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

FGD: NPGCL: SLP: 230

Dt. 11-08-2021

Item Name	Indent No	Indent Dt.	PGMA	Technical Specification
SLURRY PUMPS	RFW11273 RFW11274	09.08.2021 09.08.2021	FW701 FW701	ROS:9081, Rev:00, Dt:06.08.2021 and TECI:LT MOTOR:REV:05, Dt:28.07.2021
	RFW11275	09.08.2021	FW997	

**Project**: NPGCL NABINAGAR (3X660 MW) \_ W/O: G609-G611.

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

- 1. Since Slurry Pump appears under Sub-QR item, Sub-QR approved vendor by NTPC Engg. Acceptable to Quality also.
- 2. Inspection and testing shall be done as per approved Quality plan, Quality plan to be approved by Customer/ NTPC after review of BHEL.
- 3. Painting shall be as per Customer approved Painting schedule.
- 4. Arrange MQP from sub QR Cleared vendor for taking up with Customer for their review and approval. Find herewith-attached typical MQP (QP NO.FGS:SLP:723/00, DT: 08.01.2021). This MQP involves minimum check only and actual Quantum of Check/Stage may differ based on Project/Customer requirement and their approved MQP.
- 5. Already NTPC approved latest MQP for similar application if available specific to Vendor may be shared for obtaining faster approval from Customer/Customer Consultant.
- 6. All the Pumps shall be inspected at supplier works as per approved QP/Approved Drawing/Approved datasheet and Specification.
- 7. Packing of items shall be as per BHEL Engg Approved Packing Drawing/BHEL Specifications.
- 8. BHEL Authorized representatives shall have the right to witness the necessary inspection and testing of goods mentioned in the PO. The supplier shall inform BHEL in advance about the readiness of the goods for inspection and testing. Inspection / Inspection wavier / approval by BHEL does not absolve Supplier's responsibility for conformity of the specification as per the terms of PO. Material Test Certificates shall be submitted to BHEL.
- 9. Annexure 'Q' and BOI's Details shall be part of enquiry File and shall be filled by Supplier with their duly sign and seal.

#### 10. Vendor Quality Plan shall contain following Inspection Notes:

- a. Latest version of standards & Specification shall be applied.
- b. Materials shall be procured in compliance to Functional Technical specification.
- c. Gauges and measuring instruments with valid calibration only shall be used.
- d. Inspection / Inspection wavier / approval by BHEL does not absolve Supplier's responsibility for conformity of the specification as per the terms of PO.
- e. BHEL /BHEL Authorized representatives shall have the right to witness the necessary inspection and testing of goods mentioned in the PO
- f. In case of Vendor Drawing & Datasheet, it needs approval by BHEL Engineering.
- g. This QP shall be read along with relevant PO, BHEL Specification / Approved Drawing / Datasheet.

Rakesh Kr Madhu (Dy.Mgr/QA)

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

061,24	/2021/		MEGF'S NAME AND						MANUFAC	ΓURIN	G QUA	LITY	PLAN					
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Manut	facturer S	Sign & Seal	Penetrant Test, UT: Ultr IR: inspection report, M	asonic To	esting <sup>-</sup>	TC: Test Ce	ertificate		Rakesh Kr Madhu (Dy Mgr / QA) K I			K Renjith (Mgr / QA)			R Arunachalam (DGM/QA			
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3.2	0 11 0	Leak test	Major	Leakage testing	100%	Mfg. Drawing, Approved Data Sheet	No Leakage	Report	<b>√</b>	Р	w	W	
3.3	Complete Pump Assembly	Strip Down Test (Not Required If Performance Test is Fine.)	Major	Visual	100%	Mfg. Drawing Data Sheet	g, Approved	Report	<b>√</b>	Р	w	w	Only Required in case of Abnormal Sound
3.4	Painting	Dry Film Thickness/Paint shade	Major	Visual & Measuremen t	100%	NTPC Appro	oved Painting	IR(Proto col)	<b>V</b>	Р	٧	٧	
3.5	Packing	Preservation	Major	Visual & Measuremen t	100%	Technical Sp approved Pa Procedure/D	acking	COC	<b>V</b>	Р	٧	-	
4.0	DOCUMENTATION	N											
4.1	Check of Quality Assurance Documentation	Compliance to MQP	Major	Check of Complement s	100%	Manufacturir	ng Quality Plan	Protocol	<b>√</b>	V	٧	V	

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

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

406124	/2021/		RGA'S NAME AND						MA	NUFA	CTUI	RING (	QUALITY	PLAN						
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- 2. All other items, which are not cover under this QP, shall be manufactured inspected as per OEM (Original equipment Manufacturer)/BHEL standard practice and relevant standard. Relevant TC/COC will be submitted for the same.
- 3. This QP is applicable for Mandatory Spare supply also.
- 4. Separate MQP to be submitted for Electric Motor.

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

#### **Record of revision**

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

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

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

### $406124/2021/BAP\text{-}QA\_MECH$

Sl.No	BHEL / Customer Requirements	##Specific confirmations by the manufacture(Acceptable/Not acceptable)
4	Stage Inspection during manufacturing Process: Stage Inspection during manufacturing shall be carried out as per approved quality plan and all necessary documents shall be provided for review, verification and clearanace for further processing. This inspection call shall be given well in advance (atleast 2 weeks before for Indeginious and 45 days forforeign) to TPI/Bidder's own inspection agency to avoid delay in the manufacturing processes.	
5	Inspection before despatch for domestic supplier: Inspection before despatch at supplier's works shall be carried out by Bidder appointed Inspection agency(As in SI no.3.) Inspection shall be done as per approved Quality plan/ Technical specification/ Approved Drawing/ Approved Data sheet.	
6	Inspection at Forign Source/Supplier:  (a) As in sI no: 3. shall be ensured without fail  (b) No materail / items shall be despatched without getting the written communication from BHEL /  Customer inspection carried out by Bidder apointed Third Party Inspection Agency (As per SI no.3) /  Customer/Customer Apointed Inspection Agency/Consulatnat. This is applicable for all Stage inspection and Final Inspection identified as "W" - Witness or "CHP" - Customer Hold Point as per customer approved Quality Plan/ Technical specification / Approved Drawing/ Approved Data sheet / Scheme / PID / PFD / SLD (Process Instrumentaion Diagram / Process Flow Diagram / Single Line Diagram) etc (As applicable). Inspection before despatch for Foreign supplier: Inspection before despatch at supplier's works shall be carried out by bidder appointed inspection agencies having international presence at vendors and or vendor's sub vendor works. Inspection shall be done as per approved Quality plan/ Technical specification/ Approved Drawing/ Approved Data sheet by TPIA mentioned in SI no: 03 at supplier's cost.	
7	Painting shall be done strictely as per BHEL/Customer approved painting schedule / scheme only. Paint Thickness / Paint shade shall be ensured as per BHEL / Customer approved painting schedule / specification / data sheet etc. No deviation is acceptable unless otherwise accepted by BHEL/Customer in writing. Any conflict if any among BHEL / Customer approved painting schedule / Spec / data sheet etc shall be brought to the notice to BHEL well in adavnce before proceding including the BOI being procured for assy / skid like motors etc	
8	Specific conformation for document package in the event of an order (2 Hard copies & soft copy in PDF file) is to be given containing the following with proper linkages  (i) Index Sheet  (ii) MQP/RQP/Endorsemment Sheet (As applicable)  (iii) TCs identfied by BHEL/ Customer for record for "CHP" / "W" and Verification portion ("V") as given in approved QP.  (iv) Final inspection report + TC including Chemical + Mechnaical + HT + NDT etc  (v) Third party Inspection report + TC  (vi) Customer CHP/ MDCC  (vii) Type test / Performance Test reports conducted  (viii) Type test / Performance Test approval/ clearance obtained from BHEL/Customer  (ix) BOM with As Build Drgs with actual make / rating used with BHEL/customer approved drawings.	
9	Packing / Seaworthy Packing shall be as per BHEL Packing schedule / approved drg / sketch. This shall be ensured to take care tarnsit / handling / transhipment in Road / Sea / Air. Photographs are to be submitted for BHEL review before despatching the material as per contract conditions.	
10	Outsourcing of test facilities: Bidder shall ensure all the testing facilities in house. However If any of the test facilities are not available with successful bidder, then bidder shall ensure the same at NABL accreadted third party lab / Govt / Govt Lab for major testing such as NDT, Electrical & Mechanical testing.	
11	Important Note: No deviation on the above requirement 01 to 10 is acceptable w.r.t Quality Requirement and those offers not meeting these specific customer requirement is liable for rejection and hence the bidder shall submit all the required documentary evidances in the offer itself.	
12	## Necessorily to be filled up by the bidder at the time of offer itself otherwise the offer may not be considered w.r.t Quality Requirement being customer specific requirement.	
13	If the OEM/Principal engaging the services of an agent to participate on their behalf, Then mention OEM /vendor Name & address as well as agent details with their sign and seal.	

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

Item/ Sub system Name	Quantity	Supplier Name	Place of Manufacturing					
OEM (ORIGINAL EQUIPMENT MANUFACTURER) SEAL AND SIGN.								

## W.r.t INDIGENOUS OEM VENDORS ONLY

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/ G609 to G611/Nabinagar/ LTM/ Slurry Pumps: 001 Rev No. 01 dt 14.08.2021) and send us the same to follow / ensure all the requirements in the event of an order.	Committee
02	OEM vendor shall ensure Credentials of design and Manufacturing capabilities w.r.t. LT Motors by their LT Motor manufacture.	
03	OEM Supplier shall submit other details like that they are already approved vendor by Ultimate Customer – NTPC (National Thermal Power Corporation Limited) specifically for proposed supply of LT Motor against BHEL/Ranipet. The details of PO already executed preferably through various other BHEL units for any NTPC projects with CHP/MDCC including technical catalogue, PO received so far for similar supply of LT Motors may also be submitted.	
04	Accordingly OEM vendor shall be suitably informed that If Ultimate Customer – NTPC (National Thermal Power Corporation Limited) vendor approvals is not there /not available, then their offer will not be considered for further processing / ordering for the supply of LT Motors to take care of overall equipment/system requirements.	
U5	No material shall be dispatched without BHEL/ Ultimate  Customer – NTPC (National Thermal Power  Corporation Limited) inspection - CHP/MDCC clearances.	

## AP-QA\_MECH CONTRACT QUALITY REQUIREMENTS (CQR) for LT MOTORS(IE3) Up to 200KW

### (For INDIGENOUS OEM VENDOR ONLY)

PROJECT: NTPC Nabinagar 3 x 660 MW (BHEL W.O no: G 609, G 610 and G 611)  NTPC CONTRACT NO: CS-0370-109-(1A) -2-FC -NOA-0059 1819 for Nabinagar 3 x 660 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  NTPC Nabinagar 3 x 660 MW (BHEL W.O no: G 609, G 610 and G 611)	DOC.NO: BAP/QR/ G609 to G611/Nabinagar/ LTM/ Slurry Pumps: 001 Rev NO.: 01 PAGE: Page 1 of 6 DATE: 14.08.2021	##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		by the vendor
0.1	m	4 37 1 .	ITEM: LT Motors (IE3) Up to		
01	Type Test		nall submit the type test reports of all : 01 (D) below and carried out within		
	Requirements		e NTPC bid opening dt 01.08.2018. T		
			est conducted on the identical/similar		
			to be supplied under this enquiry and		
			n conducted at an independent labora		
			essed by BHEL AIA (BHEL Appoint		
		/ BHEL	(or) Ultimate client NTPC at		
			ure of OEM vendor.  if vendor is not able to submit the s		
			t as per above condition (or) in the ca		
			und to be meeting the specification re		
			luct all the tests at no additional cost t		
			(or) own lab in the presence of		
			Inspection Agency) / BHEL /Ultin	nate client NTPC and	
			e reports for review & approval.	DHEL ALA (DHEL	
		* I	st reports review and approval by I Inspection Agency) / BHEL / Ult	`	
			ne with NTPC approved data sheet / B		
			owing Type test reports to be su		
			for above 50KW LT Motor as per re		
		Indian Sta	andard) - BIS 325 / IEC 60034 etc		
			uring of resistance of winding of st	ator and wound rotor	
			plicable) pad test at rated voltage to determine	e input current, power	
		and s			
		iii. Open	circuit voltage ratio of wound rotor r	notor (in case slip ring	
		moto			
			oad test to determine efficiency power		
			perature rise test. entary excess load test		
			voltage test		
			for vibration severity of motor		
			of noise levels of motor (Noise level for	or all the motors	
		shall	be limited to 85dB(A) except for BF		
			naximum limit shall be 90dB(A).)		
			speed test	ons Drotaction ID 55	
			ee of Protection Tests (Minimum Ingretest reports for motors located in fuel		
			enclosures as per BIS 2148/ IEC 600		
		p. 5001	21. 10, 12e 000		

#### Annexure-I

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

#### (For INDIGENOUS OEM VENDOR ONLY)

	<u>C</u>	FOR IND	IGENOUS OEM V	ENDUK UN	<u>LY)</u>		
PROJECT: NTPC Nabinagar 3 x 660 MW (BHEL W.O no: G 609, G 610 and G 611)  NTPC CONTRACT NO: CS-0370-109-(1A) -2-FC -NOA-0059 1819 for Nabinagar 3 x 660 MW  PACKAGE: FGD PACKAGE MAIN CONTRACTOR: BHEL - RANIPET SUB CONTRACTOR (OEM) & ADDRESS:  (To be filled by OEM VENDOR)		610 and G 611)  GOA-0059 1819  GE  M) &	CONTRACT QUALITY REQUIREMENTS (CQR) for LT MOTORS(IE3) - Up to 200KW  NTPC Nabinagar 3 x 660 MW (BHEL W.O no: G 609, G 610 and G 611)	DOC.NO: BAP/QR/ G609 to G611/Nabinagar/ LTM/ Slurry Pumps: 001 Rev NO.: 01 PAGE: Page 2 of 6 DATE: 14.08.2021	##Enquiry No:  ## OEM Supplier Name & Address:  ##Offer reference:  ##Date:  Contact Official Name: Mobile no: Email id:		
SI. NO.	DESCRIPTION	##Specific confirmations by the vendor					
	<u> </u>	<u> </u>	ITEM: LT Motors (IE3) Up to	200KW			
01	Type Test Requirement Contd		/ Type Test reports shall also be g et & page control through Email &	given as PDF file with			
02	Quality Plan Requirement	2. RQP these Manualtim 3. If any NTP (Refe appli obtai even	RQP or MQP is applicable for these LT Motor.  RQP/MQP (Manufacturing Quality Plan) is applicable for these LT Motors and accordingly Actual LT Motor Manufacture and OEM shall submit the RQP/MQP in ultimate customer – NTPC format.  If any of LT Motor manufacture is having, ultimate customer NTPC approved MQP (Manufacturing Quality Plan) / RQP (Reference Quality Plan) and having validity, the same is applicable for these LT Motor for inspection subject to obtaining ultimate customer NTPC formal approval in the event of an order through endorsement sheet approval route as in sl no: 4 below				

**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.

attached).

## AP-QA\_MECH CONTRACT QUALITY REQUIREMENTS (CQR) for LT MOTORS(IE3) Up to 200KW

## (For INDIGENOUS OEM VENDOR ONLY)

PROJECT: NTPC Nabinagar 3 x 660 MW (BHEL W.O no: G 609, G 610 and G 611)  NTPC CONTRACT NO: CS-0370-109-(1A) -2-FC -NOA-0059 1819 for Nabinagar 3 x 660 MW  PACKAGE: FGD PACKAGE MAIN CONTRACTOR: BHEL - RANIPET SUB CONTRACTOR (OEM) & ADDRESS:		610 and G 611)  60A-0059 1819  GE  M) &	CONTRACT QUALITY REQUIREMENTS (CQR) for LT MOTORS(IE3) - Up to 200KW  BAP/QR/ G609 G611/Nabinagar/ LTN Slurry Pumps: 001 Rev NO.: 01 PAGE: Page 3 of 6 DATE: 14.08.2021  NTPC Nabinagar 3 x 660 MW (BHEL W.O no: G 609, G 610 and G 611)		##Enquiry No:  ## OEM Supplier Name & Address:  ##Offer reference:  ##Date:  Contact Official Name: Mobile no: Email id:
	be filled by OEM	T			
SI. NO.	DESCRIPTION	BHEL and	d Ultimate Customer - NTPC (National Corporation)., India Quality Requir		##Specific confirmations by the vendor
			ITEM: LT Motors (IE3) Up to		ay the reliadi
03	BHEL / Ultimate Customer – NTPC approved vendors	Customer - specific requ      KEC     CGL     SIEN     ABB,     200k     BBL/     NGE     Mara     Jyoth	Mumbai (Up to 200KW) F/ Bengaluru (Up to 15KW) Ithon / Kolkatta (Up to 200KW) ni / Vadodara (Up to 200KW) ni Hydralics Private Limited (LHF		
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 varirise, distance by	ests on LT Motors are to be ensured be inspected & witnessed by OEM Venuthorized inspection Agency) at LT I pproved MQP & approved data sheet Bureau of Indian Standard) - BIS 325 at Test Reports with Inspection report of imate Customer – NTPC for review at learance. Instantant of the inspection of the image of the i		

**Painting** 

Packing

call

06

07

Requirements

For Inspection

#### Annexure-l

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

			ITY REQUIREMENTS (CQR) for VIGENOUS OEM V		
PROJECT: NTPC Nabinagar 3 x 660 MW (BHEL W.O no: G 609, G 610 and G 611)  NTPC CONTRACT NO: CS-0370-109-(1A) -2-FC -NOA-0059 1819 for Nabinagar 3 x 660 MW  PACKAGE: FGD PACKAGE MAIN CONTRACTOR: BHEL - RANIPET SUB CONTRACTOR (OEM) & ADDRESS:  (To be filled by OEM VENDOR)		610 and G 611)  GOA-0059 1819  GE  M) &	CONTRACT QUALITY REQUIREMENTS (CQR) for LT MOTORS(IE3) - Up to 200KW  NTPC Nabinagar 3 x 660 MW (BHEL W.O no: G 609, G 610 and G 611)	DOC.NO: BAP/QR/ G609 to G611/Nabinagar/ LTM/ Slurry Pumps: 001 Rev NO.: 01 PAGE: Page 4 of 6 DATE: 14.08.2021	##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 ITEM: LT Motors (IE3) Up to		by the vendor
04	Inspection Methodology to be adopted at Actual LT Motor Manufacture works by OEM vendor Contd	All Routine T & witnessed Agency) at L Test Reports approved MC BIS (Bureau the Routine To BHEL/Ultima and dispatch of Above 50KV All Routine & Vendor and sa authorized insinspection & Vendor and sa beat / dr. BIS 325 / IEC Reports including to be subto obtain inspection obtain inspection works and subtreports including approved MQ in the subtreports in the	ests on LT Motors are to be ensured by BHEL/BHEL AIA (BHEL author). T Motor manufacture works include and Degree of Protection Test ReQP & approved data sheet/drg/spectof Indian Standard) - BIS 325 / IEC est Reports with Inspection report (IR) te Customer – NTPC for review and to		
			nall be dispatched without BHEL / BF	HEL AIA and Ultimate	

Customer – NTPC Inspection and dispatch clearance.

sheet/drg/spec (As applicable).

as per BHEL/ Ultimate Customer -NTPC approved data

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

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

Inspection call by OEM Vendor for LT Motor inspection at Actual LT Motor Manufacture works to be raised for BHEL/BHEL AIA inspection

/ Ultimate Customer - NTPC including for type test witnessing if any to

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

## (For INDIGENOUS OEM VENDOR ONLY)

NTP (BHI NTP CS-0 for N PAC MAI BHE SUB ADD	DJECT: C Nabinagar 3 x 660 M EL W.O no: G 609, G o C CONTRACT NO: 0370-109-(1A) -2-FC -N Nabinagar 3 x 660 MW EKAGE: FGD PACKA N CONTRACTOR: CL - RANIPET CONTRACTOR (OE DRESS: be filled by OEM	610 and G 611)  GOA-0059 1819  GE  M) &	CONTRACT QUALITY REQUIREMENTS (CQR) for LT MOTORS(IE3) - Up to 200KW  NTPC Nabinagar 3 x 660 MW (BHEL W.O no: G 609, G 610 and G 611)	##Enquiry No:  ## OEM Supplier Name & Address:  ##Offer reference:  ##Date:  Contact Official Name: Mobile no: Email id:			
SI. NO.	DESCRIPTION	BHEL and	Ultimate Customer - NTPC (Nationa Corporation)., India Quality Require		##Specific confirmations by the vendor		
NO.			ITEM: LT Motors (IE3) Up to		by the vehicor		
08	Document Package / Dossier	+91 9443006. DM (QC-Procincluding for resolution.  Specific confishard copies + following with (i) Index (ii) MQE (iii) TCs (Cusas gi (iv) Final (v) BHE BHE (vi) Ultiran CHE Clea (vii) Type appr	ddressed to Mr R Kesavan., DGM (6303., Email id: kesavan@bhel.in and inspection related activities for inspection related activities for inspection related activities for inspection related activities for inspection for Document Package in the soft copies in PDF file) is to be a proper linkages (.) at Sheet P/RQP/Endorsement sheet identified by BHEL/NTPC for record atomer Hold Point) Verification & With Inspection Report + TC and the Call Call (BHEL Appointed Inspection ACL AIA (BHEL Appointed Inspection ACL report + TC and the customer NTPC (National Therm P (Customer Hold Point) / MDCC (Maurance Certificate) at test reports conducted/submitted with the cover approved drgs.				
09	Important notes	Inspection Cate Inspection by M Customer – NT Inspection Cate COC by Main inspection as in Any cost im witnessing of BHEL / BHEI Supplier only	BHEL/BHEL AIA and also by Ultimate (/RQP approved and as in sl no:04)  Begorization: II  Main contractor (BHEL) / BHEL AIA because of the contractor of the contractor of the contractor of the contractor (BHEL) to Ultimate Custome				

#### Annexure-I

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

### (For INDIGENOUS OEM VENDOR ONLY)

(BHF NTPC CS-0.0 for N PACI MAII BHE SUB ADD	NTPC Nabinagar 3 x 660 MW (BHEL W.O no: G 609, G 610 and G 611)  NTPC CONTRACT NO: CS-0370-109-(1A) -2-FC -NOA-0059 1819 for Nabinagar 3 x 660 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  NTPC Nabinagar 3 x 660 MW (BHEL W.O no: G 609, G 610 and G 611)	DOC.NO: BAP/QR/ G609 to G611/Nabinagar/ LTM/ Slurry Pumps: 001 Rev NO.: 01 PAGE: Page 6 of 6 DATE: 14.08.2021	##Enquiry No:  ## OEM Supplier Name & Address:  ##Offer reference:  ##Date:  Contact Official Name:  Mobile no: Email id:
SI. NO.	DESCRIPTION	##Specific confirmations by the vendor			

#### ITEM: LT Motors (IE3) Up to 200KW

S. No	Pump		LT Motor	
		Rating (in kW)	Quantity	Proposed Make
1	Limestone Slurry Feed Pump			
2	Gypsum Bleed Pump			
3	Primary Hydro-cyclone Feed Tank Pump			
4	Filtrate Water Tank Pump			
5	Secondary Hydro-cyclone Feed Tank Pump			
6	Waste Water Tank Pump			
7	Auxiliary Absorbent Tank Pump			
8	Emergency Transfer Pump			
9	Absorber Area Drain Sump Pump			
10	Gypsum Area Drain Sump Pump			
11	Limestone Area Drain Sump Pump			
12	Other LT motors involved in the system (if any)			

**OEM Supplier signature with seal** 

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

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

TO BE FILLED IN BY SUPPLIER AT T	TIME OF SUBMISSION	एनरीपीसी NTPC	To be filled in by NTPC
PROJECT NAME	NTPC Nabinagar 3 x 660 MW (BHEL W.O no: G 609, G 610 and G 611)	2REVIEW & I	ENDORSEMENT BY NTPC PECIFIC QP NUMBER ALLOTTED
CONTRACT NO.:	CS-0370-109-(1A) -2-FC -NOA-0059 1819 for Nabinagar 3 x 660 MW		zon ie Qi itemben nezo i izz
MAIN SUPPLIER	M/S.BHEL, RANIPET , TAMIL NADU., INDIA	QP NO:	
MANUFACTURER WORKS & ADDRESS	(TO BE FILLED BY OEM / LT MOTOR SUPPLIER	REV. NO.: 0	0 DT:
ITEM /EQUIPMENT / SYSTEM/ SUB-SYSTEM DETAILS i.e. MODEL TYPE/SIZE/RATING etc.	LT MOTOR(IE3) - SLURRY PUMPS FOR FGD APPLICATION		
APPROVED QP NO.: RQP/SQP/RFQP/SFQP	(TO BE FILLED BY OEM / LT MOTOR SUPPLIER		
Confirmation by Main Supplier (TICK WHICHE	VER APPLICABLE)	(TICK APPLICAB	
I. That the item/ component is identical to that con	nsidered for SQP approval. $$	The MQP/RQ	~
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, however SQP	without any cl	nange
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.  DISTRIBUTION A) MQP/RQI 1. MAIN SUPPI MQP/RQP/SQI 2. MANUFACT 3. RIO 4. CQA-SPL 5. CQA-O/C B) RFQP/SFQI 1. MAIN SUPPI 2. MANUFACT 3. NTPC FQA (	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:		

	<del>/2021/BAP-Q</del> EM SUPPLIER WITH OEM	NAME AN	R MANUFACTURER'S D ADDRESS LLED BY OEM /	MA ITEM: LT M				UALITY P		PROJECT: NTPC Nabinagar 3 x 660 MW (BHEL W.O no: G 609, G 610 and G 611) FGD PACK			EGD PACKAGE		
V -	MFGR.'s LOGO D BE FILLED BY EM SUPPLIER)		R MANUFACTURE)	TO 200KW FOR FGD APPLICATION SUB-SYSTEM: FGD - SLURRY PUMPS		Mi RI DA	MOTOR:001 REV.NO.: 00 DATE: PAGE: OF			NTPC CONTRACT NO: CS-0370-109-(1A) -2-FC -NOA-0059 1819 for Nabinag 660 MW  MAIN CONTRACTOR: BHEL - RANIPET SUB CONTRACTOR (OEM) & ADDRESS: (TO BE FILLED BY OEM SUPPLIER)		or Nabinagar 3 x NIPET DRESS:			
SL. NO	COMPONEM OPERATIO		<b>CHARACTERISTIC</b>	CS CLASS	TYPE OF CHECK	QUANTU OF CHE		REFERENCE DOCUMENT	ACCEPTANC: NORMS	E FORMARECO		A M	GENC C	Y N	REMARKS
1.	2.		<b>3.</b>	<b>4.</b>	<u>5.</u>	6.	-	<mark>7.</mark>	<b>8.</b>	9.	D*	+ -	* 1(		11.
			LEG	GEND: * RECO	RDS INDENTI	FIED WITH	"TICK"	?(√) SHALL RE		DOC. NO.:	1	1	1	REV.	CAT
	MANUFACTURER IOTOR SUPPLIER	MAIN SUPPI ATURE	(BHEL) ESSE ** N C: M P: PE	NTIALLY INCLUI M: OEM MANUFA IAIN SUPPLIER – 1	DED BY SUPPL CTURER/LT M BHEL/BHEL AI NESS AND V	JER IN QA I OTOR SUB- IA, N: NTI VERIFICAT	DOCUM -SUPPL PC TION. A	MENTATION. LIER AS APPROPRIATE,	FOR NTPC USE	REVIEWEI	) RV		DDDAX	ED BY	APPROVAL

एनरीपीसी NTPC

## W.r.t FOREIGN OEM VENDORS ONLY

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/ G609 to G611/Nabinagar/ LTM/ Slurry Pumps: 002 Rev No. 01 dt 14.08.2021) and send us the same to follow / ensure all the requirements in the event of an order.	
02	OEM vendor shall ensure Credentials of design and Manufacturing capabilities w.r.t. LT Motors by their LT Motor manufacture.	
03	OEM Supplier shall submit other details like that they are already approved vendor by Ultimate Customer – NTPC (National Thermal Power Corporation Limited) specifically for proposed supply of LT Motor against BHEL/Ranipet. The details of PO already executed preferably through various other BHEL units for any NTPC projects with CHP/MDCC including technical catalogue, PO received so far for similar supply of LT Motors may also be submitted.	
04	Accordingly OEM vendor shall be suitably informed that If Ultimate Customer – NTPC (National Thermal Power Corporation Limited) vendor approvals is not there /not available, then their offer will not be considered for further processing / ordering for the supply of LT Motors to take care of overall equipment/system requirements.	
05	No material shall be dispatched without BHEL/ Ultimate Customer – NTPC (National Thermal Power Corporation Limited) inspection - CHP/MDCC clearances.	

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

## (For FOREIGN (OUTSIDE INDIA) OEM VENDOR ONLY)

	11011	OEM VENDOR	<u>OT(ET)</u>		
NTP (BHI NTP CS-0 for N PAC MAI BHE SUB ADD	DJECT: C Nabinagar 3 x 660 M EL W.O no: G 609, G 6 C CONTRACT NO: 370-109-(1A) -2-FC -N Rabinagar 3 x 660 MW KAGE: FGD PACKA N CONTRACTOR: L - RANIPET CONTRACTOR (OED RESS: be filled by OEM	610 and G 611)  GOA-0059 1819  GE  M) &	CONTRACT QUALITY REQUIREMENTS (CQR) for LT MOTORS(IE3) - Up to 200KW  NTPC Nabinagar 3 x 660 MW (BHEL W.O no: G 609, G 610 and G 611)	DOC.NO: BAP/QR/ G609 to G611/Nabinagar/ LTM/ Slurry Pumps: 002 Rev NO.: 01 PAGE: Page 1 of 6 DATE: 14.08.2021	##Enquiry No:  ## OEM Supplier Name & Address:  ##Offer reference:  ##Date:  Contact Official Name: Mobile no: Email id:
	<u> </u>	,	and Illtimate Customer, NITDC (Nation	ad Thormal Dower	##Cnosifie
SI.	DESCRIPTION	BHELa	nd Ultimate Customer - NTPC (Nation		##Specific
NO.			Corporation)., India Quality Requ	confirmations by the	
			ITEM: LT Motors(IE3) - Up to	2001/11/	vendor
01	Type Test Requirements	SL NO: ( ultimate should be those prophave been witnessed (or) Ultim respective	hall submit the type test reports of all (D) below and carried out within Customer NTPC bid opening dt 0 e for the test conducted on the identitions to be supplied under this enquiry a conducted at an independent laborate by BHEL/BHEL AIA (BHEL Appoint at customer NTPC (National Thermet LT Motor Manufacture of OEM vender).	10 years from the data of 1.08.2018. These reports ical/similar LT Motors to y and test (s) either should ory (or) should have been sinted Inspection Agency) nal Power Corporation) at dor.	
		report as pare not for acceptable vendor she either at relations in the	if vendor is not able to submit the siper above condition in 01 (A) (or) in the found to be meeting the specification to BHEL/BHEL AIA/ Ultimate Chall conduct all these tests at no addition and the presence of BHEL AIA (BHEL Apportunity). With the conduct all the conduct all the conduct all these tests at no addition and the conduct all these tests at no addition and the conduct all the conduct all these tests at no addition and the conduct all the conduct all the conduct and the conduct all the conduct and the conduct a	ne case of type test reports ion requirement and not ustomer – NTPC, , the ional cost if any to BHEL nt approved lab (or) own binted Inspection Agency)	

Ultimate Customer – NTPC review & approval.

(General Arrangement) Drawing etc.

C. 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

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

## (For FOREIGN (OUTSIDE INDIA) OEM VENDOR ONLY)

NTP (BHI NTP CS-0 for N PAC MAI BHE SUB ADD	DECT: C Nabinagar 3 x 660 M EL W.O no: G 609, G o C CONTRACT NO: 370-109-(1A) -2-FC -N Sabinagar 3 x 660 MW KAGE: FGD PACKA N CONTRACTOR: CL - RANIPET CONTRACTOR (OE ORESS: be filled by OEM	610 and G 611)  GOA-0059 1819  GE  M) &	CONTRACT QUALITY REQUIREMENTS (CQR) for LT MOTORS(IE3) - Up to 200KW  NTPC Nabinagar 3 x 660 MW (BHEL W.O no: G 609, G 610 and G 611)	DOC.NO: BAP/QR/ G609 G611/Nabinagar/ Slurry Pumps: 002 Rev NO.: 01 PAGE: Page 2 of 6 DATE: 14.08.2021	##Enquiry No:  ## OEM Supplier Name & Address:  ##Offer reference:  ##Date:  Contact Official Name: Mobile no: Email id:
SI.	DESCRIPTION	BHEL a	nd Ultimate Customer - NTPC (Natio		##Specific
NO.			Corporation)., India Quality Requ	irements	confirmations by the
			ITEM: LT Motors(IE3) - Up t	o 200KW	vendor
01	Type Test	ed covering the following			
	Requirement(Contd)	for above	e 50KW LT Motor as per relevan - BIS 325 / IEC 60034 etc		
		ii. No lo speed iii. Open motor iv. Full l v. Temp vi. Mom vii. High viii. Test ix. Test obe lin maxi x. Over xi. Degro xii. Type proof E. The TCs/page cont	circuit voltage ratio of wound rotors) oad test to determine efficiency power perature rise test. entary excess /over load test voltage test for vibration severity of motor of noise levels of motor (Noise level of noise levels of noise level of noise levels of noise level of noise levels of noise level of noise levels of notor (Noise level of noise levels of noise of noise leve	e input current, power and or motor (in case slip ring er factor and slip  for all the motors shall otor for which the  ress Protection - IP 55). It oil area having flame 179-1  OF file with index sheet & size to less than 9MB).	
02	Quality Plan Requirement	b. If any of I approved same is ap obtaining order thro	unufacturing Quality Plan) is applicable dingly Actual LT Motor Manufacture ustomer – NTPC format for review a Customer - NTPC.  LT Motor manufacture is having, ultimate Plan applicable for these LT Motor for inspecultimate customer NTPC formal applicable endorsement sheet approval routed by LT Motor Manufacture & OEM sendorsement sheet (copy attached) with MQP with signature & seal in the every sendorsement of the every the eve	mate customer NTPC and having validity, the ection purposes subject to roval in the event of an e as in sl no: 01 (c) below supplier shall submit the th ultimate customer ent of a Purchase Order	

#### **Annexure-II**

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

## (For FOREIGN (OUTSIDE INDIA) OEM VENDOR ONLY)

NTPO (BHE NTPO CS-0. for N PACI MAII BHE SUB ADD	JECT: C Nabinagar 3 x 660 M CL W.O no: G 609, G 6 C CONTRACT NO: 370-109-(1A) -2-FC -N abinagar 3 x 660 MW KAGE: FGD PACKAON CONTRACTOR: L - RANIPET CONTRACTOR (OEI RESS: be filled by OEM	610 and G 611)  OA-0059 1819  GE  M) &  VENDOR)	CONTRACT QUALITY REQUIREMENTS (CQR) for LT MOTORS(IE3) - Up to 200KW  NTPC Nabinagar 3 x 660 MW (BHEL W.O no: G 609, G 610 and G 611)	DOC.NO: BAP/QR/ G609 to G611/Nabinagar/ Slurry Pumps: 002 Rev NO.: 01 PAGE: Page 3 of 6 DATE: 14.08.2021	##Enquiry No:  ## OEM Supplier Name & Address:  ##Offer reference:  ##Date:  Contact Official Name: Mobile no: Email id:					
SI. NO.	DESCRIPTION	BHEL a	nd Ultimate Customer - NTPC (Nation Corporation)., India Quality Requ		##Specific confirmations by the					
			confirmations by the vendor							
			ITEM: LT Motors(IE3) - Up to							
02	Quality Plan Requirement contd	d. If LT Meshould sureview &								
			& guidance purposes only ate Customer NTPC.							
03	Inspection Methodology to be adopted at Actual LT Motor Manufacture works by OEM vendor	inspection MQP & Indian St	<ul> <li>a. All LT Motors are to be inspected by BHEL AIA (BHEL authorized inspection Agency) at LT Motor manufacture works as per approved MQP &amp; approved data sheet/drg/spec/ as per relevant BIS (Bureau of Indian Standard) - BIS 325 / IEC 60034 etc by BHEL / Ultimate Customer-NTPC</li> </ul>							
		inspection MQP & a	ne Tests are to be witnessed by BHE a Agency) at LT Motor manufactural approved data sheet/drg/spec / as per andard) - BIS 325 / IEC 60034 6-NTPC	e works as per approved relevant BIS (Bureau of						
		c. BHEL AI NTPC wind Degree of approved Standard)								
		Customer works and reports in approved	JA (BHEL authorized inspection -NTPC to witness / perform inspect d submit all the inspection document cluding Degree of Protection Test Re MQP & approved data sheet / drg / of Indian Standard) - BIS 325 / IEC 6	tion at LT Motor Supplier s and routine & Type test sports (IP 55) as per spec / as per relevant BIS						

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

#### (For FOREIGN (OUTSIDE INDIA) OEM VENDOR ONLY)

	<u> </u>	OILDIGI	(CEISIBE HIBHI)	OHIT I HITOUR	OT (III)			
PRO	JECT:		CONTRACT QUALITY	DOC.NO:	##Enquiry No:			
NTP	C Nabinagar 3 x 660 N	<b>1W</b>	REQUIREMENTS (CQR) for		1 7			
(BHI	EL W.O no: G 609, G (	610 and G 611)	LT MOTORS(IE3) - Up to 200KW	BAP/QR/ G609 to	## OEM Supplier Name &			
				G611/Nabinagar/ LTM/ Slurry Pumps: 002	Address:			
NTP	C CONTRACT NO:							
CS-0	370-109-(1A) -2-FC -N	IOA-0059 1819		Rev NO.: 01	##Offer reference:			
for N	labinagar 3 x 660 MW			PAGE: Page 4 of 6				
			NEED CONTINUE A CONTINUE	DATE: 14.08.2021	##Date:			
_	KAGE: FGD PACKA	GE	NTPC Nabinagar 3 x 660 MW					
	N CONTRACTOR:		(BHEL W.O no: G 609, G 610 and G 611)		Contact Official Name:			
	L - RANIPET				Mobile no:			
	CONTRACTOR (OE	M) &			Email id:			
ADD	RESS:				Ziliali iai			
(Tra	L. Clied by OEM	VENDOD)						
(10	be filled by OEM	VENDOR)						
SI.	DESCRIPTION	BHEL a	nd Ultimate Customer - NTPC (Natio	##Specific				
Ю.			Corporation)., India Quality Requ	irements	confirmations by the			
					vendor			
			ITEM: LT Motors(IE3) - Up to	<u>o 200KW</u>				
03	Inspection	LT Motors up	p to 30KW – Inspection Categorizat	tion: III				
	Methodology							
	to be adopted	Δ11 Routine te	sts on LT Motors are to be ensured by					
	_		·	<del>-</del>				
	at Actual LT		ected & witnessed by OEM Vendor /					
	3 E 4							

## Motor Manufacture works by OEM

vendor...contd

(BHEL authorized inspection Agency) at LT Motor manufacture works as per approved MQP & approved data sheet /drg / spec/ as per relevant BIS (Bureau of Indian Standard) - BIS 325 / IEC 60034 etc 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. LT Motor Manufacturer has to issue COC (Certificate of Conformance) states that the above motor/ motors was manufactured taking care of Customer specific requirements regarding ambient temp., voltage and frequency variation, hot starts, pull out torque, starting KVA/KW, temp. rise, distance between centre of stud and gland plate, space heater and tested in accordance with approved drawing/data sheets

#### LT Motors (30KW to 50KW) – Inspection Categorization: II

All Routine Tests on LT Motors are to be ensured by OEM vendor & 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 as per approved MQP & approved data Reports (IP 55) 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) / Ultimate 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.

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

### (For FOREIGN (OUTSIDE INDIA) OEM VENDOR ONLY)

NTP((BHF) NTP(CS-0) for N PAC MAII BHE SUB ADD	JECT: C Nabinagar 3 x 660 M EL W.O no: G 609, G 6 C CONTRACT NO: 370-109-(1A) -2-FC -N (abinagar 3 x 660 MW KAGE: FGD PACKAC N CONTRACTOR: L - RANIPET CONTRACTOR (OEI RESS: be filled by OEM	610 and G 611)  FOA-0059 1819  GE  M) &	CONTRACT QUALITY REQUIREMENTS (CQR) for LT MOTORS(IE3) - Up to 200KW  NTPC Nabinagar 3 x 660 MW (BHEL W.O no: G 609, G 610 and G 611)	##Enquiry No:  ## OEM Supplier Name & Address:  ##Offer reference:  ##Date:  Contact Official Name: Mobile no: Email id:	
SI. NO.	DESCRIPTION	BHEL a	nd Ultimate Customer - NTPC (Nation Corporation)., India Quality Requ		##Specific confirmations by the vendor
		<u> </u>	ITEM: LT Motors(IE3) - Up to	o 200KW	vendor
03	Inspection Methodology to be adopted at Actual LT Motor Manufacture works by OEM vendorcontd	spection & witnessing at AIA (BHEL authorized are under OEM scope ucting checks / tests I LT Motor Manufacture / Ultimate Customer – paid in the event of an HEL / BHEL AIA and			
		Ultimate Cus	tomer – NTPC Inspection and disp	oatch clearance.	
04	Painting Requirements	coats if any are	rement like paint shade and painting to be ensured by the OEM vendor for the Customer -NTPC approved data	or these LT Motors as per	
05	Packing		be as per Specification / Drg. / Data s to avoid any transit & handling dam		
06	For Inspection call	inspection at Actual LT BHEL/BHEL AIA ncluding for type test o Mr R Kesavan., DGM ail id: kesavan@bhel.in e no: +91 8903502628., ion related activities for			
07	Document Package / Dossier	copies + soft of proper linkage (i) Index (ii) MQI (iii) TCs (Cus as gi (iv) Final (v) BHE BHI	rmation for Document Package in the copies in PDf file) is to be given cons (.) a Sheet P/RQP/Endorsement sheet identified by BHEL/NTPC for record stomer Hold Point) Verification & Wilven in MQP / RQP / MQP (as applications application Report + TC) L AIA (BHEL Appointed Inspection EL report + TC mate customer NTPC (National Thermatical Inspectional Thermatical Inspection Inspectional Inspection Inspectional Inspectional Inspectional Inspection I	for "CHP" tness "W" portion able).  Agency) /	

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

### (For FOREIGN (OUTSIDE INDIA) OEM VENDOR ONLY)

I INO,	JECT:		CONTRACT QUALITY	DOC.NO:			##Enquiry No:			
NTP	C Nabinagar 3 x 66		REQUIREMENTS (CQR) for			40				
(BHE	EL W.O no: G 609,	G 610 and G 611)	LT MOTORS(IE3) - Up to 200KW	BAP/QR/ G611/Nabi	G609 inagar/	to LTM/	## OEM Supplier Name &			
NTD	C CONTRACT NO	-		Slurry Pur			Address:			
	370-109-(1A) -2-FC			Rev NO.:	-		##Off			
	labinagar 3 x 660 M			PAGE : Pa			##Offer reference:			
				DATE: 14.			##Date:			
	KAGE: FGD PACE		NTPC Nabinagar 3 x 660 MW				mibute.			
	N CONTRACTOR: L - RANIPET		(BHEL W.O no: G 609, G 610 and G 611)				Contact Official Name:			
	CONTRACTOR (	DEM) &					Mobile no:			
	RESS:	21.1)					Email id:			
(To	be filled by OE	M VENDOR)								
				<u> </u>						
SI.	DESCRIPTION	BHEL a	nd Ultimate Customer - NTPC (Nati		I Power		##Specific			
10.			Corporation)., India Quality Rec	poration)., India Quality Requirements confirmations by						
							vendor			
			ITEM: LT Motors(IE3) - Up	to 200KW						
		CHI	Customer Hold Point) / MDCC (N	Iaterial Disp	atch					
		Clea	arance Certificate)	•						
			e test reports conducted/submitted w	ith approval	with					
			oved data sheet and BOM with actu							
			tomer approved drgs.							
08	Important	Inspection Cat	11 0							
00	notes		· <u>a · · · · · · · · · · · · · · · · · · </u>							
	notes	Inspection by 1	BHEL/BHEL AIA and also by Ultima	e Customer -	- NTPC ba	sed				
		on MQP/RQP	approved and as in sl no:03							
		Inspection Cat	egorization: II							
		Inspection by I	Main contractor (BHEL) / BHEL AIA							
		Inspection by I				<b>;</b>				
		Inspection by I Customer – NT	Main contractor (BHEL) / BHEL AIA FPC approved MQP/RQP & based on			<b>3</b>				
		Inspection by I Customer – NT	Main contractor (BHEL) / BHEL AIA			3				
		Inspection by I Customer – NT Inspection Cat	Main contractor (BHEL) / BHEL AIA FPC approved MQP/RQP & based on egorization: III	inspection as	in sl no:03	<b>;</b>				
		Inspection by I Customer – NT Inspection Cat	Main contractor (BHEL) / BHEL AIA TPC approved MQP/RQP & based on egorization: III contractor (BHEL) to Ultimate Custo	inspection as	in sl no:03	<b>;</b>				
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09	Vendor shall fu NTPC Nabinagar	Inspection by Notes and Customer – Notes Inspection Cate COC by Main inspection as in Any cost imples any of the test AIA / Ultimates no extra cost in execution of the company of the cost in execution of the cost in the co	Main contractor (BHEL) / BHEL AIA TPC approved MQP/RQP & based on egorization: III contractor (BHEL) to Ultimate Custo a sl no:03 ication for conducting checks / tests ts at Actual LT Motor Manufacture e Customer – NTPC is in the scope f any will be admissible in the even the contract. Ictor details for the Pumps applicable Project:-	inspection as mer – NTPC including for Works by l of OEM Su of an order	based on or witnessi BHEL / B pplier only and also d	ng of HEL y and uring				
09	Vendor shall fu	Inspection by Main inspection as in Any cost imples any of the test AIA / Ultimate no extra cost in execution of the test of t	Main contractor (BHEL) / BHEL AIA TPC approved MQP/RQP & based on egorization: III contractor (BHEL) to Ultimate Custon sl no:03 ication for conducting checks / tests at Actual LT Motor Manufacture Customer – NTPC is in the scope of any will be admissible in the event the contract.  Iotor details for the Pumps applicable Project:- Pump	inspection as mer – NTPC including for works by l of OEM Sur of an order a	based on or witnessi BHEL / B pplier only and also d quiry.	ng of HEL y and uring				
09	Vendor shall fu NTPC Nabinagar	Inspection by Main inspection as in Any cost imples any of the test AIA / Ultimate no extra cost in execution of the test of t	Main contractor (BHEL) / BHEL AIA TPC approved MQP/RQP & based on egorization: III contractor (BHEL) to Ultimate Custon sl no:03 ication for conducting checks / tests at Actual LT Motor Manufacture Customer – NTPC is in the scope of any will be admissible in the event the contract.  Iotor details for the Pumps applicable Project:- Pump	inspection as mer – NTPC including for Works by l of OEM Su of an order	based on or witnessi BHEL / B pplier only and also d	ng of HEL y and uring	roposed Make and			
09	Vendor shall fu NTPC Nabinagar S. No	Inspection by Main inspection as in Any cost imples any of the test AIA / Ultimate no extra cost in execution of the state	Main contractor (BHEL) / BHEL AIA TPC approved MQP/RQP & based on egorization: III  contractor (BHEL) to Ultimate Custon sl no:03 ication for conducting checks / tests at Actual LT Motor Manufacture Customer – NTPC is in the scope f any will be admissible in the event he contract.  Iotor details for the Pumps applicable Project:- Pump Rat	inspection as mer – NTPC including for works by l of OEM Sur of an order a	based on or witnessi BHEL / B pplier only and also d quiry.	ng of HEL y and uring	roposed Make and Country of origin			
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09	Vendor shall fu NTPC Nabinagar S. No  1 Lin 2 Gyl 3 Prii 4 Filt 5 Sec 6 Wa	Inspection by Main inspection as in Any cost implementation of the test AIA / Ultimate no extra cost in execution of the exec	Main contractor (BHEL) / BHEL AIA TPC approved MQP/RQP & based on egorization: III  contractor (BHEL) to Ultimate Custo a sl no:03 ication for conducting checks / tests ts at Actual LT Motor Manufacture e Customer – NTPC is in the scope f any will be admissible in the event the contract.  Lotor details for the Pumps applicable Project:- Pump  Rat  mp  eed Tank Pump  Feed Tank Pump	inspection as mer – NTPC including for works by l of OEM Sur of an order a	based on or witnessi BHEL / B pplier only and also d quiry.	ng of HEL y and uring				
09	Vendor shall fu NTPC Nabinagar S. No  1 Lin 2 Gyl 3 Prii 4 Filt 5 Sec 6 Wa 7 Aus	Inspection by Main inspection as in Any cost implementation of the test AIA / Ultimate no extra cost in execution of the exec	Main contractor (BHEL) / BHEL AIA TPC approved MQP/RQP & based on egorization: III  contractor (BHEL) to Ultimate Custo a sl no:03 ication for conducting checks / tests ts at Actual LT Motor Manufacture e Customer – NTPC is in the scope f any will be admissible in the event the contract.  Lotor details for the Pumps applicable Project:- Pump  Rat  mp  eed Tank Pump  Feed Tank Pump  Feed Tank Pump	inspection as mer – NTPC including for works by l of OEM Sur of an order a	based on or witnessi BHEL / B pplier only and also d quiry.	ng of HEL y and uring				
09	Vendor shall fu  NTPC Nabinagar  S. No  1 Lin 2 Gyl 3 Prii 4 Filt 5 Sec 6 Wa 7 Au: 8 Em	Inspection by Main inspection as in Any cost implementation of the test AIA / Ultimate no extra cost in execution of the exec	Main contractor (BHEL) / BHEL AIA TPC approved MQP/RQP & based on egorization: III  contractor (BHEL) to Ultimate Custo a sl no:03  ication for conducting checks / tests ts at Actual LT Motor Manufacture e Customer – NTPC is in the scope f any will be admissible in the event the contract.  Icotor details for the Pumps applicable Project:- Pump  Rat  mp  eed Tank Pump  Feed Tank Pump  Feed Tank Pump	inspection as mer – NTPC including for works by l of OEM Sur of an order a	based on or witnessi BHEL / B pplier only and also d quiry.	ng of HEL y and uring				
09	Vendor shall fu  NTPC Nabinagar  S. No  1 Lin 2 Gyl 3 Prii 4 Filt 5 Sec 6 Wa 7 Aux 8 Em 9 Abs	Inspection by Main inspection as in Any cost implementation of the test AIA / Ultimate no extra cost in execution of the exec	Main contractor (BHEL) / BHEL AIA TPC approved MQP/RQP & based on egorization: III  contractor (BHEL) to Ultimate Custo is lino:03 ication for conducting checks / tests ts at Actual LT Motor Manufacture e Customer – NTPC is in the scope f any will be admissible in the event the contract.  Icotor details for the Pumps applicable Project:- Pump Rat  mp  Feed Tank Pump  Feed Tank Pump  Pump  Pump  Pump  Pump  Pump  Pump  Pump	inspection as mer – NTPC including for works by l of OEM Sur of an order a	based on or witnessi BHEL / B pplier only and also d quiry.	ng of HEL y and uring				
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09	Vendor shall fu NTPC Nabinagar S. No  1 Lin 2 Gy 3 Prii 4 Filt 5 Sec 6 Wa 7 Au: 8 Em 9 Ab: 10 Gy 11 Lin	Inspection by Main inspection as in Any cost implementation of the test AIA / Ultimate no extra cost in execution of the exec	Main contractor (BHEL) / BHEL AIA TPC approved MQP/RQP & based on egorization: III  contractor (BHEL) to Ultimate Custon Isl no:03 ication for conducting checks / tests at Actual LT Motor Manufacture Customer – NTPC is in the scope of any will be admissible in the event the contract.  Iotor details for the Pumps applicable Project:- Pump Rat  mp  Feed Tank Pump  P	inspection as mer – NTPC including for works by l of OEM Sur of an order a	based on or witnessi BHEL / B pplier only and also d quiry.	ng of HEL y and uring				

## 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	TIME OF SUBMISSION	एनवैपीसी NTPC	To be filled in by NTPC
PROJECT NAME	NTPC Nabinagar 3 x 660 MW (BHEL W.O no: G 609, G 610 and G 611)	2REVIEW & I	ENDORSEMENT BY NTPC PECIFIC QP NUMBER ALLOTTED
CONTRACT NO.:	CS-0370-109-(1A) -2-FC -NOA-0059 1819 for Nabinagar 3 x 660 MW		Lonie di Mombel Medolle
MAIN SUPPLIER	M/S.BHEL, RANIPET , TAMIL NADU., INDIA	QP NO:	
MANUFACTURER WORKS & ADDRESS	(TO BE FILLED BY OEM / LT MOTOR SUPPLIER	REV. NO.: 0	0 DT:
ITEM /EQUIPMENT / SYSTEM/ SUB-SYSTEM DETAILS i.e. MODEL TYPE/SIZE/RATING etc.	LT MOTOR(IE3) - SLURRY PUMPS FOR FGD APPLICATION		
APPROVED QP NO.: RQP/SQP/RFQP/SFQP	(TO BE FILLED BY OEM / LT MOTOR SUPPLIER		
Confirmation by Main Supplier (TICK WHICHE	VER APPLICABLE)	(TICK APPLICAB	
I. That the item/ component is identical to that co	nsidered for SQP approval. $$	The MQP/RQ	~
II. That there are minor changes in the item/ come the same do not affect the contents of MQP/RQP/	nponent with respect to that considered for MQP/RQP/SQP approval, however SQP	without any cl	nange
III. That there are minor changes in the item/ conthe same affect the MQP/RQP/SQP slightly, as inc	mponent with respect to that considered for MQP/RQP/SQP approval, however dicated below / in attached sheet.	as indicated.  DISTRIBUTION A) MQP/RQI I. MAIN SUPPI MQP/RQP/SQI 2. MANUFACT 3. RIO 4. CQA-SPL 5. CQA-O/C B) RFQP/SFQI I. MAIN SUPPI 2. MANUFACT 3. NTPC FQA (	LIER (WITH A COPY OF P) PURER  PP: LIER (with a copy of MQP/RQP/SQP
	(TO BE FILLED BY OEM / LT MOTOR SUPPLIER	NTPC (Review	wed /Approved by/ Date & Seal)
SIGN.: (Main Supplier) DATE:	SIGN.: (Manufacturer) DATE:		

		OEM SUP	PLIER		MANII	FACTURING OI	JALITY PLAN FO	R	MQP:E:LT	M:NABINAGA	R :FGD S	SLURRY :001
		To be fille		1 .					REV:NO:0			
	BHEL		•	L	IMOTOR	( Up to 10 200	KW) - FGD Appli	cation	DATE: 17.0	07.2020		
I RAI	P/ RANIPET /	OEM Sup	piler						Page :			
	AMIL NADU	LT MOT	OR									
	INDIA	Manufac										
				1								
		To be filled by OEM Supplier										
S1 No	. COMPONET/A	CHARACTE- CLASS		TYPE OF	QUANUTM OF	REFERENCE DOCUMENT	ACCEPTANCE STANDARD	FORMAT OF REC		AGENCY		REMARKS
31.140	SSEMBLY/OP	RISTIC		CHECK	CHECK		ACCEPTANCE STANDARD	I Grillian or rico	D	M	BHEL/	TEMATICS
	ERATION/TES								ט	IM	BHEL	
	TS										AIA	
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.		12.
	MING INSPCI											
1.1	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	
		5.Continuity (insulatio $n$ )	Major	Electrical	1 sample/lot	do	do	Insp report/ Supplier TC		Р	V	
		6.Tan Delta (If applicable)	Major	Electrical	1 sample/lot	do	do	Insp report/ Supplier TC		Р	V	EC gr purity: -99.6%
1.2	Aluminum Ingots	1.Chemical composition	Major	Chemical	1 sample/lot	do	do	Supplier Tc		Р	V	20 g. pa.ny. 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	

		OEM SUPI	PLIER		MANU	FACTURING QU	IALITY PLAN FO	R	MQP:E:LTI	M:NABINAGAF	:FGD S	SLURRY :001
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	SSEMBLY/OP ERATION/TES	RISTIC		CHECK	CHECK				D	М	BHEL/	
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2.1	Stator core	1.Core length dia	Major	Mechanical	100%	do	do	Inspection Record		Р	V	
		2.Core locking	Major	Visual	100%	do	do	Inspection Record		Р	V	
		3.Rigidity of core	Major	Mechanical	100%	do	do	Inspection Record		Р	V	
2.2	Die cast rotor	1.Core length	Major	Mechanical	100%	do	do	Inspection Record		Р	V	
		2.Blow holes	Major	Mechanical	100%	do	do	Inspection Record		Р	V	
2.3	Wound stator (if applicable)	1.Resistance	Major	Electrical	100%	do	do	Inspection Record		P	V	
		2.H.V.Test	Major	Electrical	100%	do	do	Inspection Record		P	V	
		3.Insulation resisitance	Major	Electrical	100%	do	do	Inspection Record		Р	V	
2.4	Final Assembiy	1.Completeness	Major	Visual	100%	do	do	Inspection Record		Р	V	
		2.Runout in case of flanged motors	Major	Mechanical	100%	do	do	Inspection Record		P	V	
		3.Mounting dimensions	Major	Mechanical	100%	do	do	Inspection Record		Р	V	

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3.2	TYPE TESTS ###											
3.3	Preservation and Packing	1.Completeness	Major	Review	100%	do	do	Inspection Record		P	V	
		2.Motors covered with polythene sheets	Major	Visual	100%	do	do	Inspection Record		P	V	
		3.Packing	Major	Visual	100%	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 available for Similar / Identical Design of any of the LT Motor motor, then OEM / LT Motor Manufacture shall conduct all these type tests at Third party lab / Government Approved Lab / Own lab in presence of BHEL/BHEL AIA / without any cost implication to BHEL/Ultimate Customer - NTPC within reasonable time.

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

LEGEND:

OEM = Orgional Equipement Supplier M = LT Motor Manufacture -

BHEL AIA = BHEL AUTHORISED INSPECTION AGENCY

**GA Drawing: General Arrangment Drawing** 

NTPC - NATIONAL THERMAL POWER CORPORATION (Ultimate Customer)

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

657	<del>'/2021/BAP-Q</del>	ATMEC	R MANUFACTURER'S								DD.	OTECT					
	DEM SUPPLIER		D ADDRESS						<b>UALITY P</b> :: SLURRY PUM			OJECT: PC Nabina	agar 3 :	x 660 N	ΛW		
	WITH OEM MFGR.'s LOGO D BE FILLED BY EM SUPPLIER)	× .	LLED BY OEM / R MANUFACTURE)	TO 200KW FOR FGD APPLICATION			MOTOR:001 REV.NO.: 00 DATE: PAGE: OF			(BHEL W.O no: G 609, G 610 and G 611) FGD  NTPC CONTRACT NO: CS-0370-109-(1A) -2-FC -NOA-0059 1819 for No 660 MW  MAIN CONTRACTOR: BHEL - RANIPI SUB CONTRACTOR (OEM) & ADDRE (TO BE FILLED BY OEM SUPPLIER)					for Nabinagar 3 x NIPET DRESS:		
SL. NO	COMPONEN OPERATIO		CHARACTERISTI	CS	CLASS	TYPE OF CHECK	_	NTUM HECK C/N	REFERENCE DOCUMENT	ACCEPTANC NORMS	E	FORMA'		A M	GENC C	N N	REMARKS
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	EM MANUFACTURER/ MAIN (BHEI MOTOR SUPPLIER SUPPLIER		(BHEL) ESSE ** C: M P: P	ENTIALLY M: OEM N MAIN SUPI ERFORM	Y INCLUD MANUFA PLIER – E W: WIT	DED BY SUPPL CTURER/LT M BHEL/BHEL AI NESS AND V	JER IN (IOTOR SIA, N:	QA DOCU UB-SUPP NTPC CATION.	AS APPROPRIATE,	FOR NTPC	DO	C. NO.:				REV	CAT
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