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

BAP: QA-Mech: BONG: AGT: 278

Dt. 21-09-2021

Item Name	Indent No	Indent Dt.	PGMA	Technical Specification
	RFW11365	15.09.2021	FW241	
	RFW11366	15.09.2021	FW241	FGD:AGITATORS, REV:01,DT:09.09.2021
AGITATORS	RFW11367	15.09.2021	FW997	BNGN: AGITATORS: 3K, REV: 00.
(G305-G307)	RFW11368	15.09.2021	FW720	BNGN: FGD-AGITATORS, REV: 00.
	RFW11369	15.09.2021	FW720	TECI: LTMOTOR:REV:05
	RFW11370	15.09.2021	FW997	

QA- Mechanical comments as follows:

- 1. NTPC Approved Vendor and Sub-QR approved vendor by Engg acceptable to Quality also. NTPC Approved vendor list uploaded along with NTPC approved Categorization Plan.
- **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:720/00, DT: 12.02.2019). This MQP is indicative 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 with Vendor may be shared for obtaining faster approval from Customer/Customer Consultant.
- **6.** All the Agitators shall be inspected at supplier works as per approved QP/Approved Drawing/Approved datasheet and Specification.
- 7. 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.
- **8.** Annexure 'Q' and BOI's Details shall be part of enquiry File and shall be filled by Supplier with their duly sign and seal.

9. 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.

sd\- Dy/Mgr-QA Rakesh Kumar Madhu sd\-Mgr/QA K Renjith

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1686	40FT BAIMSHOLL	Marker Name and A	ddress:			ITEM:	AGITATORS	6	PACK		FGD	PACK	AGE	
	77					QP NO): FGD:704, RI	EV:00	CUST MAIN		-D V C.	TOD:		1
Main	contractor					DT: 26	6.10.2020 Pa	age 1 of 4	IVIAIIN	CONT	NAC	IOn.	DITE	L
SL.	COMPONENT &	CHARATERISTICS	CLASS	TYPE OF	QUATL		REFERENCE	ACCEPTANCE	FORMA			AGENO		REMARKS
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1.0	RAW MATERIA	LS INSPECTION												
1.1	Shaft & Blades, rubber composition & other material	Chem. & Mech Properties	Major	Review of MTC	One/ Heat	One/ Heat	Drawing/Da	ta Sheet	TC		Р	V	٧	For shaft Dia ≥ 40mm UT shall
''	including castings &	Dimensions	iviajoi	Measure nt	100%		_ Drawing/Da	ia Oncoi	IR	V	Р	-	-	be done as per ASTM A 388.
	forgings	Surface Defects		Visual	100%	-			IR		Р	-	-	
2.0	Motor			Separat	te MQP fo	or Elect	rical Motor as	applicable.						
3.0	Gear box	Make,Type, Rating,vibration,n oise Review of Routine/Run test Report	Major	Review of manufact ure's test report	100%	100%	Drawing/Da	ta Sheet	TC/ Repo rt	√	Р	V	V	
4.0	IN PROCESS I	NSPECTION												
4.1	Welding Qualifications	WPS,PQR,WPQ	Major	WPS, PQR & WPQ	100%	100%	ASME Sec I	X/AWS D1.1	WPS/ PQR	-	Р	V	V	
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		LEGEND: * RECO												
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MANUFACTURING QUALITY PLAN

468

TIEM: AGITATORS

QP NO: FGD:704, REV:00

Main contractor

DT: 26.10.2020 Page 2 of 4

PROJECT:
PACKAGE: FGD PACKAGE
CUST No:
MAIN CONTRACTOR: BHEL

Main	contractor						DT: 26	6.10.2020 F	Page 2 of 4						_
SL.	COMPONEN	T &	CHARATERISTICS	CLASS	TYPE OF	QUATU		REFERENCE	ACCEPTANCE	FORMA			GENC		REMARKS
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4.2	Marking,cut ,Edge preparation Tacking		Dimensions	Major	Measure ment	100%	-	Appd.Draw	ing	IR		Р	-	-	
4.3	Shaft & Impeller		Visual & Dimension check,face out and run out of shaft (after flange welding)	Major	Measure ment	100%	100%	As per Spe Appd.Draw		IR	V	Р	٧	V	
4.4	Welds		Visual, Dimension	Major	Visual, Measure ment	100%	100%	ASME Sec	-VIII/ AWS D!.1	IR	-	Р	>	٧	
4.5	Weld surfac	ce	Weld soundness	Major	DPT	10%	10%	ASME Sec- Appendix 8	-VIII/AWS D1	IR	V	Р	W	٧	
4.6	Impeller		Balancing	Major	Visual, Measure	100%	10%	ISO 1940- G40/Appd.l	Drg.& Data	TR	√	Р	W	V	

	LEGEND: * RECORDS, INDENTIFIED WITH "TICK" (\(\) UNDER			
	COLUMN 'D'SHALL BE SUBMITTED TO CUSTOMER AS A 'QA' DOCUMENTATION PACKAGE.			
	M: MANUFACTURE/SUB SUPPLIER, C: MAIN CONTRACTOR(BHEL/BHEL AIA), N:NTPC P: PERFORM W:			
	WITNESS AND V: VERIFICATION / REVIEW OF RECORDS,			
	MTC: MATERIAL TEST CERTIFICATE, TC: TEST CERTIFICATE,			
MANUFACTURER SIGN & STAMP	MA: MAJOR, MI:MINOR, COC: CERTIFICATE OF CONFORMANCE, IR: INSPECTION REPORT, TR: TEST REPORT	PREPARED BY	REVIEWED BY	APPROVED BY
	AIA: AUTHORISED INSPECTION AGENCY.			

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	ग्य ई एम			MANUFACT	URING	QUALI7	Y PLAN		PROJ	ECT:				
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	//					QP NO): FGD:704, RI	EV:00	CUST MAIN		BAC	TOR:	RHE	ı
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4.7	Rubber Lining	Thickness of Rubber, Hardness, Spark test, Adhesion Test on Test piece	Major	Measure ment	100%	10%	As per Specs./ Appd. Drg. & data sheet	Appd.Drg.& Data sheet,	TR	√	Р	W	V	
5.0	FINAL INSPECT	TION					•							
5.1	Final Assembly Base Frame, Agitator etc.	Visual- Workmanship, Dimensional,	Major	Visual, Measure ment	100%	10%	Appd.Drg. 8	& Spec,	IR	√	Р	w	V	
5.2	Free Air Run test of Complete assembly.	Current,RPM, Vibration,Noise & Temperature rise	Major	Measure ment	100%	20%		er's procedure/ rawing/Data	IR	V	Р	w	W	*20% of each type(Vertical/H orizontal)
5.3	Painting	Visual,DFT	Major	Paint Shade & DFT measure ment	100%	10%	NTPC Appro	oved Painting	IR	V	Р	W	V	
5.4	Marking	Visual	Major	Visual	100%	10%	Appd.Drawi	ng	IR	√	Р	W	٧	
5.5	Packing	Visual	Major	Visual	100%	100%	Appd.Drawin	g/Specification	COC	-	Р	-	-	
5.6	Review of QA Documents	MQP Compliance	Major	Complian ce Record	100%	100%	Completion documents, as per Appr	Test Report	IR	V	Р	V	V	
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MANUI	FACTURER SIGN & STA	LEGEND: * RECOUNT OF SHALL DOCUMENTATION M: MANUFACTUR CONTRACTOR (BHOWITHESS AND V: MTC: MATERIAL T MA: MAJOR, MI:M CONFORMANCE,	L BE SUBM N PACKAGE E/SUB SUP IEL/BHEL A VERIFICAT EST CERTI INOR, COC	ITTED TO CUST E. PLIER, C: MAIN IA), N:NTPC P: ION / REVIEW C FICATE, TC: TE : CERTIFICATE	PERFORM PERFORE OF RECORE ST CERTIF OF	A 'QA' W: DS, ICATE,	PREPAF	RED BY	REVII	EWED	BY			APPROVED BY

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	SL.	COMPON	IENT &	CHARATERISTICS	CLASS	TYPE OF	QUATU	M OF	REFERENCE	ACCEPTANCE	FORMA	Γ	Α	GENC	Ϋ́	REMARKS
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							M	C/N								
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Notes:

- This QP is applicable for Mandatory spare also.
 All other minor 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.

	LEGEND: * RECORDS, INDENTIFIED WITH "TICK" (√) UNDER			
	COLUMN 'D'SHALL BE SUBMITTED TO CUSTOMER AS A 'QA' DOCUMENTATION PACKAGE.			
	M: MANUFACTURE/SUB SUPPLIER, C: MAIN			
	CONTRACTOR(BHEL/BHEL AIA), N:NTPC P: PERFORM W:			
	WITNESS AND V: VERIFICATION / REVIEW OF RECORDS,			
	MTC: MATERIAL TEST CERTIFICATE, TC: TEST CERTIFICATE,			
MANUFACTURER SIGN & STAMP	MA: MAJOR, MI:MINOR, COC: CERTIFICATE OF CONFORMANCE, IR: INSPECTION REPORT, TR: TEST REPORT	PREPARED BY	REVIEWED BY	APPROVED BY
	AIA: AUTHORISED INSPECTION AGENCY.			

	Annexure Q	
SI.No	Indent No: Enquiry no: BHEL / Customer Requirements	## Specific confirmations by the manufacturer (Acceptable/Not acceptab
	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.	
	(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	

	/BAP-QA_MECH BHEL / Customer Requirements	## Specific confirmations by the manufacturer (Acceptable/Not accept
	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 SI 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 SI 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.	
	Packing / Seaworthy Packing shall be as per BHEL Packing schedule / approved drg / sketch. This shall be ensured to take care transit / 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 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.	
17	## 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:

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

Sl No.	Item/ Sub system Name	Quantity	Sl No.	Item/ Sub system Name	Quantity
01			08		
02			09		
03			10		
04			11		
05			12		
06			13		
07			14		
01	List of Minor items in this Systen	<u> </u>	08) required COC of (<u>JEM</u>
02			09		
03			10		
04			11		
05			12		
06			13		
07			14		
	I (ORIGINAL EQUIPMENT IUFACTURER) SEAL AND SIGN WITH E.	·	, ,		·

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

QA:FGD(M):QR:AB-AGITR:47

21/09/2021

Indent No.

: RFW11365 DTD 15-09-2021; RFW11367 DTD 15-09-2021; RFW11368 DTD 16-

09-2021; RFW11369 DTD 16-09-2021; RFW11370 DTD 16-09-2021

Work Order No.

: G305-345-1-FW241;G306-345-1-FW241;G307-345-1-FW241;G305-901-6-

FW997;G305-385-1-FW720;G305-385-1-FW720;G305-901-6-FW997

Project

: NTPC BONGAIGAON TPP-250MW.

Item

: ABSORBER AGITATOR

Reference: BAP: QA-Mech: BONG: AGT: 278 Dt. 21-09-2021

PAINTING FOR ABSORBER AGITATOR

Painting shall be done as per the following specification.

SURFACE	PRIMER	INTERMEDIATE	FINISH	TOTAL DFT
PREPARATION				
POWER TOOL CLEANING TO St3(SSPC-SP3)	TWO COATS OF HB CHLORINATED RUBBER BASED ZINC PHOSPHATE PRIMER DFT SOMICRON PER COAT(SOLID BY VOLUME MIN 60%)	NIL	TWO COATS OF CHLORINATED RUBBER BASED FINISH PAINT DFT 30MICRON PER COAT(SOLID BY VOLUME MIN 60%);SHADE GRAY SHADE TO R9002	160 micron(MIN)

This is for your information and necessary action at your end please.

ABDUL GHANI[Senior Engineer / QA (Mech)]

W.r.t INDIGENOUS OEM VENDORS

SI no	Description & Quality Requirements	Specific confirmation by 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 (DOC.NO: BAP/QR/G305, G306 & G307/Bongaigaon/Agitator/LTM: 001 Rev.00 dt 23.09.2021) 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 manufacturers.	
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

			IGENOUS OEM V					
PROJECT: NTPC Bongaigaon 3 x 250MW (BHEL W.O no: G305, G306 and G307) NTPC CONTRACT NO: CS-4610-101-2-FC-COA-5066-AMDT-04 for Bongaigaon FGD 3 x 250 MW 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 Agitators NTPC Bongaigaon 3 x 250MW (BHEL W.O no: G305, G306 and G307)	DOC.NO: BAP/QR/G305, G306 & G307/Bongaigaon/ Agitator/LTM: 001 Rev NO.: 00 PAGE: Page 1 of 6 DATE: 23.09.2021	##Enquiry No: ## OEM Supplier Name & Address: ##Offer reference: ##Date: Contact Official Name: Mobile no: Email id:			
SI.	DESCRIPTION	BHEL and	 d Ultimate Customer - NTPC (Nationa		##Specific confirmations			
NO.			Corporation)., India Quality Require	ements	by the vendor			
	ı	ı	ITEM: LT Motors(IE3) Up to	200KW				
01	Type Test Requirements	in SL NO of ultima These rep LT Motor test (s) laboratory Appointed respective B. However, test repor are not fo shall cond party lab Appointed submit the	control (D) below and carried out within the customer NTPC COA Amendment onto should be for the test conducted on the control of the test conducted of the control of the conducted of the	all submit the type test reports of all the type tests as listed 01 (D) below and carried out within 10 years from the date coustomer NTPC COA Amendment 04 dt 11.11.2019. Its should be for the test conducted on the identical/similar to those proposed to be supplied under this enquiry and ther should have been conducted at an independent (or) should have been witnessed by BHEL AIA (BHEL Inspection Agency) / BHEL (or) Ultimate client NTPC at LT Motor Manufacture of OEM vendor. If vendor is not able to submit the similar / identical type as per above condition (or) in the case of type test reports and to be meeting the specification requirement, the vendor at all the tests at no additional cost to BHEL either at third (or) own lab in the presence of BHEL AIA (BHEL Inspection Agency) / BHEL /Ultimate client NTPC and				

Temperature rise test.

High voltage test

Over speed test

Momentary excess load test

Test for vibration severity of motor

the maximum limit shall be 90dB(A).)

proof enclosures as per BIS 2148/ IEC 60079-1

Test of noise levels of motor (Noise level for all the motors

shall be limited to 85dB(A) except for BFP motor for which

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

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

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Annexure-I

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

(For INDICENOUS OFM VENDOD ONLY)

	<u>(</u>	For IND	<u>IGENOUS OEM VI</u>	ENDOR ON	<u>LY)</u>
PROJECT: NTPC Bongaigaon 3 x 250MW (BHEL W.O no: G305, G306 and G307) NTPC CONTRACT NO: CS-4610-101-2-FC-COA-5066-AMDT-04 for Bongaigaon FGD 3 x 250 MW 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 Agitators NTPC Bongaigaon 3 x 250MW (BHEL W.O no: G305, G306 and G307)	DOC.NO: BAP/QR/G305, G306 & G307/Bongaigaon/ Agitator/LTM: 001 Rev NO.: 00 PAGE: Page 2 of 6 DATE: 23.09.2021	##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
	1	T	ITEM: LT Motors(IE3) Up to		
01	Type Test RequirementContd		/ Type Test reports shall also be gi et & page control through Email & SPMB).		
02	Quality Plan Requirement	2. RQP these Manualtim 3. If any NTP (Refeappli obtains)	or MQP is applicable for these LT /MQP (Manufacturing Quality Plate LT Motors and accordingly ufacture and OEM shall submit at ecustomer – NTPC format. Yof LT Motor manufacture is having C approved MQP (Manufacturing erence Quality Plan) and having we cable for these LT Motor for in ning ultimate customer NTPC for t of an order through endorsem	an) 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	

4. Accordingly, LT Motor Manufacture & OEM supplier shall submit the filled up Endorsement sheet (copy attached) with ultimate customer approved MQP/RQP with signature

5. If LT Motor Manufacture / OEM vendor does not have MQP/RQP, they should submit a fresh MQP to BHEL/NTPC (in NTPC format) for review & approval. (copy

& seal in the event of a Purchase Order from BHEL.

route as in sl no: 4 below

attached).

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

(For INDIGENOUS OEM VENDOR ONLY)

PROJECT: NTPC Bongaigaon 3 x 250MW (BHEL W.O no: G305, G306 and G307) NTPC CONTRACT NO: CS-4610-101-2-FC-COA-5066-AMDT-04 for Bongaigaon FGD 3 x 250 MW 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 Agitators NTPC Bongaigaon 3 x 250MW (BHEL W.O no: G305, G306 and G307)	DOC.NO: BAP/QR/G305, G306 & G307/Bongaigaon/ Agitator/LTM: 001 Rev NO.: 00 PAGE: Page 3 of 6 DATE: 23.09.2021	##Enquiry No: ## OEM Supplier Name & Address: ##Offer reference: ##Date: Contact Official Name: Mobile no: Email id:
SI.	DESCRIPTION	BHEL and	d Ultimate Customer - NTPC (National		##Specific confirmations
NO.			Corporation)., India Quality Require		by the vendor
0.0		1	ITEM: LT Motors(IE3) Up to		Т
03	BHEL / Ultimate Customer – NTPC approved vendors	Customer - specific requi KEC CGL SIEM ABB, 200k BBL/ NGE Mara Mara Jyoth Laxir 200k HEM	Mumbai (Up to 200KW) F/ Bengaluru (Up to 15KW) Ithon / Kolkatta (Up to 200KW) Ithon / Kolkatta (Up to 200KW) Ithon / Vadodara (Up to 200KW) Ithorial Hydralics Private Limited (LHF INTERIOR (W) Industries, Daman (upto 30 Kw)		
04	Inspection Methodology to be adopted at Actual LT Motor Manufacture works by OEM vendor	All Routine te same are to be AIA (BHEL a works as per a relevant BIS (all the Routine for BHEL/Ulti and dispatch c LT Motor Marstates that the Customer spec frequency vari	ests on LT Motors are to be ensured by inspected & witnessed by OEM Venduthorized inspection Agency) at LT Mattheward proved MQP & approved data sheet Bureau of Indian Standard) - BIS 325 at Test Reports with Inspection report (mate Customer – NTPC for review an learance. Insufacturer has to issue COC(Certificate above motor/ motors was manufactured affice requirements regarding ambient to active and cannot plate the state of studying along plate.	y OEM Vendor & dor / BHEL / BHEL / Motor manufacture / drg / spec/ as per / IEC 60034 etc and IR) to be submitted and to obtain inspection the of Conformance) ed taking care of emp., voltage and g KVA/KW, temp.	

rise, distance between cantre of stud and gland plate, space heater and

tested in accordance with approved drawing/data sheets

Annexure-1

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

	CONTRACT QUALITY REQUIREMENTS (CQR) for LT MOTORS(IE3) Up to 200KW									
	(For INDIGENOUS OEM VENDOR ONLY)									
PROJECT: NTPC Bongaigaon 3 x 250MW (BHEL W.O no: G305, G306 and G307) NTPC CONTRACT NO: CS-4610-101-2-FC-COA-5066-AMDT-04 for Bongaigaon FGD 3 x 250 MW 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 Agitators NTPC Bongaigaon 3 x 250MW (BHEL W.O no: G305, G306 and G307)	DOC.NO: BAP/QR/G305, G306 & G307/Bongaigaon/ Agitator/LTM: 001 Rev NO.: 00 PAGE: Page 4 of 6 DATE: 23,09,2021	##Enquiry No: ## OEM Supplier Name & Address: ##Offer reference: ##Date: Contact Official Name: Mobile no: Email id:					
SI.	DESCRIPTION	BHEL and	d Ultimate Customer - NTPC (Nationa		##Specific confirmations					
NO.			Corporation)., India Quality Require	ements	by the vendor					
			ITEM: LT Motors(IE3) Up to 2	200KW						
04	Inspection	LT Motors (3	0KW to 50KW) – Inspection Categor							
	Methodology		······································							
	to be adopted	All Routine T	ests on LT Motors are to be ensur							
	at Actual LT	& witnessed	by BHEL/BHEL AIA (BHEL author							
	Motor		T Motor manufacture works includ							
	Manufacture		and Degree of Protection Test Rep							
	works by OEM		QP & approved data sheet/drg/spec							
	vendor		of Indian Standard) - BIS 325 / IEC							
	Contd		est Reports with Inspection report (IR)							
			te Customer – NTPC for review and to	o obtain inspection						
		and dispatch c		~						
		Above 50KV	V and up to 200KW – Inspection (Categorization: 1						
All Routine & Type Tests if any on LT Motors are to be ensured by O 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 to obtain inspection and dispatch clearance. BHEL/BHEL AIA (BHEL authorized inspection Agency)) / Ultim										
ł			FDC to without / northware increasing							

Customer-NTPC 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 /

No material shall be dispatched without BHEL / BHEL AIA and Ultimate Customer – NTPC Inspection and dispatch clearance.

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

Packing shall be as per Specification / Drg. / Data sheet including sea

worthy packing if any to avoid any transit & handling damages.

as per BHEL/ Ultimate Customer -NTPC approved data

sheet/drg/spec (As applicable).

IEC 60034 etc.

05

06

Painting

Packing

Requirements

Annexure-I

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

(For INDIGENOUS OEM VENDOR ONLY)

PROJECT: NTPC Bongaigaon 3 x 250MW (BHEL W.O no: G305, G306 and G307) NTPC CONTRACT NO: CS-4610-101-2-FC-COA-5066-AMDT-04 for Bongaigaon FGD 3 x 250 MW 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 Agitators NTPC Bongaigaon 3 x 250MW (BHEL W.O no: G305, G306 and G307)	DOC.NO: BAP/QR/G305, G306 & G307/Bongaigaon/ Agitator/LTM: 001 Rev NO.: 00 PAGE: Page 5 of 6 DATE: 23.09.2021	##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
L			ITEM: LT Motors(IE3) Up to		,
07	For Inspection call				
08	Document Package /	hard copies +	rmation for Document Package in the soft copies in PDf file) is to be		
08	Dossier Document Package / Dossiercontd	(i) Inde (ii) MQI (iii) TCs (Cus as g (iv) Fina (v) BHE BHI (vi) Ultir CHA Clea (vii) Type appi	a proper linkages (.) x Sheet P/RQP/Endorsement sheet identified by BHEL/NTPC for record stomer Hold Point) Verification & Wir iven in MQP / RQP / MQP (as applical Inspection Report + TC IL AIA (BHEL Appointed Inspection of EL report + TC mate customer NTPC (National Therm P (Customer Hold Point) / MDCC (Matrance Certificate) test reports conducted/submitted with oved data sheet and BOM with actual comer approved drgs.	tness "W" portion ble). Agency) / al Power Corporation) terial Dispatch approval with	
09	Important notes	Inspection Cat Inspection by I based on MQP Inspection Cat Inspection by I Customer – NT Inspection Cat COC by Main inspection as in Any cost in witnessing of BHEL / BHEI Supplier only			

472233/2021/BAP-QA MECH

Annexure-I

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

(For INDIGENOUS OEM VENDOR ONLY)

PROJECT: NTPC Bongaigaon 3 x 250MW (BHEL W.O no: G305, G306 and G307) NTPC CONTRACT NO: CS-4610-101-2-FC-COA-5066-AMDT-04 for Bongaigaon FGD 3 x 250 MW 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 Agitators NTPC Bongaigaon 3 x 250MW (BHEL W.O no: G305, G306 and G307)	DOC.NO: BAP/QR/G305, G306 & G307/Bongaigaon/ Agitator/LTM: 001 Rev NO.: 00 PAGE: Page 6 of 6 DATE: 23.09.2021	##Enquiry No: ## OEM Supplier Name & Address: ##Offer reference: ##Date: Contact Official Name: Mobile no: Email id:
SI. DESCRIPTION BHEL an			d Ultimate Customer - NTPC (National Corporation)., India Quality Requir		##Specific confirmations by the vendor
			ITEM: LT Motors(IE3) Up to	200KW	
10 Motor		order and also	during execution of the contract.		

tor d	etails			
	nall furnish following Motor details involved in Agitators	(as applicable	e) for this end	quiry.
	gaigaon 3 x 250 MW – FGD Project:-	I		
S. No	Agitators		LT Motor	
		Rating (in kW)	Quantity (in nos)	Make
1	Absorber Tank Agitator Motor			
2	Auxiliary Absorber Tank Agitator Motor			
3	Filtrate Water Tank Agitator Motor			
4	Secondary Hydrocyclone Feed Tank Agitator Motor			
5	Waste Water Tank Agitator Motor			
6	Limestone Slurry Storage Tank Agitator Motor			
7	Primary Hydrocyclone Feed Tank Agitator Motor			
8	Absorber Area Drain Sump Agitator Motor			
9	Gypsum Area Drain Sump Agitator Motor			
10	Limestone Area Drain Sump Agitator Motor			
11	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 Bongaigaon 3 x 250 MW FGD Project (BHEL W.O no: G305, G306 and G307)	2REVIEW & I	ENDORSEMENT BY NTPC ECIFIC QP NUMBER ALLOTTED
CONTRACT NO.:	CS-4610-101-2-FC-COA-5066-AMDT-04 for Bongaigaon FGD (3 x 250MW)		20110 (2 1/01/2211112201122
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) – AGITATORS FOR FGD APPLICATION		
APPROVED QP NO.: RQP/SQP/RFQP/SFQP	(TO BE FILLED BY OEM / LT MOTOR SUPPLIER		
Confirmation by Main Supplier (TICK WHICHE	VER APPLICABLE)	(TICK APPLICAB	LE)
I. That the item/ component is identical to that con	v ~ 11	The MQP/RQ without any cl	~
the same do not affect the contents of MQP/RQP/		without any ci	lange
III. That there are minor changes in the item/ con the same affect the MQP/RQP/SQP slightly, as inc	nponent with respect to that considered for MQP/RQP/SQP approval, however dicated below / in attached sheet.	as indicated. DISTRIBUTIO A) MQP/RQP 1. MAIN SUPPI MQP/RQP/SQ 2. MANUFACT 3. RIO 4. CQA-SPL 5. CQA-O/C B) RFQP/SFQ 1. MAIN SUPPI 2. MANUFACT 3. NTPC FQA (1)	LIER (WITH A COPY OF P) URER P: LIER (with a copy of MQP/RQP/SQP
	(TO BE FILLED BY OEM / LT MOTOR SUPPLIER	NTPC (Review	ved /Approved by/ Date & Seal)
SIGN.: (Main Supplier) DATE:	SIGN.: (Manufacturer) DATE:	. = (=== : 20)	E E

(TO	EM SUPPLIER WITH OEM	NAME ANI (TO BE FII	RMANUFACTURER'S DADDRESS LED BY OEM / R MANUFACTURE)	ITEM: LT MOTOR(IE3) UP TO 200KW FOR FGD APPLICATION SUB-SYSTEM: FGD – AGITATORS		MAINOPACTORITY WAIN CONTRACTOR: BHEL W.O no: G305, G306 at FGD PACKAGE		EM: LT MOTOR(IE3) UP D 200KW FOR FGD PLICATION PLICATION PAGE: OF GITATORS O 200KW FGD PACKAGE MOTOR:001		QP NO.: AGITATORS: LT (BHEL W.O no: G305, G306 at FGD PACKAGE			FGD PACKAGE NTPC CONTRAC CS-4610-101-2-FC-C FGD (3 x 250 MW MAIN CONTRAC SUB CONTRACT		and G30 1DT-04 f EL - RA & ADD	or Bongaigaon NIPET ORESS:
SL. NO	COMPONENT OPERATION		CHARACTERISTI	CS CLASS	TYPE OF CHECK		NTUM HECK C/N	REFERENCE DOCUMENT	ACCEPTANC NORMS	E FORMA RECO			GENC		REMARKS	
1.	2.		3.	4.	5.		6.	<mark>7.</mark>	8.	9 <u>.</u>	D*	M *	C ** 10	N 0.	11.	
			ESSE **]	GEND: * RECO ENTIALLY INCLUI M: OEM MANUFA	DED BY SUPPL CTURER/LT M	LIER IN Q IOTOR S	A DOCU UB-SUPP	MENTATION.		DOC. NO.:				REV	CAT	
	MANUFACTURER/ OTOR SUPPLIER SIGNA	SUPPL	(BHEL) P: PI	IAIN SUPPLIER – I ERFORM W: WIT : NTPC SHALL ID	NESS AND V	: VERIFIC	CATION.	AS APPROPRIATE, W"	FOR NTPC USE	REVIEWED	BY	A	PPROV	VED BY	APPROVAL	

SIGNATURE CSE REVIEWED BY APPROVED BY SEAL
FORMAT NO.: QS-01-QAI-P-09/F1-R1 1/1
ENGG. DIV./QA&I



W.r.t FOREIGN OEM VENDORS

SI no	Description & Quality Requirements	Specific confirmation by 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 (DOC.NO: BAP/QR/G305, G306 & G307/Bongaigaon/Agitator/LTM: 002 Rev.00 dt 23.09.2021) 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 manufacturers.	
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.	

472239/2021/BAP-QA MECH

Annexure-II

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

(For FOREIGN (OUTSIDE INDIA) OEM VENDOR ONLY)

NTP (BHI NTP CS-4 for E PAC MAI BHE SUB ADD	DJECT: C Bongaigaon 3 x 250l EL W.O no: G305, G30 C CONTRACT NO: 610-101-2-FC-COA-50 Gongaigaon FGD 3 x 25 KAGE: FGD PACKA N CONTRACTOR: CL - RANIPET CONTRACTOR (OE DRESS: be filled by OEM	06 and G307) 066-AMDT-04 00 MW GE	CONTRACT QUALITY REQUIREMENTS (CQR) for LT MOTORS(IE3) - Up to 200KW used in Agitator NTPC Bongaigaon 3 x 250MW (BHEL W.O no: G305, G306 and G307)	DOC.NO: BAP/QR/G305, G306 & G307/Bongaigaon/ Agitator/LTM: 002 Rev NO.: 00 PAGE: Page 1 of 6 DATE: 23.09.2021	##Enquiry No: ## OEM Supplier Name & Address: ##Offer reference: ##Date: Contact Official Name: Mobile no: Email id:
SI.	DESCRIPTION	BHEL a	nd Ultimate Customer - NTPC (Nation	 nal Thermal Power	##Specific
NO.			Corporation)., India Quality Requi	irements	confirmations by the
					vendor
	T	1	ITEM: LT Motors(IE3) - Up to hall submit the type test reports of all		
01	Type Test Requirements				
		B. However, report as are not acceptably vendor she either at a lab in the / BHEL Ultimate			

Type Test reports review and approval by BHEL AIA (BHEL Appointed Inspection Agency) / BHEL / Ultimate client NTPC is must in line with NTPC approved data sheet / BOM (Bill of Material) /GA

(General Arrangement) Drawing etc.

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

(For FOREIGN (OUTSIDE INDIA) OEM VENDOR ONLY)

NTPC (BHI NTPC CS-4 for B PAC MAI BHE SUB ADD	JECT: C Bongaigaon 3 x 250M EL W.O no: G305, G30 C CONTRACT NO: 610-101-2-FC-COA-50 Gongaigaon FGD 3 x 25 KAGE: FGD PACKAN N CONTRACTOR: L - RANIPET CONTRACTOR (OED RESS: be filled by OEM	06 and G307) 066-AMDT-04 60 MW GE M) &	CONTRACT QUALITY REQUIREMENTS (CQR) for LT MOTORS(IE3) - Up to 200KW used in Agitator NTPC Bongaigaon 3 x 250MW (BHEL W.O no: G305, G306 and G307)	##Enquiry No: ## OEM Supplier Name & Address: ##Offer reference: ##Date: Contact Official Name: Mobile no: Email id:	
SI.	DESCRIPTION	BHEL a	nd Ultimate Customer - NTPC (Nation		##Specific
NO.			Corporation)., India Quality Requ	irements	confirmations by the
			ITEM: LT Motors(IE3) - Up to	200KW	vendor
01	Type Test	D The follow	wing Type test reports to be submitted		
01	Requirement		e 50KW LT Motor as per relevant		
	(Contd)		- BIS 325 / IEC 60034 etc	213 (Bareau or maian	
			suring of resistance of winding of	stator and wound rotor	
			plicable)		
			oad test at rated voltage to determine	input current, power and	
		speed	1. circuit voltage ratio of wound rotor		
		iii. Open	•		
			oad test to determine efficiency power	r factor and slip	
			perature rise test.		
			entary excess /over load test		
			voltage test		
			for vibration severity of motor		
			of noise levels of motor (Noise level f		
			mited to 85dB(A) except for BFP mo		
			mum limit shall be 90dB(A).) speed test		
			ee of Protection Tests (Minimum Ingra		
		_	test reports for motors located in fuel		
			enclosures as per BIS 2148/ IEC 600		
			Test reports shall also be given as PD		
		page cont	rol through Email & Soft Copy (File s		
02	Quality Plan		anufacturing Quality Plan) is applicabl		
	Requirement		dingly Actual LT Motor Manufacture		
			sustomer – NTPC format for review ar Customer - NTPC.		
		Citimate	Customer 1111 C.		
		b. If any of I	LT Motor manufacture is having, ultin		
			MQP (Manufacturing Quality Plan) a		
		same is ap	oplicable for these LT Motor for inspe		
			ultimate customer NTPC formal appre		
		order thro	ough endorsement sheet approval route	as in sl no: 01 (c) below	
	I				1

Annexure-II

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

(For FOREIGN (OUTSIDE INDIA) OEM VENDOR ONLY)

NTPC (BHE NTPC CS-44 for B PAC! MAII BHE SUB ADD	JECT: C Bongaigaon 3 x 250M CL W.O no: G305, G30 C CONTRACT NO: 610-101-2-FC-COA-50 ongaigaon FGD 3 x 25 KAGE: FGD PACKAO N CONTRACTOR: L - RANIPET CONTRACTOR (OEI RESS: be filled by OEM	06 and G307) 066-AMDT-04 0 MW GE M) & VENDOR)	CONTRACT QUALITY REQUIREMENTS (CQR) for LT MOTORS(IE3) - Up to 200KW used in Agitator NTPC Bongaigaon 3 x 250MW (BHEL W.O no: G305, G306 and G307)	##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
		<u> </u>	ITEM: LT Motors(IE3) - Up to	200KW	VEHIOU
02	Quality Plan Requirement contd	d. If LT Moshould sureview &	gly, LT Motor Manufacture & OEM su Endorsement sheet (copy attached) with MQP with signature & seal in the even EL for BHEL/Ultimate Customer – NT otor Manufacture / OEM vendor do abmit a fresh MQP to BHEL/NTPC approval. (copy attached).	applier shall submit the h ultimate customer int of an Purchase Order PC review and approval. Des not have MQP, they C (in NTPC format) for	
		and it is n	ndicative MQP is attached for inf and of ot final and binding on BHEL / Ultima		
03	Inspection Methodology to be adopted at Actual LT Motor Manufacture	inspection MQP & a	Motors are to be inspected by BHEL 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	
	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 etc -NTPC	e works as per approved relevant BIS (Bureau of	
		NTPC w Degree of	A (BHEL authorized inspection Agendals also ensure LT Motor type tests Protection Test Reports & acceptance data sheet / drg / spec / as per relevals BIS 325 / IEC 60034 etc.		
		Customer- works and reports ind approved	IA (BHEL authorized inspection -NTPC to witness / perform inspection submit all the inspection documents cluding Degree of Protection Test Rep MQP & approved data sheet / drg / s f Indian Standard) - BIS 325 / IEC 60		

Annexure-II

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

'or FOREIGN (OUTSIDE INDIA) OEM VENDOR ONLY) PROJECT: CONTRACT QUALITY ##Enquiry No: DOC.NO: REOUIREMENTS (CQR) for NTPC Bongaigaon 3 x 250MW BAP/OR/G305, G306 (BHEL W.O no: G305, G306 and G307) LT MOTORS(IE3) - Up to 200KW used ## OEM Supplier Name & G307/Bongaigaon/ Address: Agitator/LTM: 002 NTPC CONTRACT NO: **Agitator** CS-4610-101-2-FC-COA-5066-AMDT-04 Rev NO.: 00 ##Offer reference: PAGE: Page 4 of 6 for Bongaigaon FGD 3 x 250 MW DATE: 23.09.2021 ##Date: PACKAGE: FGD PACKAGE NTPC Bongaigaon 3 x 250MW MAIN CONTRACTOR: (BHEL W.O no: G305, G306 and Contact Official Name: **BHEL - RANIPET** Mobile no: SUB CONTRACTOR (OEM) & Fmail id: ADDRESS: (To be filled by OEM VENDOR) **DESCRIPTION BHEL and Ultimate Customer - NTPC (National Thermal Power** ##Specific SI. NO. Corporation)., India Quality Requirements confirmations by the vendor ITEM: LT Motors(IE3) - Up to 200KW LT Motors up to 30KW – Inspection Categorization: III 03 Inspection All Routine tests on LT Motors are to be ensured by OEM Vendor & same Methodology are to be inspected & witnessed by OEM Vendor / BHEL / BHEL AIA to be adopted at Actual LT (BHEL authorized inspection Agency) at LT Motor manufacture works as Motor per approved MOP & approved data sheet /drg / spec/ as per relevant BIS Manufacture (Bureau of Indian Standard) - BIS 325 / IEC 60034 etc and all the Routine works by OEM Test Reports with Inspection report (IR) to be submitted for BHEL/Ultimate vendor...contd 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 cantre 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 & same are to be inspected & 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 at Actual LT Motor Manufacture Works and same shall be offered to BHEL/ BHEL AIA (BHEL authorized inspection Agency) / Customer-NTPC for inspection & witnessing including review of Degree of Protection Test Reports as per approved MQP /RQP (Reference Quality Plan with endorsement sheet approved) / 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 review and to obtain inspection and dispatch clearance.

04

05

06

07

Painting Requirements

Packing

call

For Inspection

Document Package /

Dossier

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

NTP (BHI NTP CS-4 for B PAC MAI BHE SUB ADD	JECT: C Bongaigaon 3 x 250M EL W.O no: G305, G30 C CONTRACT NO: 610-101-2-FC-COA-50 ongaigaon FGD 3 x 25 KAGE: FGD PACKAON CONTRACTOR: L - RANIPET CONTRACTOR (OEI RESS: be filled by OEM	AW 16 and G307) 166-AMDT-04 0 MW GE	CONTRACT QUALITY REQUIREMENTS (CQR) for LT MOTORS(IE3) - Up to 200KW used in Agitator NTPC Bongaigaon 3 x 250MW (BHEL W.O no: G305, G306 and G307)	DOC.NO: BAP/QR/G305, G306 & G307/Bongaigaon/ Agitator/LTM: 002 Rev NO.: 00 PAGE: Page 5 of 6 DATE: 23.09.2021	##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 (Natior Corporation)., India Quality Requi	##Specific confirmations by the vendor	
			ITEM: LT Motors(IE3) - Up to	200KW	
3	Inspection Methodology to be adopted at Actual LT Motor Manufacture works by OEM vendorcontd				

Ultimate Customer – NTPC Inspection and dispatch clearance.

packing if any to avoid any transit & handling damages

Motor Manufacture works to be raised for

MQP/RQP/Endorsement sheet

Final Inspection Report + TC

BHEL report + TC

Clearance Certificate)

for immediate response / resolution.

Index Sheet

proper linkages (.)

(i)

(ii) (iii)

(iv)

(v)

(vi)

Painting requirement like paint shade and painting thickness including no of

Packing shall be as per Specification / Drg. / Data sheet including sea worthy

Inspection call by OEM Vendor for LT Motor inspection at Actual LT

inspection / Ultimate Customer - NTPC including for type test witnessing if any 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: 9443149691., Email id: zeeshan@bhel.in including for inspection related activities

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 following with

TCs identified by BHEL/NTPC for record for "CHP" (Customer Hold Point) Verification & Witness "W" portion

BHEL AIA (BHEL Appointed Inspection Agency) /

Ultimate customer NTPC (National Thermal Power Corporation) CHP (Customer Hold Point) / MDCC (Material Dispatch

as given in MQP / RQP / MQP (as applicable).

BHEL/BHEL AIA

coats if any are to be ensured by the OEM vendor for these LT Motors as per BHEL/ Ultimate Customer -NTPC approved data sheet/drg/spec (As

Annexure-II

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

(For FOREIGN (OUTSIDE INDIA) OEM VENDOR ONLY)

	JECT:	:			CONTRACT QUALITY	DOC.N	D:	##Enc	uiry No:					
		gaigaon 3			REQUIREMENTS (CQR) for	DAD(O)	R/G305, G306	&	· ·					
рпг	LL W.C	O no: G3	05, G30	6 and G307)	LT MOTORS(IE3) - Up to 200KW us in	G307/B	ongaigaon/	## OE Addre	M Supplier Name &					
		NTRACT			Agitator	_	r/LTM: 002	Addre						
)1-2-FC-(gaon FGI		66-AMDT-04 0 MW			Page 6 of 6	##Off	er reference:					
PAC	KAGE	E: FGD P	ACKAC	GE.	NTPC Bongaigaon 3 x 250MW	DATE:	23.09.2021	##Dat	e:					
		NTRACT		3E	(BHEL W.O no: G305, G306 and	Conto	ct Official Name:							
		NIPET	D (OE)	ur. 0	G307)	Mobil								
	CONT RESS:	ΓRACTO :	K (OEI	VI) &				Email						
			OEM '	VENDOR)										
					nd Illtimata Customan NTDC (No	tional Thous	mal Dawer		##Cpocific					
il.	DE	SCRIPTI	ION	RHELA	nd Ultimate Customer - NTPC (Na Corporation)., India Quality Re			con	##Specific firmations by the					
Ο.					Corporation)., india Quality Re	quirement	•	Con	vendor					
					ITEM. IT Motorg(IE2) II	n to 200KW	7		venuor					
7	Dog	umont		(vii) Type	<u>ITEM: LT Motors(IE3) - U</u> e test reports conducted/submitted									
, ,		cument kage /			oved data sheet and BOM with a									
		sierc	ontd	1.1	tomer approved drgs.	ruui make t	isca witti							
)8		ortant		Inspection Cat										
	note			•										
					BHEL/BHEL AIA and also by Ultim approved and as in sl no:03	ate Custome	r – NTPC based	l						
				Inspection Cat	egorization: II									
					Main contractor (BHEL) / BHEL AI FPC approved MQP/RQP & based (
				Customer 117	are approved in granger to bused to	л торестог	us III si IIo.							
				Inspection Cat	agarization, III									
l l				mspection Cat	egorization: 111									
						NICED	G1 1							
					contractor (BHEL) to Ultimate Cust	omer – NTP	C based on							
				COC by Main inspection as in	contractor (BHEL) to Ultimate Cust is l no:03	ts including	for witnessing							
				COC by Main inspection as in Any cost implant of the test	contractor (BHEL) to Ultimate Cust is I no:03 ication for conducting checks / tes ts at Actual LT Motor Manufactu	ts including re Works b	for witnessing y BHEL / BHI	EL						
				COC by Main inspection as in Any cost imples any of the test AIA / Ultimate	contractor (BHEL) to Ultimate Cust is sl no:03 ication for conducting checks / tes ts at Actual LT Motor Manufactu e Customer – NTPC is in the scop	ts including re Works b	for witnessing y BHEL / BHI Supplier only a	EL nd						
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09		tor deta		COC by Main inspection as in Any cost imples any of the test AIA / Ultimate no extra cost is execution of the	contractor (BHEL) to Ultimate Cust is in sl no:03 ication for conducting checks / test at Actual LT Motor Manufacture Customer – NTPC is in the scop f any will be admissible in the even the contract.	ts including re Works b be of OEM S nt of an orde	for witnessing y BHEL / BHI Supplier only a er and also duri	EL nd ng						
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99	Ven	C Bongar S. No	Absor Auxil Filtrat Secon Waste	COC by Main inspection as in Any cost implement any of the test AIA / Ultimate no extra cost is execution of the execution of	contractor (BHEL) to Ultimate Cust in sl no:03 ication for conducting checks / tes its at Actual LT Motor Manufacture ic Customer – NTPC is in the scop if any will be admissible in the eve in contract. Into details involved in Agitators (Project:- Agitators Into Motor I ank Agitator Motor Agitator Motor I lone Feed Tank Agitator Motor I gitator Motor I gitator Motor	ts including re Works b be of OEM 3 nt of an orde as applicabl Rating	for witnessing y BHEL / BHI Supplier only a er and also duri e) for this enqu LT Motor Quantity	EL nd ng niry.						
99	Ven	C Bongar S. No	Absor Auxil Filtrar Secon Waste Limes	COC by Main inspection as in Any cost implement of the test AIA / Ultimate no extra cost is execution of the	contractor (BHEL) to Ultimate Cust in sl no:03 ication for conducting checks / tes its at Actual LT Motor Manufacture ic Customer – NTPC is in the scop if any will be admissible in the eve in contract. Iotor details involved in Agitators (Project:- Agitators Interpolation Motor In Agitator Motor In Feed Tank Agitator Motor Ingitator Motor Ingit	ts including re Works b be of OEM 3 nt of an orde as applicabl Rating	for witnessing y BHEL / BHI Supplier only a er and also duri e) for this enqu LT Motor Quantity	EL nd ng niry.						
09	Ven	C Bongar S. No 1 2 3 4 5 6	Absor Auxil Filtrat Secon Waste Limes	COC by Main inspection as in Any cost implement of the test AIA / Ultimate no extra cost in execution of the	contractor (BHEL) to Ultimate Cust in sl no:03 ication for conducting checks / tes ts at Actual LT Motor Manufactu ice Customer – NTPC is in the scop f any will be admissible in the eve ine contract. Iotor details involved in Agitators (Project:- Agitators Intermediate Motor Cank Agitator Motor Cank Agitator Motor Ione Feed Tank Agitator Motor Ionage Tank Agitator Motor Ione Feed Tank Agitator Motor	ts including re Works b be of OEM 3 nt of an orde as applicabl Rating	for witnessing y BHEL / BHI Supplier only a er and also duri e) for this enqu LT Motor Quantity	EL nd ng niry.						
09	Ven	Ador sha C Bongar S. No	Absor Auxil Filtrat Secon Waste Limes Prima	COC by Main inspection as in Any cost imple any of the test AIA / Ultimat no extra cost if execution of the	contractor (BHEL) to Ultimate Cust in sl no:03 ication for conducting checks / test ts at Actual LT Motor Manufacture e Customer – NTPC is in the scop f any will be admissible in the even he contract. Iotor details involved in Agitators (Project:- Agitators Intermediate Motor Cank Agitator Motor Cank Agitator Motor Ione Feed Tank Agitator Motor orage Tank Agitator Motor he Feed Tank Agitator Motor Sump Agitator Motor Sump Agitator Motor	ts including re Works b be of OEM 3 nt of an orde as applicabl Rating	for witnessing y BHEL / BHI Supplier only a er and also duri e) for this enqu LT Motor Quantity	EL nd ng niry.						
09	Ven	Address	Absor Auxil Filtrat Secon Waste Limes Prima Absor Gypsi	COC by Main inspection as in Any cost implement of the test AIA / Ultimate no extra cost is execution of the	contractor (BHEL) to Ultimate Cust in sl no:03 ication for conducting checks / tes ts at Actual LT Motor Manufactu ice Customer – NTPC is in the scop f any will be admissible in the eve ine contract. Iotor details involved in Agitators (Project:- Agitators Intermediate Motor Cank Agitator Motor Cank Agitator Motor Ione Feed Tank Agitator Motor Ionage Tank Agitator Motor Ione Feed Tank Agitator Motor	ts including re Works b be of OEM 3 nt of an orde as applicabl Rating	for witnessing y BHEL / BHI Supplier only a er and also duri e) for this enqu LT Motor Quantity	EL nd ng niry.						

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)

		T (===	
TO BE FILLED IN BY SUPPLIER AT T	TIME OF SUBMISSION	(एनश्चेपीसी NTPC	To be filled in by NTPC
PROJECT NAME	NTPC Bongaigaon 3 x 250 MW FGD Project (BHEL W.O no: G305, G306 and G307)		ENDORSEMENT BY NTPC PECIFIC QP NUMBER ALLOTTED
CONTRACT NO.:	CS-4610-101-2-FC-COA-5066-AMDT-04 for Bongaigaon FGD (3 x 250MW)		The state of the s
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) – AGITATORS FOR FGD APPLICATION		
APPROVED QP NO.: RQP/SQP/RFQP/SFQP	(TO BE FILLED BY OEM / LT MOTOR SUPPLIER		
Confirmation by Main Supplier (TICK WHICHE	VER APPLICABLE)	(TICK APPLICA	
I. That the item/ component is identical to that con	· ~ · · ·	The MQP/RQ without any o	
II. That there are minor changes in the item/ com the same do not affect the contents of MQP/RQP/	sponent with respect to that considered for MQP/RQP/SQP approval, however SQP	without any c	change
III. That there are minor changes in the item/ continue the same affect the MQP/RQP/SQP slightly, as inc	nponent with respect to that considered for MQP/RQP/SQP approval, however dicated below / in attached sheet.	as indicated. DISTRIBUTI A) MQP/RQ 1. MAIN SUPP MQP/RQP/SQ 2. MANUFAC 3. RIO 4. CQA-SPL 5. CQA-O/C B) RFQP/SFI 1. MAIN SUPP 2. MANUFAC 3. NTPC FQA	PLIER (WITH A COPY OF QP) TURER QP: PLIER (with a copy of MQP/RQP/SQP
	(TO BE FILLED BY OEM / LT MOTOR SUPPLIER	NTPC (Revie	wed /Approved by/ Date & Seal)
SIGN.: (Main Supplier) DATE:	SIGN.: (Manufacturer) DATE:		

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		OEM SUPF	PLIER		MANU	FACTURING QL	JALITY PLAN FO	R			ON :FGI	:AGITATOR: 001	
		To be fille							REV:NO:0				
	BHEL		-	L	INDIOR	(Up to TO 200	DATE: 23.09.2021						
BAI	BHEL P/ RANIPET /	OEM Sup	piler						Page :				
	AMIL NADU	NADU <u>LT MOTOR</u>											
	INDIA												
		Supplie											
S1 No	. COMPONET/A	CHARACTE-	CLASS	TYPE OF	OLIANUTM OF	REFERENCE DOCUMENT	ACCEPTANCE STANDARD	FORMAT OF REC		AGENCY		REMARKS	
010	SSEMBLY/OP	RISTIC		CHECK	ECK CHECK	D	M	BHEL/	TILIMATIKO				
	ERATION/TES								ט	IVI	BHEL		
	TS										AIA		
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.		12.	
	MING INSPCI												
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		
		$\begin{array}{c} \text{5.Continuity (insulatio} \\ \text{n)} \end{array}$	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		P	V	20 g. panty: 00.070	
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		

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		OEM SUP	PLIER		MANU	FACTURING QU	IALITY PLAN FO	R	MQP:E:LTM:BONGAIGAON :FGD:AGITATOR: 001						
BHEL BAP/ RANIPET /		To be fille	ed by] .	T MOTOR	/ Up to TO 2001	KW) - FGD Appli	cation	REV:NO:00	REV:NO:00 DATE: 23.09.2021					
	BHEI		-	-	INICION	(Up to 10 2001		9.2021							
BAI		OEM Supplier LT MOTOR Manufacture							Page :						
	AMIL NADU														
	INDIA														
		To be filled b													
		Supplie													
S1.No	. COMPONET/A	CHARACTE-	CLASS	TYPE OF	QUANUTM OF	REFERENCE DOCUMENT	ACCEPTANCE STANDARD	FORMAT OF REC		AGENCY		REMARKS			
	SSEMBLY/OP	RISTIC		CHECK	CHECK				D	М	BHEL/				
	ERATION/TES										BHEL				
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	AIA	12.			
	OCESS INSP		4.	ე.	0.	1.	0.	9.	10.	11.		12.			
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				
0.0	Dia anatana	4. On the language	N4-i	Manhaniani	1000/	4-	d-	Incometical December		Б	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	1.Resistance	Major	Electrical	100%	do	do	Inspection Record		Р	V				
2.0	applicable)	1.1 tesistance	Major	Licetifical	10076			inspection record			•				
		2.H.V.Test	Major	Electrical	100%	do	do	Inspection Record		Р	V				
			-7-					•							
		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	Major	Mechanical	100%	do	do	Inspection Record		Р	V				
		flanged motors	ıvıaj∪ı	wedianidi	10076			поресцоп песога		1	v				
		3.Mounting dimensions	Major	Mechanical	100%	do	do	Inspection Record		Р	V				

472239/2021/BAP-QA_MECH

OEM SUPPLIE					MANU	FACTURING QU	JALITY PLAN FO	R	MQP:E:LT	M:BONGAIGA	ON :FGI	D:AGITATOR: 001	
		To be fille		1					REV:NO:00				
	BUE		-	_ L	MOTOR	(Up to 10 200	KW) - FGD Applic	cation	DATE: 23.09.2021				
L	BHEL	OEM Sup	piier						Page :				
	P/ RANIPET /	LTMOT	OD										
1 4	MIL NADU	LT MOT											
	INDIA Manufacture												
To be filled by OEM			y OEM										
Supplier			<u>er</u>										
S1.No		CHARACTE-	CLASS	TYPE OF		REFERENCE DOCUMENT	ACCEPTANCE STANDARD	FORMAT OF REC		AGENCY		REMARKS	
		RISTIC		CHECK	CHECK				D	М	BHEL/		
											BHEL		
		•		_		7			4.0		AIA		
1. EINI A	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.		12.	
		N AND TESTING		E	1000/	DUEL ANTRO O	BUEL ANTRO CON CARD				147		
3.1	Routine Test	Resistance Measurement on	Major	Electrical	100%	BHEL / NTPC Spec, GA Drawing & Apprd Datasheet	BHEL / NTPC Spec, GA Drawing & Apprd Datasheet and	Inspection Record		Р	W		
		winding & space				and	IS/IEC 60034 (As applicable)						
		heater				IS/IEC 60034 (As applicable)							
		2.HV Test	Major	Electrical	100%	do	do	Inspection Record		Р	W		
		3.Phase sequence &	Major	Electrical	100%	do	do	Inspection Record		Р	W		
		direction of rotation											
		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	Major	Visual &	100%	do	do	Inspection Record		Р	W		
		thickness & adhesion	,	Measurement	/-		• •	-1			•		
		8.Moutings & Overall dimensions	Major	Mechanical	100%	do	-do-	Inspection Record		Р	W		
		UIIII011510115											

		OEM SUPF	PLIER		MANU	FACTURING QU	MQP:E:LTM:BONGAIGAON :FGD:AGITATOR: 001						
		To be fille	d by	1	_		_		REV:NO:00				
			-	LI	MOTOR	(Up to TO 2001	DATE: 23.0	9.2021					
	BHEL	OEM Sup	plier						Page :				
	P/ RANIPET /												
TA	MIL NADU	LT MOT	<u>OR</u> _										
	INDIA	<u>Manufact</u>	ture										
		To be filled b	y OEM										
		<u>Supplier</u>											
S1.No.		CHARACTE- RISTIC		REFERENCE DOCUMENT	ACCEPTANCE STANDARD	FORMAT OF REC		AGENCY		REMARKS			
				CHECK	CHECK				D	М	BHEL/		
	ERATION/TES										BHEL		
	15										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		Р	V		
		2.Motors covered with Major polythene sheets		Visual	100%	do	do	Inspection Record		Р	V		
		3		Visual		do	do	Inspection Record		Р	V		

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 avilable 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)

(TC	DEM SUPPLIER WITH OEM MFGR.'s LOGO D BE FILLED BY EM SUPPLIER)	NAME AND (TO BE FII	R MANUFACTURER'S D ADDRESS LLED BY OEM / R MANUFACTURE)	MANUFACTURI ITEM: LT MOTOR(IE3) UP TO 200KW FOR FGD APPLICATION SUB-SYSTEM: FGD – AGITATORS				QP NO.: AGITATORS: LT MOTOR:001 REV.NO.: 00 DATE: PAGE: OF				PROJECT: NTPC Bongaigaon 3 x 250MW (BHEL W.O no: G305, G306 and G307) FGD PACKAGE NTPC CONTRACT NO: CS-4610-101-2-FC-COA-5066-AMDT-04 for Bongaigao FGD (3 x 250 MW) MAIN CONTRACTOR: BHEL - RANIPET SUB CONTRACTOR (OEM) & ADDRESS: (TO BE FILLED BY OEM SUPPLIER)					
SL. NO		COMPONENT & CHARACTERIS OPERATIONS			TYPE OF CHECK	QUAN OF CH M		REFERENCE DOCUMENT	ACCEPTANCI NORMS		FORMAT OF RECORD		GENCY C N	REMARKS			
1.	2.		3.	<mark>4.</mark>	5.	6		<mark>7.</mark>	8.	<mark>9.</mark>				<mark>11.</mark>			
	I MANUFACTUREI IOTOR SUPPLIER SIGN	R/ MAIN SUPPI [ATURE	(BHEL) ESSE ** I C: M P: PI	NTIALLY INCLU M: OEM MANUFA IAIN SUPPLIER –	DED BY SUPPI CTURER/LT M BHEL/BHEL A 'NESS AND V	LIER IN Q IOTOR SU IA, N: I VERIFIC	A DOCU JB-SUPP NTPC CATION.	LIER AS APPROPRIATE,	FOR NTPC USE	DOC. NO.:	ВУ	AP	PPROVED BY	Z APPROVAL SEAL			

FORMAT NO.: QS-01-QAI-P-09/F1-R1 1/1

एनरीपीसी NTPC