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

FGD: NKP: AGT: 336 Dt. 03-01-2022

Item Name	Indent No	Indent Dt.	PGMA	Technical Specification
	RFW11474	16.12.2021	FW720	FGD:AGITATORS, REV:01,DT:09.09.2021
AGITATORS (WO:G601-G603)	RFW11475	16.12.2021	FW720	AGITATORS: QR-3K: NKSTPP, REV: 00. NKSTPP: FGD: AGITATORS, REV: 00.
(	RFW11513	18.12.2021	FW997	TECI: LTMOTOR:REV:05

# Project: North Karanpura (3X660 MW)

### **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: NKP: 23.07.2021). 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

MA	NUFACTURER		MAN	UFACTURIN	NG Q	JALITY PI	AN		PROJ	ECT: I	VORT	TH KA	RAN	PURA (3X660 MW)	
	LOGO	Manufacturer N	ame and	Address:		ITEM: AG	ITATOR		CUST	• · · · •	R: NT	PC			
		NTPC SUB QR A	PPROVE	D SOURCE		QP NO: NK	P:23.07.2021		BHEL						
						Page 1 of 4			— MAIN	CONI	KAC	IOK:	M/S E	SHEL.	
SL.	COMPONENT &	CHARATERISTICS	CLASS	TYPE OF	00	ATUM OF	REFERENCE	ACCEPTANCE	Forma	T	AGEN		СҮ	REMARKS	
NO.	OPERATION		ULA99	CHECK	(	CHECK	DOCUMENT	NORMS	OF REC		M	C	N		
1	2	3	4	5	M	C/N	7	9	D*		10		11		
		5	7	J		V	I	8	3	U		10		11	
1.0	RAW MATERIAI	ls inspection.													
1.1	Shaft & Blades, rubber composition & other material	Chem. & Mech Properties	Major	Review of MTC	1/ Hea	t _		mer QA & I -	TC		P	V	V	For shaft Dia ≥ 40mm UT shall	
1.1	including castings &	Dimensions		Measure ment	100	%	NTPC Approved Drawing / Data Sheet		-	IR	V	Ρ	-	-	be done as per ASTM A 388.
	forgings.	Surface Defects		Visual	100	%			IR		Р	-	-		
2.0	Motor	Refer Separate MC	QP for E	ectric Moto	r.							1			
3.0	Gear box	Make,Type, Rating,vibration,n oise, Routine/Run test.	Major	Review of manufact ure's test report	100	% -	Drawing/Da	ta Sheet	TC/ Report	V	Р	V	V		
4.0	IN PROCESS I	NSPECTION.	I		I					<u> </u>		I		<u> </u>	
4.1	Welding Qualifications	WPS,PQR,WPQ	Major	WPS, PQR & WPQ	100	% -	ASME Sec	IX/AWS D1.1	WPS/ PQR	٧	Ρ	۷	V		

	<b>LEGEND:</b> * RECORDS, INDENTIFIED WITH "TICK" $()$	MDL NO:		
	UNDER COLUMN 'D'SHALL BE SUBMITTED TO CUSTOMER AS A 'QA' DOCUMENTATION PACKAGE., C: MAIN	Rakesh Kr Madhu (Dy.Mgr/QA)	K Renjith (Manager/QA)	R Arunachalam (DGM/QA)
	CONTRACTOR(BHEL / BHEL AIA),M: MANUFACTURE/SUB SUPPLIER, N: OWNER (OWNER CONSULTANT QA & I / NTPC) P: PERFORM W: WITNESS AND V: VERIFICATION / REVIEW OF RECORDS, MTC: MATERIAL TEST CERTIFICATE, TC: TEST CERTIFICATE, MA: MAJOR, MI: MINOR, COC: CERTIFICATE OF CONFORMANCE, IR:	Mit	Rept	R.VA
MANUFACTURER SIGN & STAMP	INSPECTION REPORT, TR: TEST REPORT,	PREPARED BY	REVIEWED BY	APPROVED BY

MA	NUFACTURER		MAN	UFACTURIN	IG QU/	LITY PL	.AN		PROJ	ECT: N	VORT	ΓH K	ARAN	PURA (3X660 MW)
	LOGO	Manufacturer N				EM: AG	ITATOR		CUST BHEL	-	R: NT	PC		
		NTPC SUB QR AI	PPROVE	D 200R0E	Q	PNO: NK	P:23.07.2021		- MAIN		RAC	TOR	: M/s E	BHEL.
					Pa	ige <b>2</b> of <b>4</b>								
SL.	COMPONENT &	CHARATERISTICS	CLASS	TYPE OF				REFERENCE ACCEPTANCE		Т	_	GEN		REMARKS
NO.	OPERATION			CHECK	CH M	ECK C/N	DOCUMENT NORMS		OF REC	ORD	М	C	N	
1	2	3	4	5		6	7	8	9	D*		10		11
4.2	Marking,cutting, Edge preparation Tacking	Dimensions	Major	Measure ment	100%	-	Approved Drawings		IR	-	Р	-	-	
4.3	Shaft & Impeller	Visual & Dimension check,face out and run out of shaft (after flange welding)	Major	Measure ment	100%	100%	Owner QA	As per Spec. & Owner / Owner QA & I - NTPC Appd.Drawing / Datasheet		V	Ρ	V	V	
4.4	Welds	Visual, Dimension	Major	Visual, Measure ment	100%	100%	ASME Sec- D!.1	ASME Sec-VIII/ AWS D!.1		٧	Р	۷	۷	
4.5	Weld surface check	Weld surface check	Major	Measure ment DPT	100%	10%	ASME Sec-VIII/AWS D1 Appendix 8		IR	V	Р	W	V	
4.6	Impeller	Balancing	Major	Visual, Measure ment	100%	10%	ISO 1940/Appd.Drg.& Data sheet/Relevant standard		TR	٧	Р	W	۷	

	<b>LEGEND:</b> * RECORDS, INDENTIFIED WITH "TICK" $(\sqrt{)}$	MDL NO:		
	UNDER COLUMN 'D'SHALL BE SUBMITTED TO CUSTOMER AS A 'QA' DOCUMENTATION PACKAGE., C: MAIN	Rakesh Kr Madhu (Dy.Mgr/QA)	K Renjith (Manager/QA)	R Arunachalam (DGM/QA)
	CONTRACTOR(BHEL / BHEL AIA),M: MANUFACTURE/SUB SUPPLIER, N: OWNER (OWNER CONSULTANT QA & I / NTPC) P: PERFORM W: WITNESS AND V: VERIFICATION / REVIEW OF RECORDS, MTC: MATERIAL TEST CERTIFICATE, TC: TEST CERTIFICATE, MA: MAJOR, MI: MINOR, COC: CERTIFICATE OF CONFORMANCE, IR:	Not	Rept	R.VA
MANUFACTURER SIGN & STAMP	INSPECTION REPORT, TR: TEST REPORT,	PREPARED BY	REVIEWED BY	APPROVED BY

MA	NUFACTURER		MAN	UFACTURI	NG QI	JALITY PL	.AN		PROJ	ECT:	NOR	TH K	ARAN	PURA (3X660 MW)		
	LOGO	Manufacturer N NTPC SUB QR A			(		ITATOR P:23.07.2021		CUST Bhel Main	W/0:			: M/s E	BHEL.		
0			1			°		ACCEPTANCE								
SL. NO.	COMPONENT & OPERATION	CHARATERISTICS	CLASS	TYPE OF CHECK		ATUM OF Check C/N	REFERENCE ACCEPTAI DOCUMENT NORMS			OF RECORD		FORMAT OF RECORD		AGEN C	CY N	REMARKS
1	2	3	4	5	INI	6	7	8	9	D*		10		11		
4.7	Rubber Lining	Thickness of Rubber, Hardness, Spark test, Adhesion test on test piece	Major	Measure ment	1009	% 10%	As per Specs./ Appd. Drg. & data sheet	Appd.Drg.& Data sheet,	TR	V	Р	W	V			
5.0	5.0 FINAL INSPECTION															
5.1	Final Assembly Base Frame,Agitator etc.	Visual- Workmanship, Dimensional.	Major	Visual, Measure ment	1009	% 10%	Owner / Owner QA & I - NTPC Appd.Drg./ Datasheet & Spec,		IR	٧	Р	W	V			
5.2	Run test of Agitator assembled with Gearbox & job Motor. Medium- Slurry (Duration-30 minutes)	Current,RPM, Vibration,Noise & Temperature rise	Major	Measure ment	1009	20% of each % type (side & top entry)	Manufacturer's procedure/ Approved Drawing/Data Sheet		IR	V	р	W	W	For top agitator with shaft length >5Meter run test to be carried out with bearing shaft only.		
5.3	Painting	Visual,DFT	Major	Paint Shade & DFT measure ment	1009	20% of each type	Owner / Owner QA & I - NTPC Approved Painting Schedule		IR	٧	P	W	V			
5.4	Marking	Visual	Major	Visual	1009	% 100%	Approved E	Drawing	IR	٧	Р	V	V			
	LEGEND: * RECORDS, INDENTIFIED WITH "TICK" (√) UNDER COLUMN 'D'SHALL BE SUBMITTED TO CUSTOM AS A 'QA' DOCUMENTATION PACKAGE., C: MAIN CONTRACTOR(BHEL / BHEL AIA),M: MANUFACTURE/SU SUPPLIER, N: OWNER (OWNER CONSULTANT QA & I / NTPC) P: PERFORM W: WITNESS AND V: VERIFICATIO REVIEW OF RECORDS, MTC: MATERIAL TEST						MDL NO: Rakesh Kr Mac	dhu (Dy.Mgr/QA)	K Renjith	(Mana	iger/Q	A)	R Arun	achalam (DGM/QA)		
CERTIFICATE, <b>TC</b> : TEST CERTIFICATE, <b>MA</b> : MAJOR, <b>MI</b> : MINOR, <b>COC</b> : CERTIFICATE OF CONFORMANCE, <b>IR</b> : INSPECTION REPORT, <b>TR</b> : TEST REPORT,							PREPARED BY REVIEWED BY APPROVED BY				APPROVED BY					

MA	NUFACTURER LOGO	Manufacturar N				MANUFACTURING QUALITY PLAN         PROJECT: NORTH KARANPURA (3X660 N           Manufacturer Name and Address:         ITEM: AGITATOR         CUSTOMER: NTPC									
	2000	NTPC SUB QR AI				QP NO: NKP:23.07.2021				W/O: CONT		-	M/s B	BHEL.	
					Pa	Page 4 of 4									
SL. NO.	COMPONENT & OPERATION	CHARATERISTICS	CLASS	TYPE OF CHECK				ACCEPTANCE NORMS	FORMA OF REC	rmat Record		AGEN(		REMARKS	
					M C/N										
1	2	3	4	5		6	7	8	9	D*	10			11	
5.5	Quality Dossier	Compliance of Reports	Major	Document	100%	100%	Completion of allI documents, Test Report as per Approved MQP.		Report	V	Р	V	V		
5.6	Packing	Compilation of PO	Major	Visual	100%	100% PO/specification/ Packing Drawing F		Report	V	Ρ	۷	-			

Notes: a. 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.

- b. Latest version of standards & Specification shall be applied.
- c. Materials shall be procured in compliance to Functional Technical specification.
- d. Gauges and measuring instruments with valid calibration only shall be used.
- e. Inspection / Inspection wavier / approval by BHEL does not absolve Supplier's responsibility for conformity of the specification as per the terms of PO.
- f. This QP shall be read along with relevant PO, BHEL Specification / Approved Drawing / Datasheet.

	LEGEND: * RECORDS, INDENTIFIED WITH "TICK" (1)	MDL NO:		
	UNDER COLUMN 'D'SHALL BE SUBMITTED TO CUSTOMER AS A 'QA' DOCUMENTATION PACKAGE., C: MAIN	Rakesh Kr Madhu (Dy.Mgr/QA)	K Renjith (Manager/QA)	R Arunachalam (DGM/QA)
	CONTRACTOR(BHEL / BHEL AIA),M: MANUFACTURE/SUB SUPPLIER, N: OWNER (OWNER CONSULTANT QA & I / NTPC) P: PERFORM W: WITNESS AND V: VERIFICATION / REVIEW OF RECORDS, MTC: MATERIAL TEST CERTIFICATE, TC: TEST CERTIFICATE, MA: MAJOR, MI: MINOR, COC: CERTIFICATE OF CONFORMANCE, IR:	Not	Rept	R.VA
MANUFACTURER SIGN & STAMP	INSPECTION REPORT, TR: TEST REPORT,	PREPARED BY	REVIEWED BY	APPROVED BY

	Annexure Q	
	Indent No: Enquiry no:	
Sl.No	BHEL / Customer Requirements	## Specific confirmations by the manufacturer (Acceptable/Not acceptable)
	Quality Plan Requirement: (If SQP is not given & Vendor QP applicable)	
	(i) MQP (Manufacturing Quality Plan) shall be submitted in attached format for BHEL/Customer review & approval. Our SQP/Typical MQP/ MQP Format is attached for guidance & use.	
	(ii) MQP shall invariably cover w.r.t Inward inspection including on Raw material Procurement, In process and Final inspection in elaborated way/details.	
	(iii) Bidder shall also to give specific confirmation that on need basis, their competent officials shall visit to BHEL / customer for finalization of Quality plan including test procedure/methodology during preaward / post award approval / detailed engineering in the event of an order.	
	(iv) No deviation on BHEL/Customer approved MQP/ SQP (In case BHEL SQP is provided) is acceptable.	
1	(v) Bidder shall agree to submit all cross referred documents other than codes/standards to BHEL/Customer/Consultant.	
	<ul> <li>Important Notes shall be included in MQP :</li> <li>(a) Latest revision of Standard s &amp; Specification shall apply. Only International Standards are applicable.</li> <li>(b) Materials shall be procured in compliance to Functional Technical Specification.</li> <li>(c) Inspection shall be in compliance with Approved Quality Control Procedure for the Product.</li> <li>(d) NDT shall be carried out by Qualified Personnel with compliance to Approved NDT Procedures and Acceptance Norms, as per ASME standard.</li> <li>(e) Gauges and measuring Instruments, with valid calibration only shall be used.</li> <li>(f) Cleaning and Painting of products shall be carried out as per Approved Painting Schedule.</li> <li>(g) Finished Products shall be packed to comply with Approved Packing Schedule.</li> <li>(h) Welding shall be carried out by Qualified Personnel with compliance to Approved NDT Procedures and Acceptance Norms, as per ASME standard.</li> </ul>	
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 IR Class Systems and Solutions 12.M/s DNV 13. M/s Fichtner 14. M/s ABS Inspection Services	

SI.No	BHEL / Customer Requirements	## Specific confirmations by the manufacturer (Acceptable/Not acceptable)
4	Stage Inspection during manufacturing Process : Stage Inspection during manufacturing shall be carried out as per approved quality plan and all necessary documents shall be provided for review, verification and clearance for further processing. This inspection call shall be given well in advance (at least 2 weeks before) to TPI/Bidder's own inspection agency to avoid delay in the manufacturing processes.	
5	Inspection before despatch for domestic supplier : Inspection before despatch at supplier's works shall be carried out by BHEL appointed Inspection agency (as in 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 SI 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	<b>Painting</b> shall be done strictly as per BHEL/Customer approved painting schedule / scheme only. Paint Thickness / Paint shade shall be ensured as per BHEL / Customer approved painting schedule / specification / data sheet etc. No deviation is acceptable unless otherwise accepted by BHEL/Customer in writing. Any conflict if any among BHEL / Customer approved painting schedule / Spec / data sheet etc. shall be brought to the notice of BHEL well in advance before proceeding including the BOI being procured for assy / skid like motors etc.	
8	Specific conformation for document package in the event of an order (2 Hard copies & soft copy in PDF file) is to be given containing the following with proper linkages (i) Index Sheet (ii) MQP/RQP/Endorsement Sheet (As applicable) (iii) TCs identified by BHEL/ Customer for record for "CHP" / "W" and Verification portion ("V") as given in approved QP. (iv) Final inspection report + TC including Chemical + Mechanical + HT + NDT etc. (v) Third party Inspection report + TC (vi) Customer CHP/ MDCC (vii) Type test / Performance Test reports conducted (viii) Type test / Performance Test approval/ clearance obtained from BHEL/Customer (ix) BOM with As Build Drgs with actual make / rating used with BHEL/customer approved drawings.	
9	<b>Packing / Seaworthy Packing</b> 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	<b>Important</b> 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

SI No.	Item/ Sub system Name	Quantity	Supplier Name	Place of Manufacturing
OEM (OR	GINAL EQUIPMENT MANUFACT	FURER) SEAL A	ND SIGN.	

MA	NUFACTURER		MAN	UFACTURIN	NG QL	IALITY PI	LAN		PROJ	ECT: I	VORT	TH K	ARAN	PURA (3X660 MW)	
	LOGO	Manufacturer N NTPC SUB QR A			-	TEM: AG		B: 00.04.0000	CUST BHEL	• · · · •	R: NT	PC			
					Ľ	<b>2P NO: NK</b> Page <b>1</b> of <b>4</b>		, Dt: 03.01.2022	MAIN	CONT	RAC	TOR	: M/s E	BHEL.	
CI	COMPONENT &	CHARATERISTICS		TYPE OF		TUM OF	REFERENCE	ACCEPTANCE	FORMA	т		AGEN	01/	REMARKS	
SL. NO.	COMPONENT & OPERATION	CHARATERISTICS	CLASS	CHECK	C	HECK	DOCUMENT	NORMS	OF REC		M	C	N	REMARKS	
1	2	3	4	5	M	C/N	7	8	9	D*		10		11	
1.0		ls inspection.	1		1			l	•			1			
1.0															
	Shaft & Blades, rubber composition &	Chem. & Mech Properties		Review of MTC	1/ Heat		Owner / Owner QA & I -		TC		P	۷	V	For shaft Dia ≥ 40mm UT shall	
1.1	other material		Major	M	1000	-	- NTPC Approved Drawing / Data Sheet	IR		<b>D</b>			be done as per		
	including castings &	Dimensions		Measure ment	100%	6		/ Dala Sheel	I	/ Data Sheet			Р	•	-
	forgings.	Surface Defects		Visual	100%	0			IR		Ρ	-	-		
2.0	Motor	Refer Separate MO	QP for E	lectric Moto	r.		L					1	1	I	
3.0	Gear box	Make,Type, Rating,vibration,n oise, Routine/Run test.	Major	Review of manufact ure's test report	1009	6 -	Drawing/Da	ta Sheet	TC/ Report	V	Р	V	V		
4.0	IN PROCESS I	NSPECTION.	<u> </u>		<u> </u>	<u> </u>				<u> </u>	L	<u> </u>	<u>I</u>	1	
4.1	Welding Qualifications	WPS,PQR,WPQ	Major	WPS, PQR & WPQ	1009	6 -	ASME Sec	IX/AWS D1.1	WPS/ PQR	V	Р	۷	۷		

	<b>LEGEND:</b> * RECORDS, INDENTIFIED WITH "TICK" ( $$ )	MDL NO:	
	UNDER COLUMN 'D'SHALL BE SUBMITTED TO CUSTOMER AS A 'QA' DOCUMENTATION PACKAGE., C: MAIN	Rakesh Kr Madhu (Dy.Mgr/QA)	K Renjith (Manager/QA)
MANUFACTURER SIGN & STAMP	CONTRACTOR(BHEL/ BHEL AIA),M: MANUFACTURE/SUB SUPPLIER, N: OWNER (OWNER CONSULTANT QA & 1/ NTPC) P: PERFORM W: WITNESS AND V: VERIFICATION / REVIEW OF RECORDS, MTC: MATERIAL TEST CERTIFICATE, TC: TEST CERTIFICATE, MA: MAJOR, MI:	PREPARED BY	REVIEWED AND APPROVED BY

MA	NUFACTURER		MAN	UFACTURIN	IG QUA	LITY PL	AN		PROJ	ECT: N	VORT	ΉK	ARAN	PURA (3X660 MW)
	LOGO	Manufacturer Name and Address: NTPC SUB QR APPROVED SOURCE QP NO: NKP:AGT:Rev 01, Dt: 03.01.202				, Dt: 03.01.2022	CUSTOMER: NTPC HELL W/O: MAIN CONTRACTOR: M/S BHEL.							
					Pa	ige <b>2</b> of <b>4</b>								
SL. NO.	COMPONENT & OPERATION	CHARATERISTICS	CLASS	TYPE OF CHECK		UM OF ECK			FORMA OF REC		/ M	IGEN	ICY N	REMARKS
					М	C/N					m			
1	2	3	4	5		6	7	8	9	D*		10		11
4.2	Marking,cutting, Edge preparation Tacking	Dimensions	Major	Measure ment	100%	-	Approved	d Drawings	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 Spec Owner QA & Appd.Drawi Datasheet		IR	V	Ρ	V	۷	
4.4	Welds	Visual, Dimension	Major	Visual, Measure ment	100%	100%	ASME Sec- D!.1	VIII/ AWS	IR	V	Р	۷	V	
4.5	Weld surface check	Weld surface check	Major	Measure ment DPT	100%	10%	ASME Sec- Appendix 8	VIII/AWS D1	IR	٨	Р	W	۷	
4.6	Impeller	Dynamic Balancing	Major	Visual, Measure ment	100%	10%	ISO 1940/A Data sheet/ standard	• •	TR	V	Р	W	V	

	LEGEND: * RECORDS, INDENTIFIED WITH "TICK" ( $$ )	MDL NO:	
	UNDER COLUMN 'D'SHALL BE SUBMITTED TO CUSTOMER AS A 'QA' DOCUMENTATION PACKAGE., C: MAIN	Rakesh Kr Madhu (Dy.Mgr/QA)	K Renjith (Manager/QA)
MANUFACTURER SIGN & STAMP	AS A GA DOCUMENTATION PACKAGE., C. MAIN CONTRACTOR(BHEL / BHEL AIA),M: MANUFACTURE/SUB SUPPLIER, N: OWNER (OWNER CONSULTANT QA & I / NTPC) P: PERFORM W: WITNESS AND Y: VERIFICATION / REVIEW OF RECORDS, MTC: MATERIAL TEST CERTIFICATE, TC: TEST CERTIFICATE, MA: MAJOR, MI: MINOR, COC: CERTIFICATE OF CONFORMANCE, IR:	PREPARED BY	REVIEWED AND APPROVED BY
MANUFAU I UNEN SIGIN & STAMP	MINOR, COC: CERTIFICATE OF CONFORMANCE, IR: INSPECTION REPORT, TR: TEST REPORT,	י אני אוובי אוובט טי	

MA	NUFACTURER			MAN	UFACTURIN	IG QU	IALITY PL	.AN		PROJ	IECT: I	NOR	TH K/	ARAN	PURA (3X660 MW)
	LOGO		Ifacturer N				TEM: AG	ITATOR			OMEF		PC		
		NIPC S	SUB QR AI	PROVE	D SOURCE	C	QP NO: NK	P:AGT:Rev 01	I, Dt: 03.01.2022	BHEL	. w/0: CONT		יד∩ם	· M/c E	
						Р	Page 3 of 4							. IVI/3 L	JIILL.
SL.	COMPONENT &	CHARATE	RISTICS	CLASS	TYPE OF	QUA	TUM OF	REFERENCE	ACCEPTANCE	FORMAT		AG		СҮ	REMARKS
NO.	OPERATION			ULAUU	CHECK	С	HECK	DOCUMENT	NORMS	OF REC		М		N	
1	2		3	4	5	М	C/N 6	7	8	9	D*		10		11
1	2		J	4	J		0		0	J			IV		
4.7	Rubber Lining	Thicknes Rubber, Hardness test, Adh test on te	s, Spark esion	Major	Measure ment	100%	6 10%	As per Specs./ Appd. Drg. & data sheet	Appd.Drg.& Data sheet,	TR	V	Ρ	W	V	
5.0	FINAL INSPECT	ION													
5.1	Final Assembly Base Frame,Agitator etc.	Visual- Workmar Dimensio	1.	Major	Visual, Measure ment	100%	6 10%	Owner / Ow NTPC Appo Datasheet	•	IR	٧	Р	W	V	
5.2	Run test of Agitator assembled with Gearbox & job Motor. Medium- Slurry (Duration-30 minutes)	Current,F Vibration Tempera	,Noise &	Major	Measure ment	100%	20% of each 6 type (side & top entry)	Manufactur procedure/ Drawing/Da	Approved	IR	V	Р	W	W	For top agitator with shaft length >5Meter run test to be carried out with bearing shaft only.
5.3	Painting	Visual,DF	T	Major	Paint Shade & DFT measure ment	100%	20% of each type		vner QA & I - roved Painting	IR	٧	P	W	V	
5.4	Marking	Visual		Major	Visual	100%	6 100%	Approved E	Drawing	IR	٧	P	۷	V	
					IDENTIFIED WIT		( )	MDL NO:			<u> </u>	1	1	1	<u> </u>
					. BE SUBMITTEI )n Package., (		STOMER	Rakesh Kr Mac	dhu (Dy.Mgr/QA)		K Re	enjith (	Mana	ger/QA	
AS A 'QA' DOCUMENTATION PACKAGE., C: MAIN CONTRACTOR(BHEL / BHEL AIA),M: MANUFACTURE/SUB SUPPLIER, N: OWNER (OWNER CONSULTANT QA & 1 / NTPC) P: PERFORM W: WITNESS AND V: VERIFICATION REVIEW OF RECORDS, MTC: MATERIAL TEST CERTIFICATE, TC: TEST CERTIFICATE, MA: MAJOR, MI:			. &   /  Cation / R, <b>MI:</b>	Mit -		Relit									
MAN	UFACTURER SIGN &				E OF CONFORM : TEST REPORT		IR:		PREPARED BY		REVIEWED AND APPROVED BY				

MA	NUFACTURER	MANUFACTURING QUALITY PLAN PROJECT: NORTH KARANPURA (3X660 MW)						PURA (3X660 MW)						
	LOGO	Manufacturer N				EM: AG	ITATOR		CUSTOMER: NTPC					
		NTPC SUB QR AI	PPROVE	D SOURCE	Q	P NO: NK	P:AGT:Rev 01	, Dt: 03.01.2022	BHEL W/O: MAIN CONTRACTOR: M/s BHEL.					
					Pa	Page 4 of 4		∬ I∟∟.						
SL.	COMPONENT &	CHARATERISTICS	CLASS	TYPE OF		UMOF	REFERENCE ACCEPTANCE FORMAT				GEN		REMARKS	
NO.	OPERATION			CHECK	CH M	ECK C/N	DOCUMENT	NORMS	OF REC	ORD	М	C	N	
1	2	3	4	5		6	7	8	9	D*		10		11
5.5	Quality Dossier	Compliance of Reports	Major	Document	100%	100%	Completion documents, as per Appr	Test Report	Report	V	Р	V	V	
5.6	Packing	Compilation of PO	Major	Visual	100%	100%	PO/specifica Packing Dra		Report	V	Ρ	۷	-	

Notes: a. 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.

- b. Latest version of standards & Specification shall be applied.
- c. Materials shall be procured in compliance to Functional Technical specification.
- d. Gauges and measuring instruments with valid calibration only shall be used.

e. Inspection / Inspection wavier / approval by BHEL does not absolve Supplier's responsibility for conformity of the specification as per the terms of PO.

f. This QP shall be read along with relevant PO, BHEL Specification / Approved Drawing / Datasheet.

# **RECORD OF REVISION**

<b>REV NO</b>	DATE	DESCRIPTION
00	23.17.2019	Original Issue – First submission
01	03.01.2021	Revised Based on customer comments.

	<b>LEGEND:</b> * RECORDS, INDENTIFIED WITH "TICK" ( $$ )	MDL NO:				
	UNDER COLUMN 'D'SHALL BE SUBMITTED TO CUSTOMER AS A 'QA' DOCUMENTATION PACKAGE., C: MAIN	Rakesh Kr Madhu (Dy.Mgr/QA)	K Renjith (Manager/QA)			
MANUFACTURER SIGN & STAMP	CONTRACTOR(BHEL / BHEL AIA),M: MANUFACTURE/SUB SUPPLIER, N: OWNER (OWNER CONSULTANT QA & 1 / NTPC) P: PERFORM W: WITNESS AND V: VERIFICATION / REVIEW OF RECORDS, MTC: MATERIAL TEST CERTIFICATE, TC: TEST CERTIFICATE, MA: MAJOR, MI: MINOR, COC: CERTIFICATE OF CONFORMANCE, IR: INSPECTION REPORT, TR: TEST REPORT,	PREPARED BY	REVIEWED AND APPROVED BY			

# W.r.t INDIGENOUS OEM VENDORS

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	
	(DOC.NO: BAP/QR/G601, G602 & G603/LTM/Agitators 001	
	Rev NO.: 01 dt 10.01.2022) 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	
04	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	
00	Customer – NTPC (National Thermal Power Corporation	
	Limited) inspection - CHP/MDCC clearances.	

### Annexure-I CONTRACT QUALITY REQUIREMENTS (COR) for LT MOTORS(IE3) Up to 200KW (For INDIGENOUS OEM VENDOR ONLY)

PRO.	JECT: NORTH KAR	ANPURA	CONTRACT QUALITY	DOC.NO:	##Enquiry No:
	(3X660MV	V)	<b>REQUIREMENTS</b> (CQR) for	DOC.NO: BAP/QR/G601, G602	
	L WO no: G601, G C CONTRACT NO:	602 & G603	LT MOTORS(IE3) - Up to 200KW used in	&G603/LTM/Agitators	## OEM Supplier Name &
	410-109-2- FC/SC-I	NOA-	Agitators	001	Address:
6695	/6696		<u>11511010</u>	Rev NO.: 01	##Offer reference:
PACKAGE: FGD PACKAGE				Rev NO.: 00	
	N CONTRACTOR: L - RANIPET		NTPC - NORTH KARANPURA	PAGE : Page 1 of 5 DATE: 10.01.2022	##Date:
SUB	CONTRACTOR (OE)	M) &	(3X660MW)	DATE: 10.01.2022	Contact Official Name:
ADD	RESS:		BHEL WO no: G601, G602 & G603		Mobile no:
( <b>To</b>	be filled by OEM	VENDOR)			Email id:
	-				
SI.	DESCRIPTION	BHEL and	d Ultimate Customer - NTPC (Nationa		##Specific confirmations
NO.			Corporation)., India Quality Require		by the vendor
01	TT TT (	4 \$71	ITEM: LT Motors(IE3) Up to		
01	Type Test		hall submit the type test reports of all $(D)$ below and corried out within		
	Requirements		: 01 (D) below and carried out within e customer NTPC bid opening dt 22.0		
			for the test conducted on the identical		
			posed to be supplied under this enqu		
			ve been conducted at an independent		
			n witnessed by BHEL AIA (BHEL		
			BHEL (or) Ultimate client NTPC a		
		••••	ure of OEM vendor.		
		B. However,			
			t as per above condition (or) in the ca und to be meeting the specification re		
			luct all the tests at no additional cost to		
			(or) own lab in the presence of		
			I Inspection Agency) / BHEL /Ultim	nate client NTPC and	
			e reports for review & approval.		
			st reports review and approval by		
			l Inspection Agency) / BHEL / Ulti ne with NTPC approved data sheet / B		
			owing Type test reports to be sub		
			for above 50KW LT Motor as per re		
			andard) - BIS 325 / IEC 60034 etc	Le ant 210 (Bureau Of	
			······································		
		i. Meas	uring of resistance of winding of sta	ator and wound rotor	
		(if ap	plicable)		
			bad test at rated voltage to determine	input current, power	
		and s			
		·	circuit voltage ratio of wound rotor n	notor (in case slip ring	
		moto		C 1 . 1'	
			oad test to determine efficiency power	factor and slip	
			berature rise test. entary excess load test		
			voltage test		
	viii. Test for vibration severity of motor				
			of noise levels of motor ( <b>Noise level fo</b>	or all the motors	
			be limited to 85dB(A) except for BF		
			naximum limit shall be 90dB(A).)		
			speed test		
			ee of Protection Tests (Minimum Ingre	ess Protection - IP 55).	
			test reports for motors located in fuel		
			enclosures as per BIS 2148/ IEC 6007		

### Annexure-I <u>CONTRACT QUALITY REQUIREMENTS (COR) for LT MOTORS(IE3) Up to 200KW</u> (For INDIGENOUS OEM VENDOR ONLY)

BHF NTP CS-4 6695 PAC MAI BHE SUB ADD	JECT: NORTH KAR (3X660MW) L WO no: G601, G6 C CONTRACT NO: 1410-109-2- FC/SC-1 /6696 KAGE: FGD PACKA( N CONTRACTOR: L - RANIPET CONTRACTOR (OE) RESS: be filled by OEM DESCRIPTION	V) 602 & G603 NOA- GE M) & VENDOR)	CONTRACT QUALITY REQUIREMENTS (CQR) for <u>LT MOTORS(IE3) - Up to 200KW used</u> in <u>Agitators</u> NTPC - NORTH KARANPURA (3X660MW) BHEL WO no: G601, G602 & G603 d Ultimate Customer - NTPC (Nationa Corporation)., India Quality Require		##Enquiry No: ## OEM Supplier Name & Address: ##Offer reference: ##Date: Contact Official Name: Mobile no: Email id: ##Specific confirmations by the vendor
			ITEM: LT Motors(IE3) Up to		
01	Type Test Requirement Contd		/ Type Test reports shall also be gi et & page control through Email & S PMB).		
02	Quality Plan Requirement	<ol> <li>RQP these Manu ultim</li> <li>If any NTP (Refe appli obtai even route</li> <li>Acco subn with &amp; set</li> <li>If LT MQP BHE attac</li> </ol>	or MQP is applicable for these LT /MQP (Manufacturing Quality Pla e LT Motors and accordingly ufacture and OEM shall submit ate customer – NTPC format. y of LT Motor manufacture is havin C approved MQP (Manufacturing erence Quality Plan) and having y cable for these LT Motor for in ning ultimate customer NTPC for t of an order through endorsem e as in sl no: 4 below rdingly, LT Motor Manufacture & nit the filled up Endorsement sh ultimate customer approved MQP al in the event of a Purchase Order 'Motor Manufacture / OEM ver //RQP, they should submit a L/NTPC (in NTPC format) for revise hed).	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 nent sheet approval OEM supplier shall eet (copy attached) /RQP with signature r from BHEL. dor does not have a fresh MQP to ew & approval. (copy	
03	BHEL / Ultimate Customer – NTPC approved vendors	Customer - specific requi > KEC > CGL > SIEN > ABB/ 200k > BBL/ > NGE > Mara > Jyoth	Mumbai (Up to 200KW) F/ Bengaluru (Up to 15KW) thon / Kolkatta (Up to 200KW) ni / Vadodara (Up to 200KW) ni Hydralics Private Limited (LHP	o deviation on this li (Up to 90KW) Bengaluru (Up to	

### Annexure-I <u>CONTRACT QUALITY REQUIREMENTS (COR) for LT MOTORS(IE3) Up to 200KW</u> (For INDIGENOUS OEM VENDOR ONLY)

PROJECT: NORTH KARANPURA (3X660MW)         BHEL WO no: G601, G602 & G603         NTPC CONTRACT NO:         CS-4410-109-2- FC/SC-NOA-         6695/6696         PACKAGE: FGD PACKAGE         MAIN CONTRACTOR:         BHEL - RANIPET         SUB CONTRACTOR (OEM) &         ADDRESS:         (To be filled by OEM VENDOR)         SI.       DESCRIPTION         BHEL and         NO.			CONTRACT QUALITY REQUIREMENTS (CQR) for <u>LT MOTORS(IE3) - Up to 200KW used</u> <u>in</u> <u>Agitators</u> NTPC - NORTH KARANPURA (3X660MW) BHEL WO no: G601, G602 & G603		##Enquiry No: ## OEM Supplier Name & Address: ##Offer reference: ##Date: Contact Official Name: Mobile no: Email id: ##Specific confirmations by the vendor
			ITEM: LT Motors(IE3) Up to 2		sy the vehicle
04	Inspection	LT Motors ur	to 30KW – Inspection Categorizati		
	Methodology to be adopted at Actual LT Motor Manufacture works by OEM vendor	All Routine tes same are to be AIA (BHEL at works as per a relevant BIS (I all the Routine for BHEL/Ulti and dispatch c LT Motor Mar states that the Customer spec frequency vari rise, distance b tested in accor	sts on LT Motors are to be ensured by inspected & witnessed by OEM Vend uthorized inspection Agency) at LT M pproved MQP & approved data sheet / Bureau of Indian Standard) - BIS 325 / Test Reports with Inspection report (I mate Customer – NTPC for review an learance . nufacturer has to issue COC (Certificat above motor/ motors was manufacture ific requirements regarding ambient te ation, hot starts, pull out torque, startir retween centre of stud and gland plate, dance with approved drawing/data she		
		All Routine T & witnessed Agency) at L Test Reports approved MG BIS (Bureau the Routine Te BHEL/Ultimat and dispatch c Above 50KV All Routine & Vendor and sa authorized insp inspection & v Reports as per data sheet / drg BIS 325 / IEC Reports includ (IR) to be subr	0KW to 50KW) – Inspection Catego ests on LT Motors are to be ensur- by BHEL/BHEL AIA (BHEL author T Motor manufacture works includi and Degree of Protection Test Rep P & approved data sheet/drg/spec of Indian Standard) - BIS 325 / IEC est Reports with Inspection report (IR) e Customer – NTPC for review and to learance . V and up to 200KW – Inspection C Type Tests if any on LT Motors are to me shall be offered to BHEL/ BHEL A bection Agency) / Ultimate Customer- vitnessing including review of Degree approved MQP /RQP with endorsema g / spec / as per relevant BIS (Bureau of 60034 etc and all the Routine Test Re- ing Degree of protection test report win inited for BHEL/Ultimate Customer – ction and dispatch clearance .	ed by OEM vendor ized inspection ing review of Type ports (IP 55) as per c / as per relevant c 60034 etc and all to be submitted for o obtain inspection Categorization: I o be ensured by OEM AIA (BHEL -NTPC for c of Protection Test ent sheet / approved of Indian Standard) - ports, Type test th Inspection report	

### Annexure-I CONTRACT QUALITY REQUIREMENTS (COR) for LT MOTORS(IE3) Up to 200KW (For INDIGENOUS OEM VENDOR ONLY)

BHE NTP( CS-4 6695 PAC MAI BHE SUB ADD	JECT: NORTH KAR (3X660MW) L WO no: G601, G6 C CONTRACT NO: 1410-109-2- FC/SC-N /6696 KAGE: FGD PACKA( N CONTRACTOR: L - RANIPET CONTRACTOR (OE) RESS: be filled by OEM DESCRIPTION	<sup>7)</sup> 602 & G603 NOA- GE M) & VENDOR)	CONTRACT QUALITY REQUIREMENTS (CQR) for <u>LT MOTORS(IE3) - Up to 200KW used</u> in <u>Agitators</u> NTPC - NORTH KARANPURA (3X660MW) BHEL WO no: G601, G602 & G603 d Ultimate Customer - NTPC (Nationa Corporation)., India Quality Require		##Enquiry No: ## OEM Supplier Name & Address: ##Offer reference: ##Date: Contact Official Name: Mobile no: Email id: ##Specific confirmations by the vendor
			ITEM: LT Motors(IE3) Up to 2		·
04	Inspection Methodology to be adopted at Actual LT Motor Manufacture works by OEM vendor Contd	Customer-NT Supplier work & Type test re (IP 55) as pe as per releva IEC 60034 et No material	AIA (BHEL authorized inspection A PC to witness / perform inspection s and submit all the inspection door eports including Degree of Protecti r approved MQP & approved data nt BIS (Bureau of Indian Standard) c. shall be dispatched without BHE tomer – NTPC Inspection and disp		
05	Painting Requirements	Painting required of coats if any as per BHEL/ sheet/drg/spe	rement like paint shade and painting th are to be ensured by the OEM vendor Ultimate Customer -NTPC approved ec (As applicable).		
06	Packing		be as per Specification / Drg. / Dat g if any to avoid any transit & handlin		
07	For Inspection call	Motor Manut inspection / witnessing if DGM (QC-F kesavan@bh Mobile no: +S	II by OEM Vendor for LT Motor ins facture works to be raised for Ultimate Customer – NTPC incl any to be ensured / addressed Proc)., Mobile no: +91 94430 el.in and Mr Zeeshan Ali., Sr. E 01 9443149691 ., Email id: zeeshan related activities for immediate res	BHEL/BHEL AIA uding for type test to Mr R Kesavan., 106303., Email id: ngineer (QC-Proc)., n@bhel.in including	
08	Document Package / Dossier	hard copies +	rmation for Document Package in the - soft copies in PDf file) is to be a proper linkages (.)		
08	Document Package / Dossiercontd	<ul> <li>(i) Index Sheet</li> <li>(ii) MQP/RQP/Endorsement sheet</li> <li>(iii) TCs identified by BHEL/NTPC for record for "CHP" (Customer Hold Point) Verification &amp; Witness "W" portion as given in MQP / RQP / MQP (as applicable).</li> <li>(iv) Final Inspection Report + TC</li> <li>(v) BHEL AIA (BHEL Appointed Inspection Agency) / BHEL report + TC</li> <li>(vi) Ultimate customer NTPC (National Thermal Power Corporation) CHP (Customer Hold Point) / MDCC (Material Dispatch Clearance Certificate)</li> <li>(vii) Type test reports conducted/submitted with approval with approved data sheet and BOM with actual make used with Customer approved drgs.</li> </ul>			

### Annexure-I <u>CONTRACT QUALITY REQUIREMENTS (CQR) for LT MOTORS(IE3) Up to 200KW</u> (For INDIGENOUS OEM VENDOR ONLY)

BHE NTPO CS-4 6695 PACI MAII BHE SUB ADD	PROJECT: NORTH KARANPURA (3X660MW) BHEL WO no: G601, G602 & G603 NTPC CONTRACT NO: CS-4410-109-2- FC/SC-NOA- 6695/6696 PACKAGE: FGD PACKAGE MAIN CONTRACTOR: BHEL - RANIPET SUB CONTRACTOR (OEM) & ADDRESS: (To be filled by OEM VENDOR)		#)       REQUIREMENTS (CQR) for         602 & G603       LT MOTORS(IE3) - Up to 200KW used         in       Agitators         GE       NOA-         M) &       NTPC - NORTH KARANPURA (3X660MW)         BHEL WO no: G601, G602 & G603		ISECI B 8 0 RA P D	DOC.NO: BAP/QR/G601, G602 &G603/LTM/Agitators 001 Rev NO.: 01 Rev NO.: 00 PAGE : Page 5 of 5 DATE: 10.01.2022		## OEM Sup Address: ##Offer refe ##Date:	##Offer reference: ##Date: Contact Official Name: Mobile no:	
SI. NO.	DE	ESCRIPT	ION	BHEL and	l Ultimate Customer - NTPC (Nat Corporation)., India Quality Re			l Power		ic confirmations the vendor
					ITEM: LT Motors(IE3) U	-			~,	
09	Im	portant	t	Inspection Cate		p to <u>1</u> 0				
	not	-			HEL/BHEL AIA and also by Ultin RQP approved and as in sl no:04	mate Cu	stomer	– NTPC		
				Inspection Cate	egorization: II					
					Aain contractor (BHEL) / BHEL AIA based on Ultimate PC approved MQP/RQP & based on inspection as in sl no:04					
				Inspection Cate	egorization: III	gorization: III				
				inspection as in						
				witnessing of BHEL / BHEI Supplier only	plication for conducting chec any of the tests at Actual LT Mc AIA / Ultimate Customer – NT and no extra cost if any will be ad	otor Mai PC is ir	nufactu 1 the so	re Works by cope of OEM		
10				order and also	during execution of the contract.					
10		otor det ndor sha		ish following M	otor details involved in Agitators	as (as app	olicable	e) for this enqu	uiry.	
	[	S. No			Agitators		•	LT Motor		]
						Rat (in l	0	Quantity (in nos)	Make	
		1		rber Tank Agita						
		2			ank Agitator Motor					-
	<sup>3</sup> Filtrate Water Tank			6	<u> </u>				4	
				one Feed Tank Agitator Motor					4	
	5 Waste Water Tank A 6 Limestone Slurry Sto			0	<u> </u>				4	
					rage Tank Agitator Motor			<u>├</u>		-
	<ul> <li>Primary Hydrocyclor</li> <li>8 Absorber Area Drain</li> </ul>			ne Feed Tank Agitator Motor					-	
	<ul> <li><sup>8</sup> Absorber Area Drain</li> <li><sup>9</sup> Gypsum Area Drain</li> </ul>								-	
		10	21		Sump Agitator Motor					-
		11			red in the system (if any)	1				1
	]				· · · ·					]

**OEM Supplier signature with seal** 

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

ENDORSEMENT SHEET FOR QP REFERENCE / <i>STANDARD</i> / <u>FIELD</u> QUALITY PLAN (RQP / SQP/ <i>RFQP</i> / <i>SFQP</i> )						
TO BE FILLED IN BY SUPPLIER AT T	IME OF SUBMISSION	एनरीपीसी NTPC	To be filled in by NTPC			
PROJECT NAME	NORTH KARANPURA (3X660MW) BHEL WO no: G601, G602 & G603)	2REVIEW &	2REVIEW & ENDORSEMENT BY NTPC PROJECT SPECIFIC QP NUMBER ALLOTTED			
CONTRACT NO.:	CS-4410-109-2-FC/SC-NOA-6695/6696	QP NO:	OP NO:			
MAIN SUPPLIER	M/S.BHEL, RANIPET , TAMIL NADU., INDIA					
MANUFACTURER WORKS & ADDRESS	(TO BE FILLED BY OEM/LT MOTOR SUPPLIER	REV. NO.: (	W 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	N N	(TICK APPLICABLE)				
I. That the item/ component is identical to that con II. That there are minor changes in the item/ com the same do not affect the contents of MQP/RQP/	ponent with respect to that considered for MQP/RQP/SQP approval, howeve	The <i>MQP/RQP/SQP</i> is endorsed for this project without any change				
III. That there are minor changes in the item/ con	nponent with respect to that considered for MQP/RQP/SQP approval, however	-	The SQP is endorsed for this project with changes			
the same affect the MQP/RQP/SQP slightly, as in	aucaiea beiow / in auacnea sneet.	<ul> <li>A) MQP/RQ</li> <li>I. MAIN SUPP.</li> <li>MQP/RQP/SQ</li> <li>2. MANUFACT</li> <li>3. RIO</li> <li>4. CQA-SPL</li> <li>5. CQA-0/C</li> <li>B) RFQP/SF(</li> <li>1. MAIN SUPP.</li> <li>2. MANUFACT</li> <li>3. NTPC FQA (</li> </ul>	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 (Revie	wed /Approved by/ Date & Seal)			

()	MFGR.'S (TO BE FILLED BY OEM / LOGO LT MOTOR MANUFACTURE) (TO BE FILLED BY OEM SUPPLIER)		CTURER'S     INFANCE FOR INCLORENCE QUALITY FERANCE       S     ITEM : LT MOTOR (IE3)     QP NO.:       UP TO 200KW FOR FGD     AGITATORS:LTM:NK:001       APPLICATION     REV.NO.: 00       DATE:     SUB-SYSTEM: FGD -       AGITATORS     PAGE: OF		PROJECT: NTPC NORTH KARANPURA (3X660MW) (BHEL WO no: G601,G602 & G 603) NTPC CONTRACT NO: CS-4410-109-2-FC/SC-NOA- 6695/6696 PACKAGE: FGD PACKAGE MAIN CONTRACTOR: BHEL - RANIPET SUB CONTRACTOR (OEM) & ADDRESS: (TO BE FILLED BY OEM SUPPLIER)				G602 & G 603) /SC-NOA- RESS:						
<mark>SL.</mark> NO	COMPONEI OPERATIO		CHARACTERISTIC	S CLASS	<mark>TYPE OF</mark> CHECK	NTUM HECK C/N	REFERENCE DOCUMENT		<mark>eptance</mark> ORMS	FORMA' RECO		A M	<mark>GENC</mark>	XY N	REMARKS
<mark>1</mark> .	<mark>2</mark> .		<mark>3.</mark>	<mark>4</mark> .	<mark>5.</mark>	<mark>6.</mark>	<mark>7.</mark>		<mark>8.</mark>	<mark>9.</mark>	D*	*	* 1	<mark>0.</mark>	<mark>11.</mark>

		<b>LEGEND:</b> * RECORDS, INDENTIFIED WITH "TICK" ( $$ ) SHALL BE		DOC. NO.:	REV	CAT	
OEM MANUFACTURER/ LT MOTOR SUPPLIER	MAIN (BHEL) SUPPLIER	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				
SIGNAT	URE		USE	REVIEWED BY	APPROVED BY	APPROVAL SEAL	
FORMAT NO.: QS-01-QAI-P-09/F1-R1		1/1			ENGG. DIV./QA&I		

एनरीपीसी NTPC

# W.r.t FOREIGN OEM VENDORS

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 (DOC.NO: BAP/QR/G601, G602 & G603/LTM/Agitators 002 Rev NO.: 01 dt 10.01.2022) 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.	

BHF NTP CS-4 6695 PAC MAI BHE SUB ADD	PROJECT: NORTH KARANPURA (3X660MW) BHEL WO no: G601, G602 & G603 NTPC CONTRACT NO: CS-4410-109-2- FC/SC-NOA- 6695/6696 PACKAGE: FGD PACKAGE MAIN CONTRACTOR: BHEL - RANIPET SUB CONTRACTOR (OEM) & ADDRESS: (To be filled by OEM VENDOR)		REQUIREMENTS (CQR) for LT MOTORS(IE3) - Up to 200KW used inBAP/QR/G601, G602 & G603/LTM/Agitators 002AgitatorsRev NO.: 01 Rev NO.: 01 Rev NO.: 00 PAGE : Page 1 of 6 DATE: 10.01.2022NTPC - NORTH KARANPURA (3X660MW)DATE: 10.01.2022BHEL WO no: G601, G602 & G603G603		##Enquiry No: ## OEM Supplier Name & Address: ##Offer reference: ##Date: Contact Official Name: Mobile no: Email id:
SI.	DESCRIPTION	BHEL a	nd Ultimate Customer - NTPC (Natior	al Thermal Power	##Specific
NO.			Corporation)., India Quality Requi	rements	confirmations by the
					vendor
			ITEM: LT Motors(IE3) - Up to	200KW	
01	Type Test Requirements	SL NO: ( ultimate should be those prop have beer witnessed (or) Ultin respective B. However,	<ul> <li>A. Vendor shall submit the type test reports of all the type tests as listed in SL NO: 01 (D) below and carried out within 10 years from the date of ultimate Customer NTPC bid opening dt 22.06.2018. These reports should be for the test conducted on the identical/similar LT Motors to those proposed to be supplied under this enquiry and test (s) either should have been conducted at an independent laboratory (or) should have been witnessed by BHEL/BHEL AIA (BHEL Appointed Inspection Agency) (or) Ultimate customer NTPC (National Thermal Power Corporation) at respective LT Motor Manufacture of OEM vendor.</li> <li>B. However, if vendor is not able to submit the similar / identical type test reports as per above condition in 01 (A) (or) in the case of type test reports</li> </ul>		
		C. Type Te Appointed line with (General			

PROJECT: NORTH KARANPURA (3X660MW)BHEL WO no: G601, G602 & G603NTPC CONTRACT NO:CS-4410-109-2- FC/SC-NOA-6695/6696PACKAGE: FGD PACKAGEMAIN CONTRACTOR:BHEL - RANIPETSUB CONTRACTOR (OEM) &ADDRESS:(To be filled by OEM VENDOR)SI.DESCRIPTIONBHEL a		V) 602 & G603 NOA- GE M) & <b>VENDOR</b> )	CONTRACT QUALITY REQUIREMENTS (CQR) for <u>LT MOTORS(IE3) - Up to 200KW used</u> in <u>Agitators</u> NTPC - NORTH KARANPURA (3X660MW) BHEL WO no: G601, G602 & G603 nd Ultimate Customer - NTPC (Nation	DOC.NO: BAP/QR/G601, G602 &G603/LTM/Agitators 002 Rev NO.: 01 Rev NO.: 00 PAGE : Page 2 of 6 DATE: 10.01.2022	##Enquiry No: ## OEM Supplier Name & Address: ##Offer reference: ##Date: Contact Official Name: Mobile no: Email id: ##Specific
NO.			Corporation)., India Quality Requ		confirmations by the
			ITEM. I T Matawa(IF?) II- 4	> 200KW	vendor
01	Type Test	D The falle	<u>ITEM: LT Motors(IE3) - Up to</u> wing Type test reports to be submitted		
01	Requirement (Contd)	for above Standard)	<ul> <li>a submittee for the submittee software for the submittee software for the submittee software software</li></ul>	BIS (Bureau of Indian	
		(if ap ii. No lo speed	plicable) bad test at rated voltage to determine	input current, power and	
		<ul> <li>iv. Full load test to determine efficiency power factor and slip</li> <li>v. Temperature rise test.</li> <li>vi. Momentary excess /over load test</li> <li>vii. High voltage test</li> </ul>			
		viii. Test f ix. Test o be lir maxi x. Over xi. Degro xii. Type proof	for vibration severity of motor of noise levels of motor ( <b>Noise level f</b> <b>nited to 85dB(A) except for BFP mo</b> <b>mum limit shall be 90dB(A).)</b> speed test ee of Protection Tests (Minimum Ingr test reports for motors located in fuel e enclosures as per BIS 2148/ IEC 600	otor for which the ess Protection - IP 55). oil area having flame 79-1	
		page contr	Test reports shall also be given as PE rol through Email & Soft Copy (File s	ize to less than 9MB).	
02	Quality Plan Requirement	<ul> <li>MQP (Manufacturing Quality Plan) is applicable for these LT Motors and accordingly Actual LT Motor Manufacture shall submit the MQP in ultimate customer – NTPC format for review and approval by BHEL / Ultimate Customer - NTPC.</li> </ul>			
		approved same is ap obtaining	LT Motor manufacture is having, ultin MQP (Manufacturing Quality Plan) a oplicable for these LT Motor for inspe ultimate customer NTPC formal appr ugh endorsement sheet approval route	nd having validity, the ction purposes subject to oval in the event of an	

DDC				1	
PRO,	JECT: NORTH KAR (3X660MW		CONTRACT QUALITY REQUIREMENTS (CQR) for	DOC.NO:	##Enquiry No:
	L WO no: G601, G C CONTRACT NO:	· · · · · · · · · · · · · · · · · · ·	LT MOTORS(IE3) - Up to 200KW used in	BAP/QR/G601, G602 &G603/LTM/Agitators 002	## OEM Supplier Name & Address:
6695	410-109-2- FC/SC-N /6696		<u>Agitators</u>	Rev NO.: 01 Rev NO.: 00	##Offer reference:
	KAGE: FGD PACKA N CONTRACTOR:	GE		PAGE : Page 3 of 6 DATE: 10.01.2022	##Date:
	L - RANIPET	MD 8-	NTPC - NORTH KARANPURA	DATE. 10.01.2022	
	CONTRACTOR (OE) RESS:	M) &	(3X660MW) BHEL WO no: G601, G602 & G603		Contact Official Name: Mobile no:
(To	be filled by OEM	VENDOR)			Email id:
SI.	DESCRIPTION	BHEL a	nd Ultimate Customer - NTPC (Nation	hal Thermal Power	##Specific
NO.			Corporation)., India Quality Requ		confirmations by the vendor
			ITEM: LT Motors(IE3) - Up to	200KW	vendor
02	Quality Plan	c. According	gly, LT Motor Manufacture & OEM s		
	Requirement	filled up H	Endorsement sheet (copy attached) wit	h ultimate customer	
	contd		MQP with signature & seal in the eve		
		from BHE	EL for BHEL/Ultimate Customer – NT	PC review and approval.	
		d. If LT M	otor Manufacture / OEM vendor do	bes not have MOP, they	
		should su			
		review &	approval. (copy attached).		
		e. Typical Ir	ndicative MQP is attached for inf and	& guidance nurnoses only	
			ot final and binding on BHEL / Ultimated		
03	Inspection		fotors are to be inspected by BHEL		
	Methodology		Agency) at LT Motor manufactur		
	to be adopted at Actual LT		approved data sheet/drg/spec/ as per andard) - BIS 325 / IEC 60034 e		
	Motor	Customer			
	Manufacture	1 A11 D. C	The second se		
	works by OEM vendor		ne Tests are to be witnessed by BHE Agency) at LT Motor manufactur		
	venuor		approved data sheet/drg/spec / as per		
		Indian St	andard) - BIS 325 / IEC 60034 et		
		Customer	-NTPC		
		c. BHEL AI	A (BHEL authorized inspection Agen	cy) / Ultimate Customer-	
		NTPC w	vill also ensure LT Motor type tests	reports review including	
			Protection Test Reports & acceptance		
		Standard)	data sheet / drg / spec / as per releva - BIS 325 / IEC 60034 etc.	int BIS (Bureau of Indian	
	d. BHEL AIA (BHEL authorized inspection Agency) ) / Ultimate				
			-NTPC to witness / perform inspect d submit all the inspection documents		
			cluding Degree of Protection Test Re		
		approved	MQP & approved data sheet / drg / s	spec / as per relevant BIS	
		(Bureau o	f Indian Standard) - BIS 325 / IEC 6	0034 etc.	

PRO,	JECT: NORTH KAR		CONTRACT QUALITY	DOC.NO:	##Enquiry No:
BHF	(3X660MW) L WO no: G601, G6		REQUIREMENTS (CQR) for LT MOTORS(IE3) - Up to 200KW used	BAP/QR/G601, G602	## OEM Supplier Name &
	C CONTRACT NO:	002 <b>a</b> 0005	<u>in</u>	&G603/LTM/Agitators 002	Address:
CS-4	410-109-2- FC/SC-N	NOA-	Agitators	Rev NO.: 01	
	/6696	C.F.		Rev NO.: 00	##Offer reference:
	KAGE: FGD PACKA( N CONTRACTOR:	GE		PAGE : Page 4 of 6	##Date:
	L - RANIPET		NTPC - NORTH KARANPURA	DATE: 10.01.2022	mbate.
	CONTRACTOR (OE)	M) &	(3X660MW)		Contact Official Name:
ADD	RESS:		BHEL WO no: G601, G602 & G603		Mobile no: Email id:
(To	be filled by OEM	VENDOR)			emailiu:
SI.	DESCRIPTION	BHEL a	nd Ultimate Customer - NTPC (Nation	l nal Thermal Power	##Specific
NO.			Corporation)., India Quality Requ	irements	confirmations by the
					vendor
			ITEM: LT Motors(IE3) - Up to	200KW	
03	Inspection		o to 30KW – Inspection Categorizat		
	Methodology		sts on LT Motors are to be ensured by		
	to be adopted		cted & witnessed by OEM Vendor / l		
	at Actual LT		ized inspection Agency) at LT Motor		
	Motor Monufo atuma		MQP & approved data sheet /drg / spe		
	Manufacture works by OEM		lian Standard) - BIS 325 / IEC 60034 with Inspection report (IR) to be submit		
	vendorcontd		TPC for review and to obtain inspectio		
	venuorcontu	Customer IV		in and disputen eleuranee.	
		LT Motor Mai	nufacturer has to issue COC(Certificat	e of Conformance) states	
			motor/ motors was manufactured taki		
			ements regarding ambient temp., volta		
			starts,pull out torque,starting KVA/KV		
			e of stud and gland plate, space heater	and tested in accordance	
			drawing/data sheets		
			0KW to 50KW) – Inspection Categorees on LT Motors are to be ens		
			be inspected & witnessed by BH		
			nspection Agency) at LT Mot		
			iew of Type Test Reports and De		
		Reports (IP			
			ec / as per relevant BIS (Bureau o		
			0034 etc and all the Routine Test		
			be submitted for BHEL/Ultimate Cus	tomer – NTPC for review	
	and to obtain inspection and dispatch clearance.				
				~	
			V and up to 200KW – Inspection (		
Vendor at Act			Type Tests if any on LT Motors and LT Motors and LT Motors Manufacture Works		
			ual LT Motor Manufacture Works an L AIA (BHEL authorized inspection		
Customer-NT			PC for inspection & witnessing inclu		
		Protection Tes	at Reports as per approved MQP /RQ	P (Reference Quality Plan	
			hent sheet approved) / approved data		
			Bureau of Indian Standard) - BIS 32.		
			Test Reports with Inspection report		
			te Customer – NTPC review and		
		dispatch cleara		-	

PRO	JECT: NORTH KAR (3X660MW		CONTRACT QUALITY REQUIREMENTS (CQR) for	DOC.NO:	##Enquiry No:
	L WO no: G601, G C CONTRACT NO:		LT MOTORS(IE3) - Up to 200KW used in	BAP/QR/G601, G602 &G603/LTM/Agitators 002	## OEM Supplier Name & Address:
	410-109-2- FC/SC-I /6696	NOA-	<b>Agitators</b>	Rev NO.: 01	##Offer reference:
PAC	KAGE: FGD PACKA	GE		Rev NO.: 00 PAGE : Page 5 of 6	##Oner reference:
	N CONTRACTOR: L - RANIPET		NTPC - NORTH KARANPURA	DATE: 10.01.2022	##Date:
SUB	CONTRACTOR (OE)	M) &	( <b>3X660MW</b> )		Contact Official Name:
ADD	RESS:		BHEL WO no: G601, G602 & G603		Mobile no: Email id:
(То	be filled by OEM	VENDOR)			
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
3	Inspection	All the check	s / tests /review of documents / ins		
	Methodology	LT Motor Ma	nufacture by OEM /BHEL / BHEL	AIA (BHEL authorized	
	to be adopted		gency) ) / Ultimate Customer-NTP		
	at Actual LT Motor		ny cost implication arising out of due t for witnessing of any of the tests at A		
	Manufacture		Vorks (or) at third party etc by BHEL		
	works by OEM		TPC are in the scope of OEM Supplie		
	vendorcontd	A a such Nie su			
			tra cost if any will be admissible and j during execution of the contract.	paid in the event of an	
			6		
			shall be dispatched without Br tomer – NTPC Inspection and disp		
04	Painting		rement like paint shade and painting th		
	Requirements		re to be ensured by the OEM vendor f Itimate Customer -NTPC approved d		
		applicable)		ald sheel/dig/spec (As	
05	Packing		be as per Specification / Drg. / Data s		
			to avoid any transit & handling dama	5	
06	For Inspection		all by OEM Vendor for LT Motor		
	call		facture works to be raised for / Ultimate Customer – NTPC i		
			any to be ensured / addressed to		
			Mobile no: +91 9443006303., Em		
	and Mr Zeeshan Ali., Sr.Engineer (QC-Proc)., Mobile no: 9443149691. Email id: zeeshan@bhel.in including for inspection related activities				
		for immediate			
07	Document	Specific confi	Specific confirmation for Document Package in the event of an order (3 hard		
	Package /	~	copies in PDf file) is to be given cont	aining the following with	
	Dossier	proper linkage (i) Inde	s (.) x Sheet		
			P/RQP/Endorsement sheet		
		(iii) TCs identified by BHEL/NTPC for record for "CHP"			
			stomer Hold Point) Verification & Wi	-	
			ven in MQP / RQP / MQP (as applica Inspection Report + TC	ioic).	
			L AIA (BHEL Appointed Inspection .	Agency) /	
		BHE	EL report + TC		
			nate customer NTPC (National Therm		
			P (Customer Hold Point) / MDCC (Ma rance Certificate)	iterial Dispatch	
			e test reports conducted/submitted with	approval with	

(To be filled by OEM VENDOR) SI. DESCRIPTION BHEL a NO.			nd Ultimate Customer - NTPC (Nation Corporation)., India Quality Requ		Email id: ##Specific confirmations by the
PACKAGE: FGD PACKAGE MAIN CONTRACTOR: BHEL - RANIPET SUB CONTRACTOR (OEM) & ADDRESS:			NTPC - NORTH KARANPURA (3X660MW) BHEL WO no: G601, G602 & G603	Rev NO.: 00 PAGE : Page 6 of 6 DATE: 10.01.2022	##Date: Contact Official Name: Mobile no:
BHEL WO no: G601, G602 & G603 NTPC CONTRACT NO: CS-4410-109-2- FC/SC-NOA- 6695/6696			<u>Agitators</u>	&G603/LTM/Agitators 002 Rev NO.: 01	## OEM Supplier Name & Address: ##Offer reference:
	PROJECT: NORTH KARANPURA (3X660MW) BHEL WO may C(01, C(02, % C(02		REQUIREMENTS (COR) for	DOC.NO: BAP/OR/G601, G602	##Enquiry No:

		<u>ITEM: LT Motors(IE3) - Up to 200KW</u>
07	Document	approved data sheet and BOM with actual make used with
	Package /	Customer approved drgs.
	Dossiercontd	
08	Important	Inspection Categorization: I
	notes	Inspection by BHEL/BHEL AIA and also by Ultimate Customer – NTPC based on MQP/RQP approved and as in sl no:03 <u>Inspection Categorization: II</u> Inspection by Main contractor (BHEL) / BHEL AIA based on Ultimate Customer – NTPC approved MQP/RQP & based on inspection as in sl no:03 <u>Inspection Categorization: III</u>
		COC by Main contractor (BHEL) to Ultimate Customer – NTPC based on inspection as in sl no:03
		Any cost implication for conducting checks / tests including for witnessing of any of the tests at Actual LT Motor Manufacture Works by BHEL / BHEL AIA / Ultimate Customer – NTPC is in the scope of OEM Supplier only and no extra cost if any will be admissible in the event of an order and also during execution of the contract.
09	Motor details	

#### 9 Motor details

Vendor shall furnish following Motor details involved in Agitators (as applicable) for this enquiry.

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 / <i>STANDARD</i> / <u>FIELD</u> QUALITY PLAN (RQP / SQP/ <i>RFQP</i> /SFQP)										
TO BE FILLED IN BY SUPPLIER AT T	IME OF SUBMISSION	एनरीपीसी NTPC	To be filled in by NTPC							
PROJECT NAME	2REVIEW & I	<u>2REVIEW &amp; ENDORSEMENT BY NTPC</u> PROJECT SPECIFIC QP NUMBER ALLOTTED								
CONTRACT NO.:	CS-4410-109-2-FC/SC-NOA-6695/6696	QP NO:								
MAIN SUPPLIER	M/S.BHEL, RANIPET , TAMIL NADU., INDIA		0 D.T.							
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 APPLICABLE)								
•	ponent with respect to that considered for MQP/RQP/SQP approval, however	The MQP/RQP/SQP is endorsed for this project without any change								
the same do not affect the contents of MQP/RQP/			alanaal fan this nuciest with shanaa							
the same affect the MQP/RQP/SQP slightly, as in	ponent with respect to that considered for MQP/RQP/SQP approval, however dicated below / in attached sheet.	as indicated.	ndorsed for this project with changes							
		A) MQP/RQ 1. MAIN SUPP. MQP/RQP/SQ 2. MANUFACT 3. RIO 4. CQA-SPL 5. CQA-O/C B) RFQP/SF( 1. MAIN SUPP. 2. MANUFACT 3. NTPC FQA (	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	wed /Approved by/ Date & Seal)							

OEM SUPPLIER				MANII	FACTURING QU	MQP:E:LTM:BONGAIGAON :FGD:AGITATOR: 001									
		To be fille					• • • • • • • •		REV:NO:00						
BHEL				LI	MOTOR	( UP to 10 2001	KW) - FGD Appli	cation	DATE: 23.09.2021						
		OEM Sup	plier						Page :						
	P/ RANIPET /		00												
14	MIL NADU	LT MOT													
	INDIA	Manufact	ure												
		To be filled b	<u>y OEM</u>												
		<u>Supplie</u>	r												
S1.No	. COMPONET/A	CHARACTE-	CLASS	TYPE OF	QUANUTM OF	REFERENCE DOCUMENT	ACCEPTANCE STANDARD	FORMAT OF REC		AGENCY		REMARKS	_		
		RISTIC		CHECK	CHECK				D	M	BHEL/		_		
	ERATION/TES								-		BHEL				
	-										AIA				
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	_	12.			
	MING INSPCE		Malan	Mashariad	d completes	IC 10700 1000 Det 10 / IEC	IEC 60317-0-1 2008	Diant farmat		D	V				
1.1	copper conductor(Dual	1.Overall diameter	Major	Mechanical	F	IS 13730 1993 Part 13 / IEC 60317-0-1-2008 (As applicable)	IEC 00317-0-1 2000	Plant format		Р	V				
		2.Bare conductor diameter	Major	Mechanical		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				
		5.Continuity (insulatio n)	Major	Electrical	1 sample/lot	do	do	Insp report/ Supplier TC		Р	V				
		6.Tan Delta (lf applicable)	Major	Electrical	1 sample/lot	do	do	Insp report/ Supplier TC		Р	V	EC gr purity: -99	9.6%		
1.2	Aluminum Ingots	1.Chemical composition	Major	Chemical	1 sample/lot	do	do	Supplier Tc		Р	V	20 gi pangi ot	0.070		
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				

	OEM SUPPLIER				MANU	FACTURING QL	IALITY PLAN FO	R		M:BONGAIGAON :FO	GD:AGITATOR: 001			
		To be fill	ed bv	]		( 11n to TO 2001	KW) - FGD Appli	ration	REV:NO:00					
	BHEL OEM Supplier			-		( <b>Op to 10 200</b>		Gallon	DATE: 23.09.2021					
BA	P/ RANIPET /		hinei						Page :					
	AMIL NADU	LT MOT	OR											
	INDIA	Manufac	ture											
		To be filled I	by OEM											
		Suppli	er											
S1.No		CHARACTE-	CLASS	TYPE OF		REFERENCE DOCUMENT	ACCEPTANCE STANDARD	FORMAT OF REC		AGENCY	REMARKS			
	SSEMBLY/OP Eration/tes Ts	RISTIC		CHECK	CHECK				D	M BHEL Bhel				
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	AIA 11.	12.			
	ROCESS INSP	-	т	0.	0.	<u>/</u> .	Ų.	ν.	10.		12.			
2.1	Stator core	1.Core length dia	Major	Mechanical	100%	do	do	Inspection Record		P V				
		2.Core locking	Major	Visual	100%	do	do	Inspection Record		P V				
		3.Rigidity of core	Major	Mechanical	100%	do	do	Inspection Record		P V				
2.2	Die cast rotor	1.Core length	Major	Mechanical	100%	do	do	Inspection Record		P V				
		2.Blow holes	Major	Mechanical	100%	do	do	Inspection Record		P 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		P V				
		3.Insulation resisitance	Major	Electrical	100%	do	do	Inspection Record		P V				
2.4	Final Assembiy	1.Completeness	Major	Visual	100%	do	do	Inspection Record		P V				
		2.Runout in case of flanged motors	Major	Mechanical	100%	do	do	Inspection Record		P V				
		3.Mounting dimensions	Major	Mechanical	100%	do	do	Inspection Record		P V				

TA	BHEL / RANIPET / Mil Nadu India India	RANIPET / IIL NADU NDIA <u>LT MOTOR</u> <u>Manufacture</u> <u>To be filled by OEM</u> <u>Supplier</u>			Supplier       Imanufactor of integration       RE         LT MOTOR       LT MOTOR       Up to TO 200KW) - FGD Application       Pa         LT MOTOR       Manufacture       Pa         To be filled by OEM       Supplier       Pa         ARACTE-       Image: Class       Type of       Quanutm of Reference document acceptance standard format of Rec							REMARKS	
		RISTIC	LINU						D	AGENCY M	bhel/ Bhel Aia		
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.		11.	12.	
<b>FINAI</b> 3.1	LINSPCETIO Routine Test	N AND TESTING 1.Resistance Measurement on winding & space heater	<b>i:</b> Major	Electrical	100%	BHEL / NTPC Spec, GA Drawing & Apprd Datasheet and IS/IEC 60034 (As applicable)	BHEL / NTPC Spec, GA Drawing & Apprd Datasheet and IS/IEC 60034 (As applicable)	Inspection Record		Р	W		
		2.HV Test 3.Phase sequence & direction of rotation	Major Major	Electrical Electrical	100% 100%	do do	do do	Inspection Record Inspection Record		P P	W W		
		4.No load run test 5.Vibration test 6.Name plate recheck	Major Major Major	Electrical Mechanical Visual	100% 100% 100%	do do do	do do do	Inspection Record Inspection Record Inspection Record		P P P	W W 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 SUPPLIER			MANU		AON :FGI	D:AGITATOR: 001						
		To be fille		l			•		REV:NO:00					
	BHEL			L			KW) - FGD Appli	CallOII	DATE: 23.0	9.2021				
BHEL OEM Supplier									Page :					
	MIL NADU	LT MOT	OR											
	INDIA	Manufac												
		To be filled b												
		Supplie												
	COMPONET/A	CHARACTE-	CLASS	TYPE OF		REFERENCE DOCUMENT	ACCEPTANCE STANDARD	FORMAT OF REC		AGENCY		REMARKS		
	SSEMBLY/OP Eration/tes Ts	RISTIC		CHECK	CHECK				D	М	bhel/ Bhel Aia			
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11		12.		
3.2	TYPE TESTS ###						. · ·					1		
3.3	Preservation and Packing	1.Completeness	Major	Review	100%	do	do	Inspection Record		Р	۷			
		2.Motors covered with polythene sheets	Major	Visual	100%	do	do	Inspection Record		Р	V			
		3.Packing	Major	Visual	100%	do	do	Inspection Record		Р	V			
### T\	PE TEST REC	0	,			F PROTECTION TEST RE	PORT (IP 55)							
							during including degree o L/Ultimate Customer NTPC							
				• •		• •	then OEM / LT Motor Ma				-			
	-						st implication to BHEL/U				-			
1. Mea	surement of Re	esistence of Stator												
2. No I	oad test at Ra	ed Voltage												
'	l out test													
	perature Rise T	est Torque Torque Tes	<b>.</b> t											
	Voltage Test	Tolque Tolque Tes	51											
•	for Vibration Se	everity												
		Measurement												
	r Speed Test													
	gree of Protect	( )												
LEGE		DEM = Orgional E HEL AIA = BHEL												
	-	GA Drawing : Ge												
	Ν					(Ultimate Customer)								
		OEM SUPPLIER				mulies)								
		LT MOTOR Manu	nacture :	(10 DE FIIIÉO	up by DEM SU	ipplier)								

()	OEM SUPPLIER WITH OEM MFGR.'s LOGO 'O BE FILLED BY DEM SUPPLIER)	NAME AN (TO BE FI	R MANUFACTURER'S D ADDRESS LLED BY OEM / R MANUFACTURE)	MANUFACTURING QUALITY PLANITEM : LT MOTOR (IE3)QP NO.:UP TO 200KW FOR FGDAGITATORS:LTM:NK:001APPLICATIONREV.NO.: 00DATE:DATE:SUB-SYSTEM: FGD -AGITATORS					NTPC CO 6695/6696 PACKAG MAIN CO SUB CO	PROJECT: NTPC NORTH KARANPURA (3X660MW) (BHEL WO no: G601,G602 & G 603) NTPC CONTRACT NO: CS-4410-109-2-FC/SC-NOA- 6695/6696 PACKAGE: FGD PACKAGE MAIN CONTRACTOR: BHEL - RANIPET SUB CONTRACTOR (OEM) & ADDRESS: (TO BE FILLED BY OEM SUPPLIER)						
<mark>SL.</mark> NO	COMPONEI OPERATIO		CHARACTERISTIC	S CLASS	<mark>TYPE OF</mark> CHECK		NTUM HECK <mark>C/N</mark>	REFERENCE DOCUMENT		<mark>EPTANCE</mark> ORMS			A M	AGENCY M C N		REMARKS
<mark>1.</mark>	<mark>2</mark> .		<mark>3.</mark>	<mark>4</mark> .	<mark>5.</mark>		<mark>6.</mark>	<mark>7.</mark>		<mark>8.</mark>	<mark>9.</mark>	D*	*	* 1	<mark>0.</mark>	<mark>11.</mark>

		<b>LEGEND:</b> * RECORDS, INDENTIFIED WITH "TICK" ( $$ ) SHALL BE		DOC. NO.:	REV	CAT		
OEM MANUFACTURER/ LT MOTOR SUPPLIER	MAIN (BHEL) SUPPLIER	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					
SIGNATURE			USE	REVIEWED BY	APPROVED BY	APPROVAL SEAL		
FORMAT NO.: QS-01-QAI-P-09/F1-R1		1/1		ENGG. DIV./QA				

एनरीपीसी NTPC