



TD-106-1 Rev. 5 Form No.		Annexure - I to purchase specification TC54301 Rev-08																
		TURBINES AND COMPRESSORS																
		BHEL, HYDERABAD				Page 1 of 3												
Project: <u>RATE CONTRACT</u>																		
1.0.0 In case of any conflict between tender specifications, the following preferential order shall govern. 1.1.0 Annexure I to BHEL Spec TC54301 & PQC TC54033 1.2.0 SQP of Fan & Motor 1.3.0 BHEL Spec TC54301, TC54329 & TC54373 1.4.0 International standards/codes/recommended practices as applicable. 2.0.0 <u>The following are to be considered by vendor before offer:</u> 2.0.1 Compliance with this specification shall not relieve the vendor of the responsibility of furnishing equipment and auxiliaries of proper design, materials and workmanship to meet the specified operating conditions. 2.0.2 Noise level of the complete package shall be restricted within 85 dBA at any point located 1 m away from the equipment. If the noise level exceeds the specified value, necessary modifications to meet the noise level criteria, shall be provided by the vendor without any cost/time implications. 2.0.3 Any Commissioning spare consumed over and above the recommended commissioning spares, during commissioning shall be supplied free of cost by the equipment vendor at site. 2.0.4 All the equipment's shall be packed for an outdoor storage period of 12 Months. 2.0.5 Vendor to note clause 2.1 of TC54301 - General requirements updated with motor shaft sealing to prevent oil vapor fumes leakage. 2.0.6 2.0.7 AC induction motor shall suitable for 415V, 50Hz, 3 Phase AC Supply. 2.0.8 The Motor shall be suitable for operating in ZONE 2, Ex'd, IE3 class efficiency as per IS-12615 (latest edition). For Gas Group refer price schedule. 2.0.9 All equipment shall have valid statutory approval i.e., PESO / CCOE as applicable for use in the specified hazardous area. All indigenous flame proof equipment shall have valid BIS license and marking as required by statutory authorities. 2.0.10 Cooling Fans shall be made of non-sparking materials such as Cast Iron (LM-6 alloy / CI) 2.0.11 All motors shall be provided with FRP canopy. No deviation is acceptable. 2.0.12 Vendor shall supply flameproof cable glands (Double compression type nickel plated brass) and tinned Cu crimping type lugs for equipment supplied by them. Material of lugs must be compatible with the material of cable conductor and the connected load terminal or bus bar. Bimetallic cable lugs or bimetallic strip shall be provided in case of different material i.e., Al or Cu at the point of termination. Cable glands shall be suitable for Zone 2 IIC Area classification. 2.0.13 Preliminary cable size is 2.5 mm ² Cu. Final sizes shall be specified during detailed Engineering stage. Vendor shall comply without any commercial and delivery implications to BHEL. 2.0.14 Equipment Earthing shall be done at 2 points and both earth connections shall be brought to skid inbuilt earth plate by means of 10mm (3/8") dia GI wire rope, the same shall be supplied along with motor. 2.0.15 Routine test certificates for the offered motors required. 2.0.16 Type Test certificates for the offered motors required. 2.0.17 CCOE/ PESO certificates to be provided.																		
<table border="1"> <tr> <td>Rev. No.</td> <td>Revisions</td> <td>Prepared:</td> <td>Reviewed:</td> <td>Approved</td> <td>Date</td> </tr> <tr> <td>00</td> <td>Issued</td> <td>SHEKHAR</td> <td>BHARATH</td> <td>SUNIL B J</td> <td>06.01.2023</td> </tr> </table>							Rev. No.	Revisions	Prepared:	Reviewed:	Approved	Date	00	Issued	SHEKHAR	BHARATH	SUNIL B J	06.01.2023
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COMP. FILE NAME
 TC 5 4362-R00

Ref. Doc.

TD-106-1 Rev. 5 Form No.		Annexure I to purchase specification TC54301 R00	
		TURBINES AND COMPRESSORS	
		HYDERABAD	
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COPYRIGHT AND CONFIDENTIAL The information on this document is the property of BHARAT HEAVY ELECTRICALS LIMITED. It must not be used directly or indirectly in any way detrimental to the interest of the company.		2.0.18 For 0.11m3/sec Flow capacity fan (Material Codes TC9754301166 & TC9754301360) following points shall be considered a) The drive motor rating shall be 0.37KW b) Motor shall be FLANGE MOUNTED Type c) Inlet & Outlet Flange sizes shall be Dia. 3_ ANSI 150 class RF d) Material of Fan: Non sparking (Aluminum preferably)	
		2.0.19 For 0.18m3/sec Flow capacity fan (Material Codes TC9754329095) following points shall be considered a) The drive motor rating shall be 0.75KW b) Motor shall be FLANGE MOUNTED Type c) Inlet & Outlet Flange sizes shall be Dia. 4_ ANSI 150 class RF d) Material of Fan: Non sparking (Aluminum preferably)	
		3.0.0 <u>PAINTING REQUIREMENT: -</u>	
		3.1.0 Painting shades for Fan Assembly will be finalised after PO is placed.	
		4.0.0 <u>Scope of supply:</u>	
		4.1.0 Please refer the price schedule and technical specs.	
		5.0.0 <u>EQUIPMENT SUPPLIER QUALIFICATION CRITERIA:</u>	
		5.1.0 The vendor for the complete unit shall be an established manufacturer and he shall also be the Manufacturer of the proposed equipment having adequate engineering, manufacturing & testing facilities for the same.	
		5.2.0 The vendor shall have engineered, packaged, tested and supplied at least two identical or validly similar packages in terms of type of machine, driver, sealing system etc. from the proposed plant and at least ONE of these shall have successfully operated in the field for at least 8000 hrs without any major problem as on the date of tender.	
		5.3.0 The vendor besides satisfying the requirements of clause 5.1 and 5.2 above shall also be the packager of the complete system proposed and shall have the single point responsibility for the entire package. Seal Make/Model shall be from the regular manufacturing range of seal manufacturer and shall be field proven for similar services of liquid pressure and speed.	
		6.0.0 <u>WARRANTY CLAUSE FOR NRL COMPRESSOR PROJECTS:</u>	
		Warranty of complete FAN ASSEMBLY shall be as per clause 5.2 of TC54301	
		7.0.0 <u>DOCUMENTATION:</u>	
		7.1.0 <u>Vendor has to submit following documents along with offer otherwise the offer will be Technically rejected:</u>	
		7.1.1 Fan Datasheets	
		7.1.2 Motor Datasheet	
		7.1.3 Fan Assembly along with Motor GA Drawing	
		7.1.4 Quality Assurance Plan	
		7.1.5 Inspection & Test plan as per BHEL/ customer specs.	
		7.2.0 <u>Vendor has to submit following documents after placement of Purchase Order:</u>	
		7.2.1 Fan Datasheets	
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Annexure I to purchase specification TC54301 R00

TURBINES AND COMPRESSORS

HYDERABAD

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- 7.2.2 Motor Datasheet
 7.2.3 Fan Assembly along with Motor GA Drawing
 7.2.4 Quality Assurance Plan
 7.2.5 Inspection & Test plan as per BHEL/ customer specs.
 7.2.6 Motor GA Drawing showing Terminal Box details.
 7.2.7 Motor Thermal Withstand curve, Speed V/s Torque curve, Load V/s Efficiency curve, Load V/s Power factor curve, Speed V/s Current curve & Time V/s Current curve.
 7.2.8 Motor Cross-sectional Drawing with BOM & Part No's showing recommended spare parts.
 7.2.9 Material Test Certificates
 7.2.10 Quality assurance plan
 7.2.11 Inspection & Test Plan as per BHEL/ Customer specs
 7.2.12 CCOE/PESO Certificates for Motor
 7.2.13 Routine/ Type Test certificate for Motor

9.0.0 Approved sub vendors:

9.1.0 For AC Motor: -



Suppliers List for B269, P-25

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Sr No	Supplier Code	Supplier Name	Country	Holiday Description
Item Code : 13JF Description : MOTOR-INDUCTION-M.V (FLAME PROOF)				
Approved Suppliers				
1	L065	LAXMI HYDRAULICS PVT LTD	INDIA	
2	3668	CG POWER & INDUSTRIAL SOLUTIONS LTD.	INDIA	
3	M282	MARATHON ELECTRIC MOTORS (INDIA) LTD.	INDIA	
4	B048	BHARAT BULEE LIMITED	INDIA	

9.2.0 For Cable Glands: -



Suppliers List for B269, P-25

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Sr No	Supplier Code	Supplier Name	Country	Holiday Description
Item Code : 14CA Description : CABLE GLANDS (HAZARDOUS AREA)				
Approved Suppliers				
1	3681	FCG POWER INDUSTRIES PVT LTD	INDIA	
2	27421	CMP PRODUCTS LIMITED	UNITED KINGDOM	
3	S375	STANDARD METAL INDUSTRIES	INDIA	
4	S158	SUDHIR SWITCHGEARS PVT LTD	INDIA	
5	K173	KAYSONS TECHNO EQUIPMENTS PVT. LTD.	INDIA	
6	F165	FCG FLAMEPROOF CONTROL GEARS P. LTD(C-157)	INDIA	
7	F036	FLAMEPROOF EQUIPMENTS PVT LTD	INDIA	
8	F024	FLEXPRO ELECTRICALS PVT LTD	INDIA	
9	3890	AKSHAR BRASS INDUSTRIES	INDIA	
10	F141	FCG POWER INDUSTRIES PVT LTD	INDIA	
11	C205	COMET INDUSTRIES	INDIA	
12	B024	BALIGA LIGHTING EQUIPMENTS (P) LIMITED	INDIA	
13	3704	METAL CRAFT INDUSTRIES	INDIA	


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<div>  <div> <div>TURBINES AND COMPRESSORS</div> <div>BHEL, HYDERABAD</div> <div>ANNEXURE-II PRICE SCHEDULE</div> </div> </div>				
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Project: Rate Contract of Oil Vapour Exhaust Fan

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Vendor's Signature

Vendor's Company seal

ANEXURE IV to Purchase Specification TC54301

BHEL Enquiry Ref No Date

Vendor offer Ref No Date

PROVEN TRACK RECORD FOR THE **MODEL BEING OFFERED** (FOR MORE THAN 8000 HOURS)

SL.NO	PLANT NAME /LOCATION	CLIENT	SERVICE	YEAR OF SUPPLY	NO. OF RUNNING HOURS LOGGED

Note:

PTR of the offered model shall be furnished.

Signature and stamp of vendor