BHEL AIA, N: NTPC P: PERFORM W: WITNESS AND V: VERIFICATION. AS APPROPRIATE, CHP: NTPC SHALL IDENTIFIED IN COLUM "N" AS 'W"						FOR NTPC USE	REVIEWED	BY	AJ	PPROVEI) BY	APPROVAL

एनरीपीसी NTPC