



Bharat Heavy Electricals Limited
Electronics Division, Mysore Road, Bangalore – 560 026.



BHARAT HEAVY ELECTRICAL LTD
ELECTRONICS DIVISION
MYSORE ROAD, BANGALORE-560026

TENDER DOCUMENT

NAME OF THE WORK:

COMPREHENSIVE AMC FOR AIR CONDITIONING
AND CHILLER PLANTS.

OPENING DATE: 05.04.2017

THIS TENDER DOCUMENT CONTAINS 40 PAGES

To,
M/s



Phone:26998416/8519

NOTICE INVITING TENDERS

01. Tender Reference : FS/PMG/AC/AMC/2017
Date: 13.03.2017
02. Name of the work : Comprehensive Annual Maintenance
Contract for Air-Conditioning and Chiller
Plants.
03. Period of contract : 02 Years
04. Estimated Cost : Rs. 23.50 Lakhs (For two years)
05. Earnest Money Deposit : Rs. 47000/-
06. Last Date & Time for the Receipt of Completed Tender. : **Before 1.00 PM on 05.04.2017**
07. Date & Time for Tender Opening (Technical Bid) : **At 1.30 PM on 05.04.2017**
08. Place of submission of completed Tender: Tender document shall be dropped at
FS&T tender box kept at Reception
BHEL, Electronics Division,
Mysore Road, Bangalore -26.

This tender document contains 40 pages including the following.

I. Technical Bid : Pages from 1- 34 (part-I)

- a) Technical-cum-commercial Bid
- b) Instructions to tenderers
- c) Scope of Work

II. Price Bid : Pages - 35 – 40 (part-II)

- Note:** 1. The tenderer shall read the tender documents carefully and fill all the columns neatly. Incomplete tenders will be rejected.
2. The tenderer shall return the duly filled in tender document after affixing signature on all pages.
3. The Tenderers shall ensure and put “Technical cum Commercial bid (Part – I)”

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“Instructions to Tenderers” together in one cover and “Schedule of Work / Price bid (Part – II)” in a separate cover. Both these covers shall be separately sealed and then put together in a single cover and sealed. All the sealed covers shall be properly identified with necessary information such as Tender reference, type of document put inside, date of tender opening to enable to open the correct document cover only.



PART-1

TECHNICAL-CUM-COMMERCIAL BID (CAMC for AC and chiller plants)
(To be furnished by the Bidder)

Name of work: Comprehensive Annual Maintenance Contract for Air-Conditioning and Chiller Plants

Tender Ref : FS/PMG/AC/AMC/2017dtd. 13.03.2017

A) : Information Part :

S.N .	Particulars	To be filled by Bidder
1.0	Name of the Contractor	
2.0	Address (Office)	
3.0	Address (Residence)	
4.0	Telephone Number	
	Office	
	Residence	
	Mobile No.	
5.0	Email id.	
6.0	Technical Staff Details (Use separate sheet if reqd.)	Furnished/ Not Furnished
7.0	Working Staff Details (Use separate sheet if reqd.)	Furnished/ Not Furnished



B) : Essential Criteria for Techno-Commercial Acceptance of Bid

S.N	Particulars	To be filled by Bidder
1.0	Experience Certificate for successfully completed similar works during immediate last 7 years as mentioned below: <i>(Similar work means AMC works for central/package Air-conditioning systems)</i> One work not less than Rs 18.80 Lakhs or Two works of not less Rs 11.75 Lakhs or Three works of not less than Rs 9.40 Lakhs (Copy of performance report from the organization where the work is executed is to be enclosed. Submission of Work Order copy is not adequate)	
2.0	Average Turn Over of the last three years (not less than Rs 7.05 lakhs/year)	
2.1	Turn over - Previous financial year	Rs.
2.2	Turn over - 1 year before previous financial year	Rs.
2.3	Turn over- 2 years before previous financial year	Rs.
3.0	Whether Registered with ESI / PF Authority	Yes/ No
3.1	If Yes, indicate PF Registration No. (Copy of last month contribution paid receipt to be enclosed)	Enclosed / Not enclosed
3.2	If Yes, indicate ESI Registration No. (Copy of last month contribution paid receipt to be enclosed)	Enclosed / Not enclosed
3.3	If No, Is the tenderer willing to pay the ESI and PF contribution subject to BHEL Terms and conditions.	Yes/No
4.0	Security Deposit Clause as per NIT	Acceptable/ Not Acceptable
5.0	The bidder should have office in Bangalore with land line/mobile telephone and E-mail for emergency contact. Please provide address, Phone numbers & E-mail ID.	Details:

Note: If any of the above mentioned criteria is not met the bid will be rejected



C) : Other Conditions:

10	Form of EMD furnished (Cheque is not acceptable)	DD/ Pay Order
1.1	Cash (receipt No. and Date)	
1.2	DD Particulars	
2.0	General Conditions of Contract & NIT	Acceptable/ Not Acceptable
3.0	Contract period mentioned in NIT	Acceptable/ Not Acceptable
4.0	Payment Terms defined in NIT	Acceptable/ Not Acceptable
5.0	PAN No. of Tenderer (Copy of the same to be enclosed)	Enclosed/Not enclosed
6.0	Service Tax registration No. of Tenderer (Copy of the same to be enclosed)	Enclosed/Not enclosed



INSTRUCTIONS TO TENDERERS

Name of work: Comprehensive Annual Maintenance Contract for Air-Conditioning And Chiller Plants

1. Sealed Tenders for the above noted works are hereby invited from Contractors experienced in works of similar kind and magnitude.
2. Tenders should be addressed to AGM (FS & I), Electronics Division, Bharat Heavy Electricals Limited, Mysore Road, Bangalore – 560 026. The full name and address of the tenderer, name of the work and the date of opening should be indicated on the cover.
- 2.1 The local address of the Contractor, the name of the person to whom all the correspondence are to be addressed should be indicated with telephone number (both office and residence), FAX /e-mail address, Mobile phone No. etc.
3. All entries in the tender documents should be in the same ink. Erasures and over writing are not permitted. The tenderer concerned with proper indication of the name, designation and address of the person signing should duly sign all cancellations and insertions.
4. Tenderers shall fill in all the required particulars in the blank spaces provided for this purpose in the tender documents and also sign each and every page of the tender document including the drawings (wherever applicable) attached there to before submitting tender.
5. Unit rates should be quoted in figures as well as in words in Indian Currency only i.e. Rupees and Paise with reference to each item and for all the items shown in the attached schedule. The rates shall include all taxes and duties payable on account of Service Tax, Sales Tax etc., and also expenses towards PF and ESI contributions (see clauses 8, 39 and Annexure 'C'). The tenderers shall fill amount of each item and the total on each sheet as also the grand total amount of the whole contract.
6. In case the rate quoted in figures differs from those quoted in words, the lower of the rates will be taken as the tendered rate and shall be binding on the tenderers.
7. In quoting their rates, the tenderers are advised to take into account all factors including any fluctuations in market rates. No claim for enhanced rates will be entertained on this account after acceptance of the tender or during the currency of the contract.
8. The rates to be quoted by the tenderer shall be firm and should consist of all taxes including VAT. The service tax should be quoted in the service tax column in Price Bid. The service tax rate changes if any during the course of contract will be paid as applicable. If BHEL is required to discharge the liability of any taxes on the transaction like TDS(IT), TDS(WCT), service tax under reverse charge mechanism or any other similar taxes, which is or becomes payable by BHEL, the same shall be deducted from the bills of the contractor.



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9. (a) The rates quoted in the tender shall remain valid for a period of 'THREE MONTHS' from the date of opening of tender.
- (b) Tenderer shall not increase their quoted rates, once the tenderer has submitted his quotation and during execution of the contract in case his tender is accepted.
10. Quantities shown in the attached schedule are only approximate and are liable to variation without entitling the Contractor to any compensation, provided the total value of the contract does not vary by more than 20 % (Twenty percent).
11. Before tendering, the tenderers are advised to inspect the site of work and its environments and be well acquainted with the actual working and other prevailing conditions, position of materials and labour. They should be well versed with BHEL General Conditions of Contract, Instructions to tenderers, drawing wherever applicable and specifications and all other documents which form part of the agreement to be entered into subsequent to award of work. The tenderers shall specially note that it is the tenderer's responsibility to provide any item which is not specially mentioned in the specification or drawing, but which is necessary to complete the work.
12. Details and quantities of each item of work shown in the "Bill of Quantities" attached here to be only approximate. They are given as a guide for the purpose of tendering only and are liable to variation and alteration at the discretion of the competent authority. The work under each item as executed shall be measured and priced at the corresponding rates to be quoted by the contractor in the Bill of Quantities attached here to.
13. Should a tenderer find discrepancies or omissions in the drawings wherever applicable / Specifications / Scope of work / Terms & Conditions attached to the tender documents or should be in doubt as to their meaning, he should at once address to the authority inviting the tender for clarifications.
- Every endeavor is made to avoid any error which can materially affect the basis of the tender but the successful tenderer shall take upon himself to provide for the risk of any error which may be subsequently discovered and shall make no subsequent claim on account thereof.
14. In the event of tender being submitted by a firm, the tender must be signed separately and legibly by each partner or member of the firm or in their absence, by the person holding the power of Attorney on behalf of the firm concerned. In the latter case, a copy of the power of attorney duly attested by a Gazetted officer must accompany the tender.
15. In case, the date of tender opening falls on Holiday, the tender will be opened on the next working day.
16. Every tender must be accompanied by deposit receipt for the amount mentioned as Earnest Money Deposit. This earnest money will be refunded to the unsuccessful tenderers after finalisation of the award of work. In the case of successful tenderer,



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the earnest money will be retained as part of the Security Deposit for satisfactory completion of the work in accordance with Clause – 16 of the BHEL General Conditions of the Contract. Tenders without Earnest Money Deposit receipts are liable to be rejected. No interest will be paid on the earnest money deposits.

17. The EMD may be submitted in following forms:
 - a) Cash deposit as permissible under the extant of Income Tax Act (before tender opening only)
 - b) Electronics fund transfer credited in BHEL account. (before tender opening only)
 - c) Banker's Cheque/ Pay Order/ Demand Draft In favour of BHEL (along with offer.)
18. MSE suppliers can avail the intended benefits only if they submit along with the offer, attested copies of either EM II certificate having deemed validity (Two years from the date of issue of acknowledgement in EM II) or valid NSIC certificate or EM II certificate along with attested copy of a CA certificate (Format enclosed at Annexure -1(Refer Page No.25) where deemed validity of EM II certificate of five years has expired) applicable for the relevant financial year(latest audited). Date to be reckoned for determining the deemed validity will be the date of bid opening (Part 1 incase of two part bid). Non submission of such documents will lead to consideration of their bid at par with other bidders. No benefits shall be applicable for this enquiry if any deficiency in the above required documents are not submitted before price bid opening. If the tender is to be submitted through e-procurement portal, then the above required documents are to be uploaded on the portal. Documents should be notarized or attested by a Gazetted officer.
19. Unless the Contractor whose tender is accepted signs the contract agreement within fifteen days (15 days) of the date of the order directing him to do so, the amount of Earnest Money already deposited by him may be forfeited and acceptance of his tender withdrawn.
20. If, after opening of tenders, a tenderer revokes his tender or increases his earlier quoted rates or after acceptance of his tender does not commence the work in accordance with the instructions of Engineer-in-charge, the Earnest Money Deposited by him will be forfeited and acceptance of his tender withdrawn. If only a part of the work included in the tender had been awarded to the tenderer, the amount of Earnest Money to be forfeited will be based on the value of the contract so awarded.
21. BHARAT HEAVY ELECTRICALS LIMITED reserves the right to reject any or all the tenders received or accept any tender or part thereof without assigning any reason thereof. In the case of acceptance of a part of tender, the time for completion may also be reduced to the extent considered appropriate by the accepting authority.
22. Conditional and unsigned tenders, tenders containing absurd rates and amounts, tenders which are incomplete or otherwise considered defective, tenders which are not in accordance with the tender conditions laid down by the Accepting Officer and tenders not submitted in the prescribed forms are liable to be rejected.



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23. The tenders should be accompanied by a list of contracts already held by the Contractor at the time of submitting the tender and giving the following particulars:
- (a) Name of work, value and address.
 - (b) The balance work remaining to be done on the same.
24. Tenders submitted by post should be sent by “Registered Post with Acknowledgement due”. These should be posted with due consideration for any delay in postal delivery. Tenders received after the due date of opening of tenders are liable to be rejected.
25. The Contractor’s responsibility under this contract shall commence from the date of receipt of the order or acceptance of his tender.
26. **Fraud Prevention Policy:**
- “The Bidder along with its associate/Collaborators/Sub-Contractors/sub-Vendors/Consultants/Service Providers shall strictly adhere to BHEL Fraud Prevention Policy displayed on BHEL Website <http://www.bhel.com> and shall immediately bring to the notice of BHEL Management about any fraud or suspected fraud as soon as it comes to their notice.”
27. If a tenderer expires after the submission of his tender or after the acceptance of his tender, BHEL may, at their discretion, cancel such tender. If a partner of the firm expires after the submission of the Tender, after the acceptance of the Tender, BHEL may cancel such Tender at the discretion unless the firm retains its character (s).
28. BHARAT HEAVY ELECTRICALS LIMITED will not be bound by any power of Attorney granted by the tenderer or by changes in the composition of the firm made subsequent to the execution of the contract. They may however, recognise such power of Attorney and changes after obtaining proper legal advice, the cost of which will be chargeable to the contractor concerned.
29. If the tenderer deliberately gives wrong information in his tender, BHEL reserves the right to reject such tender at any stage. Further the tenderer will be liable for any damage caused.
30. Words imparting the singular number shall be deemed to include the plural number and vice-versa where the context so requires.
31. The General and Special Conditions of Contract are complementary to each other and where they are in conflict, the special condition shall prevail.
32. The expenses for completing the stamping the agreement shall be paid by the contractor.
33. Unless and otherwise stated all tendered work includes supply, erection, testing and commissioning of equipment as agreed to in the contract.



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34. After completion of the job, the contractor has to furnish actual drawings of work done in consultation with Engineer-in-charge.
35. Any covering letter and comments of the Contractor should be submitted in duplicate along with the offer.
36. The Contractor shall provide all the materials needed for trial run, testing including chemicals, consumables etc which are not covered in the Price Bid.. In quoting their rates, the Contractors are advised to take into account the cost of the above materials.
36. Should a tenderer or a contractor on the list of approved contractors have a relative or in the case of firm or Company of Contractors any of its share holder's relative is employed in a Gazetted Capacity in the Electronics Division of Bharat Heavy Electricals Limited, Bangalore – 26, the authority inviting tenders shall be informed of this fact at the time of submission of the tender, failing which tender may be disqualified or if such a fact subsequently come to light, the relevant provisions of the General Conditions of Contract will apply.
37. These 'INSTRUCTIONS TO TENDERERS' & 'GENERAL CONDITIONS OF CONTRACT OF BHEL' shall be deemed to form an integral part of the contract agreement for the work to be entered into. In cases of variation between the two in any matter, the conditions in the 'THE INSTRUCTIONS TO TENDERERS' shall prevail. Extracts of some of the important clauses of BHEL G.C.C are enclosed (Annexure containing extracts of clauses 20, 38 (Deleted) and 58 of BHEL GCC). The contractor has to obtain, at his cost, a copy of the BHEL GCC, scrutinise the same, and when submitting his tender, indicate his acceptance of BHEL GCC in the proforma enclosed at Annexure B.
38. All operations to be carried out by the Contractor during the execution of the contract such as drilling, welding etc., shall be done with proper equipment brought by the tenderer. Suitable power point will be provided and tapping from the power point to equipment shall be done using proper size of cable, equipment and after getting approval of connections from our Engineer-in-charge.
39. The Contractor shall comply with the provision of Employees Provident Fund and Miscellaneous Provisions Act 1952 and rules, regulations and other orders issued there under. He, as an employer, shall be liable to pay employer's contribution/deductions towards PF under the PF Act in respect of all labour employed by him, for the execution of the contract in accordance with the provisions of the Employees Provident Funds and Miscellaneous Provisions Act, 1952 as amended from time to time. For this purpose he shall indicate the code number obtained from the Regional Provident Fund Commissioner or he should obtain a code number if he has not and produce the Photostat copy of the challan / receipt of monthly remittance of the contribution made by him to the PF Commissioner. Final payments due to him will be released only on production of a "No due certificate" from the Regional Provident Fund Commissioner wherever applicable. He shall also furnish such returns as are due, under the Act, to be sent to the appropriate authorities through the Principal Employer".



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- 40 The Contractor should get himself registered with the E.S.I. Authorities as an independent Employer, obtain a separate code number and remit the dues in respect of the labour employed by him for the work and produce the Challans / Receipts of remittance of the ESI contributions due under the E.S.I. Act to the Company authorities. He shall also furnish such returns, as are due, under the Act, to be sent to the appropriate authorities through the Principal Employer.
- 40.1 If any action is brought in by P.F. Commissioner/ESI authorities on BHEL for the work done by the Contractor for his labourers regarding PF/ESI amount due, short remittances, non remittances etc., the Contractor shall defend the case on behalf of BHEL and/or reimburse BHEL the expenses so incurred.
- 40.2 If applicable, the Contractor shall apply and obtain license under Contract labour (R&A) Act 1970 and comply with the relevant provisions of this Act in respect of the labour employed by him for executing this contract. The Contractor shall furnish necessary returns to the authority through the Principal Employer.
- 41 If applicable, the Contractor shall insure all his labourers and materials. Any claim by his employees for the damages shall be settled by the contractor even action is against BHEL or to reimburse the legal expenses incurred by BHEL
- 42 Any action brought in by anybody on BHEL regarding patent, right etc., used by contractor in execution of work shall be defended by the contractor and /or reimburse to BHEL the cost of the same.
- 43 Contractor shall produce necessary records, documents, explanation whenever he is called upon to do, by any Government. Agencies like ESI, PF, VIGILANCE etc.,
- 44 **TERMS OF PAYMENT:**
Payment will be made on quarterly basis against your invoice after satisfactory Services of each quarter.
- 45 **SECURITY DEPOSIT**
- 45.1 The successful tenderer shall deposit the Security deposit before start of the work. The rate of Security deposit will be 5% of contract Value.
- 45.2 Security deposit may be furnished in any one of the following forms
- I. Cash (as permissible under the Income Tax Act)
 - II. Local Cheques of scheduled Banks (subject to realization)/Pay Order/ Demand Draft /Electronic Fund Transfer in favour of BHEL
 - III. Securities available from Post Offices such as National Savings Certificates, Kisan Vikas Patras etc. (Certificates should be held in the name of Contractor furnishing the security and duly pledged in favour of BHEL and discharged on the back)



- IV. Bank Guarantee from scheduled Banks / Public Financial Institutions as defined in the Companies Act. The Bank Guarantee format should have the approval of BHEL.
- V. Fixed Deposit Receipt issued by Scheduled Banks / Public Financial Institutions as defined in the Companies Act. The FDR should be in the name of the contractor, A/C. BHEL, duly discharged on the back.
- VI. Security Deposit can also be recovered at the rate of 10% from the running bills. However in such cases at least 50% of Security Deposit shall be deposited before start of the work and the balance 50% may be recovered from the running bills.
- VII. EMD of the successful tenderer shall be converted and adjusted against the security deposit.
- VIII. The Security deposit shall not carry any interest.

NOTE: Acceptance of Security Deposit against Sl. No. (iii) and (v) above will subject to hypothecation or endorsement on the document in favour of BHEL-EDN. However, BHEL will not be liable or responsible in any matter for the collection of interest or renewal of the documents or in any other matter connected therewith.

46 REVERSE AUCTION

“BHEL reserves the right to go for Reverse Auction (RA) (Guidelines as available on www.bhel.com) instead of opening the sealed envelope price bid, submitted by the bidder. This will be decided after techno-commercial evaluation. Bidders to give their acceptance with the offer for participation in RA. Non-acceptance to participate in RA may result in non-consideration of their bids, in case BHEL decides to go for RA.

Those bidders who have given their acceptance to participate in Reverse Auction will have to necessarily submit ‘Process compliance form’ (to the designated service provider) as well as ‘Online sealed bid’ in the Reverse Auction. Non-submission of ‘Process compliance form’ or ‘Online sealed bid’ by the agreed bidder(s) will be considered as tampering of the tender process and will invite action by BHEL as per extant guidelines for suspension of business dealings with suppliers/ contractors (as available on www.bhel.com).

The bidders have to necessarily submit online sealed bid less than or equal to their envelope sealed price bid already submitted to BHEL along with the offer. The envelope sealed price bid of successful L1 bidder in RA, if conducted, shall also be opened after RA and the order will be placed on lower of the two bids (RA closing price envelope sealed price) thus obtained. The bidder having submitted this offer specifically agrees to this condition and undertakes to execute the contract on thus awarded rates.

If it is found that L1 bidder has quoted higher in online sealed bid in comparison to envelope sealed bid for any item(s), the bidder will be issued a warning letter to this effect. However, if the same bidder again defaults on this count in any subsequent



tender in the unit, it will be considered as fraud and will invite action by BHEL as per extant guidelines for suspension of business dealings with suppliers/ contractors (as available on www.bhel.com).”

As a reminder to the bidders, system will flash following message (in RED Color) during the course of ‘online sealed bid’:

“Bidders to submit online sealed bid less than or equal to their envelope sealed bid already submitted to BHEL”



SCOPE OF WORK:

I) LIST OF PLANTS COVERED UNDER COMPREHENSIVE AMC:

Sl. No.	DESCRIPTION OF THE PLANTS
01	Devices 66 TR A/C plant (ETA Make) – Air cooled scroll chiller comprising of a. Scroll Compressor 11TR each - 6 No's (2 No. Stand by)(Danfoss Make) b. Air Cooled Condenser - 3 sets c. Air handing Unit - 2 No's d. Chiller Pump - 2 No's (1 No. Stand by) e. Chilled water Make up tank -1 No f. Refrigeration circuit, chilled water circuit and all connected electrical and mechanical equipments with accessories etc.
02	East First floor 55TR A/C Plant -Direct expansion type Comprising of a. Compressor (Model 5H60) - 2 No's (1 No. Stand by) (Voltas Make) b. Condenser - 2 No's (1 No. Stand by) c. Air handing Unit - 1 No. d. Cooling Tower - 1 No. e. Condenser Pump - 2 No's (1 No. Stand by) f. Compressor Motors - 2 No's (1 No. Stand by) g. Refrigeration circuit, cooling water circuit and all connected electrical and mechanical equipments & accessories etc.
03	DOE 35 TR A/C Plant – Direct expansion type Comprising of a. Compressor (Model 5H40) - 2 No's (1 No. Stand by) (Voltas Make) a. Condenser - 2 No's (1 No. Stand by) b. Air handing Unit - 1 No's c. Cooling Tower - 1 No. d. Condenser Pump - 3 No's (1 No. Stand by) e. Compressor Motors - 2 No's (1 No. Stand by) f. Condensate drain pump - 1 n o g. Fresh Air Fan - 1 no. h. Drain water Pump - 1 No i. Refrigeration circuit, cooling water circuit and all connected electrical and mechanical equipments & accessories etc.
04	DOE 35 TR Chiller plant – comprising of a. Compressor with motor (Model 5H40) - 2 No's (1 No. Stand by). (Voltas Make) b. Condenser - 2 No's (1 No Stand by) c. Chiller Pump - 2 No's (1 No Stand by) d. Chilled water Pressure Tank - 1 No. e. Portable Air Compressor (for chilled water pressure tank -1 No f. Mapex chilled water pump - 3 nos (2 No stand by) g. Refrigeration circuit, cooling water circuit and all connected electrical and mechanical equipments & accessories etc. Note : Cooling tower and condenser water pumps are common for Both AC and Chiller plants of DOE.



05	<p>EAST ANNEX'G' floor 11 X 3 = 33 TR Package (Model OPUA SC110) and 5.5 Tr. AC Package . OPUA SC 55) Voltas make - comprising of</p> <p>a. Hermetic SCROLL Compressor (Model Z872KC) 7 No's (1 No Stand by) (Copeland)</p> <p>b. Condenser (Air cooled) - 7 No's (2 Nos. Stand by).</p> <p>c. Package blower Unit - 4 No. (1 No. Stand by)</p> <p>d. Refrigeration circuit, and all connected electrical and mechanical equipments & accessories etc.</p>
06	<p>EAST 'G' FLOOR 88TR A/C Plant (ETA make) - Air cooled scroll chiller comprising of</p> <p>a. Scroll Compressor 11TR each - 8 No's (4 No. Stand by) (Copeland Make)</p> <p>b. Air Cooled Condenser - 4 sets</p> <p>c. Air handing Unit (Voltas Make) - 1 No's</p> <p>d. Chiller Pump - 2 No's (1 No. Stand by)</p> <p>e. Drain pump -1 no</p> <p>f. Refrigeration circuit, chilled water make up tank, chilled water circuit and all connected electrical and mechanical equipments with accessories etc.</p>
07	<p>EAST ANNEX 1st floor 11 X 3 = 33 TR Package and 5.5 Tr. AC Package Trac make - comprising of</p> <p>a. Hermetic SCROLL Compressor (Model ZR72KC) - 7 No's (1 No Stand by) (Copeland)</p> <p>b. Condenser (Air cooled) - 7 No's (2 Nos. Stand by).</p> <p>c. Package blower Unit - 4 Nos. (1 No. Stand by)</p> <p>d. Refrigeration circuit, and all connected electrical and mechanical equipments & accessories etc.</p>
08	<p>TSC (Module) 40TR A/C Plant – Direct expansion type Comprising of</p> <p>a. Compressor (Model SMC 4X100) - 2 No's (1 No. Stand by). (Accel Make)</p> <p>b. Condenser - 2 No's (1 No. Stand by).</p> <p>c. Air handing Unit - 1 No's</p> <p>d. Condenser Pump - 2 No's (1 No. Stand by).</p> <p>e. Compressor Motors - 2 No's (1 No. Stand by).</p> <p>f. Cooling Tower - 1 No's</p> <p>g. Refrigeration circuit, cooling water circuit and all connected electrical and mechanical equipments & accessories etc.</p>
09	<p>EDP 10 X 3 = 30 TR Package (Model A 1000A1B4) AC Plant. (1 Unit is Stand by) - comprising of</p> <p>a. Semi Hermetic Compressor (Model BH 100) - 3 No's (Batliboi Makea)</p> <p>b. Condenser (Air cooled) - 6 No's (2 No. Stand by).</p> <p>c. Package blower Unit - 3 No. (1 No. Stand by)</p> <p>d. Refrigeration circuit, and all connected electrical and mechanical equipments & accessories etc.</p>



10	<p>System testing 189 TR screw chiller (Carrier Make)-2 Nos (1 No stand by) - Indirect expansion type comprising of</p> <p>Semi hermetic screw compressors -2 No's each Condenser -12 Nos each Air handling unit -3 No's Chiller pump -2 No's (1 No. Stand by) Refrigeration circuit, chilled water make up tank, cooling water circuit and all connected Electrical, Electronics and Mechanical equipments & accessories etc.</p>
11	<p>HVDC Bldg. No.13 floor 11 X 3 = 33 TR Package(Voltas Make) (Model DPUA SC110R407) - comprising of</p> <p>a. Hermetic SCROLL Compressor (Model HLPO72T4LC6) - 6 No's (2 No Stand by) b. Condenser (Air cooled) - 6 No's (2 Nos. Stand by). c. Package blower Unit - 3 No. (1 No. Stand by) d. Refrigeration circuit, and all connected electrical and mechanical equipments & accessories etc.</p>
12	<p>PV AC Plant 129 TR screw chiller (Clivet make)-Indirect expansion type comprising of</p> <p>a. Semi hermetic screw compressors -2 No's b. Condenser -8 Nos c. Air handling unit -4 No's d. Chiller pump -2 No's (1 No. Stand by) e. Refrigeration circuit, chilled water make up tank, cooling water circuit and all connected Electrical, Electronics and Mechanical equipments & accessories etc.</p>
13	<p>105 MW PV cell line AC Plant 175 TR screw chiller (Voltas make)-Indirect expansion type comprising of</p> <p>a) Semi hermetic screw compressors -2 No's b) Condenser -10 Nos c) Air handling unit (Zeco Make) -2 No's Note: AHU along with filter and piping system will be added after AC plant at sl. No. 3 upgradation d) Chiller pump -2 No's (1 No. Stand by) Refrigeration circuit, chilled water make up tank, cooling water circuit and all connected Electrical, Electronics and Mechanical equipments & accessories etc</p>
14	<p>105 MW PV cell line 150 TR screw chiller Voltas Make)-2 Nos (1 No stand by) -Indirect expansion type comprising of</p> <p>a) Semi hermetic screw compressors -1 No's each b) Condenser -8 Nos each c) Process chilled water pump -2 No's (1 no. standby) Note: chilled water piping system and pumps will be added after chiller plant at sl. No. 4 upgradation d) Chiller pump -2 No's (1 No. Stand by) e) Chilled water Mixing tank -1 No f) Refrigeration circuit, cooling water circuit and all connected Electrical, Electronics and Mechanical equipments & accessories etc.</p>
15	<p>105 MW PV cell line 33 X 3 = 99 TR DX type AC plant ETA make - comprising of (compressor of Copeland Make)</p> <p>a. Hermetic SCROLL Compressor - 9 No's of 11TR each (3 No Stand by) b. Condenser (Air cooled) - 9 No's (3 Nos. Stand by). c. AHU - 3 No. (1 No. Stand by) d. Refrigeration circuit, and all connected electrical and mechanical equipments & accessories etc.</p>



NOTE: In the event of dismantling/replacement/non utility of the plant by BHEL for more than a quarter of any of the above AC/chiller/Package AC/during the period of the contract, payment will be made for the particular plant on pro-rata basis (Quarterly basis) for the period quarterly services rendered by the contractor.

- II)** The scope of contract covers preventive maintenance and breakdown maintenance:
- a) Preventive maintenance has to be carried out as per the PM schedule drawn by BHEL.
 - b) Breakdown maintenance and repair/replacements to ensure satisfactory running of the plant will be carried out on BHEL lodging the complaint either by phone/email/fax/letter. The repair/servicing shall be under taken within 24 hrs of the complaint.

THE SCOPE SHALL INCLUDE THE FOLLOWING EQUIPMENTS AND ACCESSORIES :-

- 1) Compressors along with Motors and drive systems.
- 2) Condenser units along with Fans, Condenser coils, pumps, piping, valves ,pipe fittings and Motors.
- 3) Chiller units along with Pumps, piping, valves, pipe fittings and Motors.
- 4) Air handling units with Fans and Motors, Belts, bearings, Filters, ductings (Except Micro Vee and HEPA filters which will be supplied by B.H.E.L.) Heaters, Expansion valves, Solenoid valves, strainers and ducting etc.,
- 5) Cooling towers along with pumps, Blowers, Fans, fills, piping, Nozzles etc.,
- 6) Water circuits along with pressure Gauges, Instruments and safety cut-outs .
- 7) Refrigeration piping along with valves , insulation etc.,
- 8) All electrical from the main power control panel for the plant including Main switches, Cables, Power line Fuses, Cable lugs, Connectors, Contactors, Timer's, Over load relays, Single Phase preventers, Motors, Control, Thermostats, Humidistat, Pressure cut-outs controls etc.
- 9) All instrumentation and control units including displays, HMI's, controllers and control systems, flow switches, thermal sensors, pressure sensors, control supply, microprocessors etc.
- 10) Reciprocating pumps along with Motor and accessories, piping, piping insulation for process chilled water circulation.
- 11) The replacement of the equipment as a whole such as Compressors for central plants, Condensers, condenser coils, Air handling units, Cooling towers, pumps, motors and replacement of micro Vee and HEPA filters are not covered under AMC. However, all the spares, consumables and materials required for breakdown works/preventive maintenance works/overhauling of the above equipments are covered under the AMC.

III) THE SERVICING SHALL INCLUDE: -

- 1) The Plants / equipments are to be maintained at their working capacity and by Carrying out preventive maintenance, as per the checklist for all of the above equipments /accessories once in a quarter. The preventive maintenance works shall be planned for Saturdays / Sundays Holidays in order to ensure maximum availability of the plant for production.



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- 2) Overhauling of the equipment's/ compressor's/ pump's/Plant's etc, shall be carried out as and when required, depending upon plant condition, or once in a year, in consultation with Engineer in- charge.
- 3) The plant should be put back into service / operation, by carrying out repair /replacement of components/spares/accessories/piping and consumables such as Lubrication oil, Refrigerant gas etc as and when required.
- 4) The following tests shall be conducted for the plants during the contract period and test reports should be submitted after tests.
 - i. Efficiency test. (Quarterly)
 - ii. Particle counts test. (Half yearly)
 - iii. Air flow test (Quarterly)
 - iv. No. of air changes. (Quarterly)
 - v. Percentage of Fresh air (Quarterly)
 - vi. Sound level of the plant (Quarterly)
And conditioned area
 - vii. Vibration Level test along with (Half yearly)
Alignment corrections
- 5) After conducting tests for sound level and vibration level of the plants, if any variation with respect to standard values will be set right/ repair the plants well within the standard limits along with certificate.
- 6) Particle counts test shall be conducted for the conditioned areas of all the A/C plants.
- 7) The test shall be conducted for respirable particulate matter (RSPM) and oxygen level in the conditioned area half yearly through the agencies that are in the field of Air quality monitoring, and test reports to be submitted after test.
- 8) All the meters and gauges have to be calibrated at least once in a year, with traceability to national standards and furnish the calibration certificates and any defective gauges/meters have to be repaired /replaced along with calibration certificates traceable to national standards.
- 9) The refrigeration system shall be checked for any leakage of gas and lubrication oil and the same shall be charged/topped up as and when required. The lubrication oil shall be replaced with new oil at least once in a year.
- 10) Water-cooled Condenser De-Scaling and tube brushing work has to be Carry out as and when required. Air cooled condenser coils to be cleaned as and when required with suitable cleansing agent in consultation with Engineer Incharge.



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- 11) Pre filters, Plummer blocks, shaft, runners, drives, heaters and heater controls etc. of AHU'S shall be replaced whenever found defective.
- 12) Repair /Replacement, parts / accessories of cooling towers as and when required. Cleaning of cooling tower shall be carried out by you at the time of each quarterly services.
- 13) Spares and consumables are to be used as per annexure – A1 & B1. In case spares and consumables are not in list enclosed then you have to obtain the concurrence of EIC before usage. Minimum stock of frequently used spares and consumables needs to be kept readily available at any time in the factory premises in your safe custody. The list of consumables/spares etc. is given in annexure C1.
- 14) Special care and attention be given to ensure that no damage is done to the equipment in terms of: -
 - a) Avoiding leakage of refrigeration gas into the atmosphere through regular check up and prevention.
 - b) The refrigerant R-22 used for recharging purposes for repair / preventive maintenance works of Air-conditioning / chilled water plants should not exceed more than 5% of the total gas used in the system during the AMC period of one year, in the view of environmental protection. However it is contractors responsibility to maintain the plant on optimum efficiency condition.
 - c) Avoiding spillage of oils on the ground and ground contamination.
 - d) Proper disposal of spent oil/wastes as per the company's procedures.
 - e) Avoiding noise pollution, by keeping the noise levels within the permitted levels, by way of quarterly checks and remedial measures.
 - f) Usage of eco-friendly chemicals/cleaning aspects for de-scaling/coil cleaning etc.
 - g) Every breakdown /preventive maintenance service shall be followed by necessary Service Report indicating details of consumables/spares used separately.
 - h) Compressors for Package units shall be replaced with either Factory reconditioned or new compressors of the same make in case of requirement.
 - i) In case, the insulation/ cladding is removed during breakdown / preventive maintenance works shall be reinstalled/repared/ replaced immediately.



IV) TOOLS, TACKLES AND MEASURING INSTRUMENTS:

All the necessary Tools, Tackles and Measuring Instruments required during preventive Maintenance works/Breakdown Maintenance works/Overhauling works/While conducting tests are to be arranged from your end as and when required at no extra cost.

V) GENERAL:

- 1) Returnable materials such as tools, equipments and replacement spares etc brought inside our premises shall be entered at our check post to enable you to take them back after the completion of works.
- 2) All the materials such as spares/consumables etc required for service /maintenance work shall be brought with necessary delivery challans duly Endorsed by our security at the material gate and hand over to us.
- 3) Your service personnel have to report to the Executive In charge/Supervisor in charge immediately after entering into our factory premises and before taking up any service /repair works.
- 4) Quarterly analysis of the breakdowns data/service reports to be made and a separate report to be furnished.

VI) Penalty for non performance will be charged as below:

Sr. No.	Breakdown description	Completion period from the day of informing breakdown	Penalty
1	When full system is not available including standby and production requirements are not met.	2 days of reporting breakdown	For Non completion > 2 days; penalty @ 1% of quarterly value of contract for that plant for per day delay of work.
2	When system is available but standby is under breakdown for any reasons or system is not meeting system requirements.	10 days	For Non completion >10 days; penalty @ 1% of quarterly value of contract for that plant for per week delay of work.



ANNEXURE A1

- I. As can be seen from the list of plants, we are having ACCEL, CARRIER/ VOLTAS, KIRLOSKAR, BATLIBOI & COPELAND compressors. Tenderers are required to arrange for the spares only from the manufacturers / their authorized dealers/OEM'S.
- II. For any other spares required for the system shall be used from the following makes.
- | | | |
|--------------------------------|---|---------------------------------------|
| 1. BEARING | : | SKF / NBC/ ZKL/ NTN/TIMKEN/INA/FAG |
| 2. GAUGES | : | Fiebig / Waree /GURU |
| 3. CUT OUTS | : | Danfoss / Indfoss |
| 4. THERMOSTATS/
HUMIDISTATS | : | Danfoss / Indfoss / Honeywell/Johnson |
| 5. SOLENOID VALVES
(LLSV) | : | Sprolan/ Danfoss |
| 6. V-BELTS | : | Fenner/ Dunlop/Pix |
| 7. ELECTRICALS | : | Refer Annexure – B1 |



“Annexure “B1”

BHARAT HEAVY ELECTRICALS LIMITED
(ELECTRONICS DIVISION)
MYSORE ROAD BANGALORE – 560 026

ACCEPTABLE MAKES OF MATERIALS

1. L.T. SDUs/FSUs/SFUs	Siemens/ L&T/E.E./ C&S
2. Change over switches	C&S / HPL/ Indo Asian/ Hevell's
3. Rotary/Selector switches	Siemens/ L & T/ Kaycee/ Thaker/ Reco/ Switchtron/ Salzer
4. Limit switches	Siemens/ BCH
5. Toggle switches	Reco/ Kaycee
6. CTs & PTs	TELK/ Kappa/ Siemens/ Indcoil/AEL/Kalpa
7. Motors	BHEL/ Siemens/ ABB/ Crompton/ Kirloskar/ AEI/BEACON/BBC/NationalElectric company/
8. Motor Starters	Siemens/ L&T/ BCH
9.. Overload relays	Siemens / L & T/ BCH/EE
10. Time delay relay	Siemens/ BCH/ L&T/ EE
11. Single phase Preventer	Siemens/ L & T/ BCH
12. Push button/Indication Lamps	Vaishno/ Technic
13. Measuring Instruments	AE/ MECO/ IMP/ ENERCON/ ALACRITY
14. Protective Relays	EE/ Easun Rerole/ EMCO
15. Cables	CCI/ Universal/ Fort Gloster/ Asian/ Nicco/ Premier/ Polycab/Finolex
16. PVC insulated copper wires	Finolex/ Wincap/ Polycab/ Anchor
17. Copper Lugs	Dowell
18. Cable sockets/Glands	Dowels / Lotus/ Braco
19. Fuse distribution boards	E.E/ Siemens/ L & T./ Standard
20. MCB plug & socket Distribution Board	MDS/ Siemens / BCH
21. Cable sockets/Glands	Dowels / Lotus/ Braco



ANNEXURE C1

Frequently used spares/consumables requirement to be available in factory premises at any time			Remarks
1	Shaft Seal 5H40/SH 60	1 Nos	To be arranged immediately during BD
2	Shaft Seal Carbon ring 5H40/SH 60	2 nos	To be arranged immediately during BD
3	Shaft Seal bellow 5H40/SH 60	2 nos	To be arranged immediately during BD
4	Shaft Seal End cover 5H40/SH 60	1 Nos	To be arranged immediately during BD
5	Shaft Seal Accel smc 4 X 100	1 Nos	To be arranged immediately during BD
6	Shaft Seal O ring set sAccel smc 4 X 100	1 Nos	To be arranged immediately during BD
7	Shaft Seal Carbon ring Accel smc 4 X 100	2 Nos	To be arranged immediately during BD
8	Shaft Seal CI Accel smc 4 X 100	1 Nos	To be arranged immediately during BD
9	Refrigerant Freon 22	60 KG	To be arranged immediately during BD
10	Refrigerant 134 A	30 KG	To be arranged immediately during BD
11	Refrigerant R 407C	30 Kg	To be arranged immediately during BD
11	Gland Rope 10 mm	1 kg	To be kept in stock at factory
12	Gland Rope 8 mm	1kg	To be kept in stock at factory
13	V Belts - B- 96	3 Nos	To be arranged immediately during BD
14	V Belts - B-84	3 Nos	To be arranged immediately during BD
15	V Belts - B-106	3 Nos	To be arranged immediately during BD
16	SPB 1600	2 Nos	To be arranged immediately during BD
17	SPB 1360	2 Nos	To be arranged immediately during BD
18	V Belts - B-98	3 Nos	To be arranged immediately during BD
19	V Belts - B-93	3 Nos	To be arranged immediately during BD
20	A-28	1 No	To be arranged immediately during BD
21	V Belts - A-33	3 nos	To be arranged immediately during BD
22	ML 3 Contactor	3 nos	To be kept in stock at factory (1 no)
23	ML 3 Contactor kits	2 nos	To be kept in stock at factory (1 no)
24	MI 4 Contactor	1 Nos	To be kept in stock at factory (1 no)
25	MI 4 Contactor kits	2 Nos	To be kept in stock at factory (1 no)
26	ML 1.5 Contactor	1nos	To be kept in stock at factory (1 no)
28	Mnx 25 Contactor	1 nos	To be kept in stock at factory (1 no)
29	Mnx 25 Add on kit	1 nos	To be arranged immediately during BD
30	HBC fuse center link TSF- 125 Amps	3Nos	To be kept in stock at factory
31	HBC fuse HM type 125 Amps	3 Nos	To be kept in stock at factory
33	HBC Fuse EIT 32 Amps	3 Nos	To be kept in stock at factory
34	HBC Fuse TIA 32 Amps	3 Nos	To be kept in stock at factory
35	HBC Fuse 6 Amps n type	3 Nos	To be kept in stock at factory
36	Connector 25 Sq mm	6 Nos	To be kept in stock at factory
37	Connector 16 Sq mm	6 Nos	To be kept in stock at factory



ANNEXURE: 'B'

GENERAL CONDITIONS OF CONTRACT

It is hereby agreed by me/us that the BHEL General Conditions of Contract including subsequent amendments/ additions/deletions to clauses if any, and conditions pertaining the settlement of disputes by Arbitration from an integral part of the tender documents and that the tender submitted by me/us is subject to the aforesaid BHEL General Conditions of Contract which has been read and accepted by me/us.



ANNEXURE ‘C’

CLAUSE 20 OF GENERAL CONDITIONS OF CONTRACT

LABOUR

The Contractor shall employ labour in sufficient numbers either directly or through sub-contractors to maintain the required date of progress and of quality to ensure workmanship of the degree specified in the contract and to the satisfaction of the Engineer-in-charge. The contractor shall not employ in connection with the works any person who has not completed his eighteen years of age.

The Contractor shall furnish to the Engineer-in-charge at the intervals specified by him, a distribution return of the number and description by trades of the workpeople employed on the works. The Contractor shall also submit on the 4th and 19th or every month to the Engineer-in-charge a true statement showing in respect of the second half of the preceding month and the first half the current month (i) the accidents that occurred during the said fortnight showing the circumstances under which they happened and the extent of damage and injury caused by them and (ii) the number of female workers who have been allowed maternity benefits as provided in the maternity benefit Act, 1961 or Rules made there under and the amount paid to them.

The Contractor shall pay to labour employed by him either directly or through sub-contractors wages not less than fair wages as defined in the Contractor's Labour Regulations.

The Contractor shall in respect of labour employed by him either directly or through sub-contractors comply with or cause to be complied with contractor's labour Regulations in regard to all matters provided therein.

The Contractor shall comply with the provisions of the payment of wages Act, 1936, Minimum Wages Act, 1948, Workmen's Compensation Act 1923, Industrial Disputes Act, 1947, Maternity Benefit Act 1961, or any modifications thereof or any other law relating there to and rules made there under from time to time.

The Contractor shall be liable to pay his contribution and the employees contribution of the State Insurance Scheme in respect of all labour employed by him for the execution of the contract, in accordance with the provision of "The Employees, State Insurance Act, 1948," as amended from time to time. The Contractor shall apply to the ESI Authorities, get himself registered with them and obtain a code Number. He shall pay the remittances towards PF under his Code Number only.



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The Engineer-in-charge shall on a report having been made by an Inspecting Officer as defined in the Contractor's Labor Regulations have the power to required for making good the loss suffered by a worker or workers by reason of non fulfillment of the conditions of the contract for the benefit of workers, non-payment for wages or of deductions made from his or their wages which are not justified by the terms of the Contract of non observance of the said Contractor's Labour Regulations.

The Contractor shall indemnify the BHEL against any payment to be made under and for observance of the Regulations aforesaid without prejudice to his right to claim indemnity from these sub-contractors.

In the event of the Contractor committing a default or breach of any of the provisions of the aforesaid contractor's Labor Regulations, as amended from time to time or furnishing any information or submitting or filling any from /Register /Slip under the provisions of these Regulations which is materially incorrect then on the report of the Inspecting Officers as defined in the Contractors Labor Regulations, the Contractor shall without prejudice to any other liability pay to the BHEL a sum not exceeding Rs. 50/- as liquidated damages may be enhanced to Rs. 50/- per day for each day of default subject to a maximum percent of the estimated cost of works put to tender. The Contractor shall defend the case by himself any action brought in by such Government Agencies for non-compliance of any Labor Regulations and/or reimburse the expenses incurred by BHEL in this regard.

The Engineer-in-charge shall deduct such amount from bills or security deposit of the Contractor and credit the same to the welfare fund constituted under Regulations. The decisions of the Engineer-in-charge in this respect shall be final and binding.

MODEL RULES FOR LABOUR WELFARE

The Contractor shall at his own expense comply with or cause to be complied with model Rules for labor Welfare as appended to these conditions or rules framed by Government from time to time for the protection of health and for making sanitary arrangements for workers employed directly or indirectly on the works. In case the Contractor fails to make arrangements as aforesaid the Engineer-in-charge shall be entitled do so and recover the cost thereof from the contractor.



SAFETY CODE

RESPONSIBILITIES OF THE CONTRACTOR IN RESPECT OF SAFETY OF MEN, EQUIPMENT, MATERIAL AND ENVIRONMENT

1. Before commencing the work, contractor submit a “SAFETY PLAN” to the authorized BHEL Official. The ‘Safety Plan’ shall indicate in detail the measure that would be taken by the contractor to ensure safety of men, equipment, material and environment during execution of the work. The plan shall take care to satisfy all requirements specified hereunder. The contractor shall submit safety plan along with his offer. During negotiations before placing of work order and during execution of the contractor BHEL shall have right to review and suggest modification in the Safety Plan. Contractor shall abide by BHEL decision in this respect.
2. The contractor shall take all necessary safety precautions and arrange for appropriate appliances as per direction of BHEL or its authorized officials to prevent loss of human lives, injuries to personnel engaged, and damage to property and environment.
3. The contractor shall provide to its work force and ensure the use of the following personal protective equipment as found necessary and as directed by the authorized BHEL officials:-
 - (I) Safety Helmets conforming to IS – 2925: 1984.
 - (ii) Safety Belts conforming to IS – 3521: 1983.
 - (iii) Safety Shoes conforming to IS – 1989: 1978.
 - (iv) Eye and Face Protection devices conforming to IS – 8520: 1977 and IS – 8940: 1978.
 - (v) Hand and body protection devices conforming to:
 - IS – 2573: 1975
 - IS – 6994: 1973
 - IS – 8807: 1978
 - IS – 8519: 1977.

All tools, tackles, lifting appliances, material handling equipment scaffolds, cradles, safety nets, ladders, equipments etc. used by the contractor shall be of safe design and construction. These shall be tested and certificate of fitness obtained before putting them to use and from time to time as instructed by authorized BHEL official who shall have the right to ban the use of any item.

All electrical equipment, connections and wiring for constructions power, its Distribution and use shall conform to the requirement of India Electricity Act and Rules. Only electricians licensed by the appropriate statutory authority shall be employed by the contractor to carry out all types of electrical works. All electrical appliances including portable electric tools used by the contractor shall have safe plugging system to source of power and be appropriately earthed.



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The Contractor shall not use any hand – lamp energized by electric power with supply voltage of more than 24 Volts. For work in confined spaces, lighting shall be arranged with power source of not more than 24 Volts.

The contractor shall adopt all fire safely measures as laid down in the “Code for Fire Safety at Construction sites” issued by the Safety Department of the Construction management (HQ) of BHEL and as per directions of the authorized BHEL official. A copy of the above referred “Code of Fire Safety at Construction Sites” shall be made available by BHEL to the contractor for reference, on demand by the contractor, during tendering stage itself.

Where it becomes necessary to provide and/or store petroleum Products, explosives, chemicals and liquid or gaseous fuel or any other substance that may cause fire or explosion, the contractor shall be responsible for carrying out such provisions and/or storage in accordance with the rules and regulations laid down in the relevant government acts, such as Petroleum Act, Petroleum and Carbides of Calcium manual of the chief controller of Explosives, Govt. of India. etc., Prior approval of the authorized BHEL official at the site shall also be taken by the contractor in all such matters.

The contractor shall arrange at his cost (wherever not specified) appropriate illumination at all work spots for safe working when natural daylight may not be adequate for clear visibility.

The contractor shall be held responsible for any violation of statutory regulations local, state or central and BHEL instructions, that may enrage safety of men, equipment, material and environment in his scope of work or another contractor's or agency's. cost of damages if any, to life and property arising out of such violation of statutory regulations and BHEL instructions shall be borne by the contractor.

In case of a fatal or disabling injury accident to any person at construction sites due to lapses by the contractor, the victim and/or his/her dependents shall be compensated by the contractor as per statutory requirements. However, if considered necessary, BHEL have the right to impose appropriate financial penalty on the contractor and recover the same from payments due to the contractor for suitably compensating the victim and/or his/her dependents. Before imposing any such penalty, appropriate enquiry shall be held by BHEL giving opportunity to the contractor to present his case.

In case of any damage to property due to lapses by the contractor, BHEL shall have the right to recover cost of such damages from payments due to the contractor after holding an appropriate enquiry.

In case of any delay in the completion of a job due to mishaps attributable to lapses by the contractor, BHEL shall have right to recover cost of such delay from payments due to the contractor, after notifying the contractor suitably and giving him opportunity to present his case.



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If the contractor fails to improve the standards of safety in its operation to the satisfaction of BHEL after being given a reasonable opportunity to do so; provide necessary safety devices and equipment or to carry out instructions or to provide necessary safety devices and equipment or to carry out instructions regarding safety issued by the authorized BHEL official, BHEL shall have the right to take corrective steps at the risk and cost of the contractor after giving a notice of not less than seven days indicating the steps that would be taken by BHEL.

The contractor shall submit report of all accidents, fires and property damage, dangerous occurrence to the authorized BHEL official immediately after such occurrence, but in any case not later than twelve hours of the occurrence. Such reports shall be furnished in the manner prescribed by the contractor to the authorized BHEL official from time to time as prescribed.

Before commencing the work, the contractor shall appoint/nominate a responsible officer to supervise implementation of all safety measures and liaison with his counterpart of BHEL.

If Safety record of the contractor in execution of the awarded job is to the satisfaction of Safety Department of BHEL, issue of an appropriate certificate to recognize the safety performance of the contractor may be considered by BHEL after completion of the job.



ANNEXURE 'E'
CLAUSE 58 OF GENERAL CONDITIONS OF CONTRACT

ARBITRATION:

Except where otherwise provide for in the contract all questions and disputes relating to the meaning of the specifications, designs, drawings and instructions herein. Before mentioned and as to any other question, claim, right, matter or thing whatever in any way arising out of or relating to the contract, designs, drawings, specifications, estimates, instructions, orders or these conditions or otherwise concerning the works, or the execution or failure to execute the same whether arising during the progress of the work or after the completion or abandonment thereof shall be referred to the sole arbitration of the Executive Director/General Manager of BHEL and if the Executive Director/General Manager willing to act as such Arbitrator. There will be no unwilling to act to the sole Arbitrator so appointed is an employer of BHEL to which the contract relates and that in the course of his duties as such he had expressed views on all or any of the matters in dispute or difference. The Arbitration to whom the matter is originally referred being transferred or vacating his office or being unable to act for any reason, such Executive Director/General Manager as aforesaid at the time of such transfer vacation of office or inability to act, shall appoint another person to act as arbitrator in accordance with the terms of the contract. Such person shall be entitled to proceed with the reference from the stage at which it was left by his predecessor. It is also a term of this contract that no person other than a person appointed by such Executive Director/General Manager or an employee appointed as arbitrator shall give reasons for the award.

Subject as aforesaid the provision of the Arbitration Act 1940 or any statutory modification or re-enactment thereof and the rules made thereunder and for the time being in force shall apply to the arbitration proceeding under this clause.

It is term of the contract that the party invoking arbitration shall specify the dispute or disputes to be referred to arbitration under clause together with the amount or amounts claimed in respect of each such dispute.

The arbitrator (s) may from to time with consent of the parties extend the time, for making and publishing the award.

The work under the contract shall, if reasonably possible, continue during the arbitration proceedings and no payment due or payable to the contractor shall be withheld on account of such proceedings.

The arbitrator shall be deemed to have entered on the reference on the date he issues notice to both the parties fixing the date of the first hearing.

The arbitrator shall give a separate speaking award in respect of each or difference referred to him.

The venue of arbitration shall be such place as may be fixed by the arbitrator in his sole discretion.

The award of the arbitrator shall be final, conclusive and binding on all parties to this contract.



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**Electronic Funds Transfer (EFT) OR
Paylink Direct Credit Form**

Please Fill up the form in **CAPITAL LETTERS** only.

TYPE OF REQUEST(Tick one): ☐ CREATE ☐ CHANGE

BHEL Vendor / Supplier Code:	
Company Name :	
Permanent Account Number(PAN):	
Address	

City: _____	PINCODE _____	STATE _____
Contact Person(s)		
Telephone No:		
Fax No:		
e-mail id:		

1 Bank Name:		
2 Bank Address:		
3 Bank Telephone No:		
4 Bank Account No:		
5 Account Type: Savings/Cash Credit		
6 9 Digit Code Number of Bank and branch appearing on MICR cheque issued by Bank		
7 Bank swift Code(applicable for EFT only)		
8 Bank IFSC code(applicable for RTGS)		
9 Bank IFSC code(applicable for NEFT)		

- A** I hereby certify that the particulars given above are true, correct and complete and that I, as a representative for the above named Company, hereby authorise BHEL, EDN, Bangalore to electronically deposit payments to the designated bank account.
- B** If the transaction is delayed or not effected at all for reasons of incomplete or incorrect information, I would not hold BHEL / transferring Bank responsible.
- C** This authority remains in full force until BHEL, EDN, Bangalore receives written notification requesting a change or cancellation.
- D** I have read the contents of the covering letter and agree to discharge the responsibility expected of me as a participant under ECS / EFT.

Date:

Authorised Signatory:

Designation:

Company Seal

Telephone NO. with STD
Code

Bank Certificate

We certify that _____ has an Account No _____ with us and
we confirm that the bank details given above are correct as per our records.

Date: _____ (.....)

Place: _____ Signature

Please return completed form along with a blank cancelled cheque or photocopy thereof to:

Bharath Heavy Electricals Ltd,
Attn: Electronics Division, Mysore Road,
BANGALORE - 560 026
In case of any Query, please call : 080-
26998403 or fax no. 080-26749217



ANNEXURE: 'D'

CLAUSE 38 OF BHEL GENERAL CONDITIONS OF CONTRACT

**INSURANCE OF WORKS AGAINST DAMAGE AND LOSS DUE TO FIRE,
STRIKE TEMPEST, FLOODS, EARTHQUAKE, RIOT AND AGAINST DAMAGE
BY AIRCRAFT**

The contractor shall, within one month date of acceptance of the contract, insure the work against loss and damage by fire, tempest, floods, earthquake, riots, strike and against damage by aircraft with an insurance office approved by the accepting officer from the date of acceptance of work or actual commencement of work which ever is earlier. Such insurance shall be effected in the name of BHEL and shall be for the full value of the contract sum. The contractor shall lodge with the BHEL the policies and receipts of the premiums for such insurance and shall maintain such policies in force until the entire completion of the work as certified by the senior Engineer.

If the contractor fails to comply with the terms of this condition the accepting officer may insure the work and may deduct the amount of premiums from any money that may become payable to the contractor or may at his discretion refuse payment of any advance to the contractor until the contractor shall have complied with the terms of this condition.

Such insurance whether effected by the Accepting officer or the Contractor shall not be a limit or bar to the liability and obligation of the contractor to complete the entire work in all respects as certified by the Senior Engineer.

In case of such a loss or damage as aforesaid, the money payable under any such insurance shall be received and may be retained by the B.H.E.L. until the work is finally completed and shall then be credited to the contractor in the final statement of accounts in the event of the contract not having been previously cancelled under these conditions after taking into account the delay in completion, settlement to his workers for damages, damage to BHEL. Property etc.,



Bharat Heavy Electricals Limited
Electronics Division, Mysore Road, Bangalore – 560 026.

Annexure - I

Certificate by Chartered Accountant on letter head

This is to Certify that M/S,
(hereinafter referred to as 'company') having its registered office at
..... is registered under MSMED Act 2006, (Entrepreneur
Memorandum No (Part-II) dtd:.....,
Category: (Micro/Small)). (Copy enclosed).

Further verified from the Books of Accounts that the investment of the company as per the
latest audited financial year as per MSMED Act 2006 is as follows:

1. **For Manufacturing Enterprises:** Investment in plant and machinery (i.e. original cost
excluding land and building and the items specified by the Ministry of Small Scale Industries vide its
notification No.S.O.1722(E) dated October 5, 2006 :
Rs.....Lacs
2. **For Service Enterprises:** Investment in equipment (original cost excluding land and building and
furniture, fittings and other items not directly related to the service rendered or as may be notified under the MSMED
Act, 2006:
Rs.....Lacs

(Strike off whichever is not applicable)

The above investment of Rs.....Lacs is within permissible limit of
Rs.....Lacs forMicro / Small (Strike off which is not applicable)
Category under MSMED Act 2006.

Or

The company has been graduated from its original category (Micro/ Small) (Strike off which is not
applicable) and the date of graduation of such enterprise from its original category is
(dd/mm/yyyy) which is within the period of 3 years from the date of graduation of such
enterprise from its original category as notified vide S.O. No. 3322(E) dated 01.11.2013 published
in the gazette notification dated 04.11.2013 by Ministry of MSME.

Date:

(Signature)

Name -

Membership number -

Seal of Chartered Accountant



HEALTH, SAFETY & ENVIRONMENTAL POLICY

The Management is committed to be an environmentally sound company in its activities, products, services and to provide safe and healthy working environment covering its employees, products & services as an integral part of business performance through :

- ★ **Compliance with applicable Legislation and Regulations**
- ★ **Setting objectives and targets to eliminate / control / minimise environmental pollution, risks due to Occupational Health and Safety Hazards**
- ★ **Promotion of activities for conservation of resources by environmental management with focus on oil, electrical energy and chemicals**
- ★ **Enhancement of Environmental, Safety and Occupational Health awareness amongst employees, customers, suppliers, contractors by pro-active communication**
- ★ **Regular evaluation and pro-active measures for prevention & control of environmental pollution/accidents / occupational diseases**
- ★ **Appropriate training of employees and interested parties on Health, Safety & Environmental (HSE) aspects**
- ★ **Formulation and maintenance of HSE Management Programs for continual improvement**
- ★ **Periodic review & audit of HSE Management System to ensure its continuing suitability, adequacy and effectiveness**
- ★ **Communication of HSE Policy to all employees and interested parties**
- ★ **Co-operation with concerned agencies / regulatory bodies engaged in HSE activities.**

Sd.

EXECUTIVE DIRECTOR
BHEL (EDN) BANGALORE



II .Price Bid

Factory Services
FS/PMG/AC/AMC/2017

SCHEDULE OF COMPREHENSIVE AMC WORK FOR AIR CONDITIONING AND CHILLER PLANTS:

Sl. No.	DESCRIPTION OF THE PLANTS	RATE Inclusive of all taxes & duties except service tax (per quarter rate)	AMOUNT Inclusive of all taxes & duties except service tax (For Two years)	RATE service tax (per quarter rate)	AMOUNT service tax (For Two years)
01	Devices 66 TR A/C plant (ETA Make) - Air cooled scroll chiller comprising of a. Scroll Compressor 11TR each - 6 No's (2 No. Stand by) (Danfoss Make) b. Air Cooled Condenser - 3 sets c. Air handing Unit - 2 No's d. Chiller Pump - 2 No's (1 No. Stand by) e. Chilled water Make up tank -1 No f. Refrigeration circuit, chilled water circuit and all connected electrical and mechanical equipments with accessories etc.				
02	East First floor 55TR A/C Plant - Direct expansion type Comprising of a. Compressor (Model 5H60) - 2 No's (1 No. Stand by) (Voltas Make) b. Condenser 2 No's (1 No. Stand by) c. Air handing Unit - 1 No. d. Cooling Tower - 1 No. e. Condenser Pump - 2 No's (1 No. Stand by) f. Compressor Motors - 2 No's (1 No. Stand by) g. Refrigeration circuit, cooling water circuit and all connected electrical and mechanical equipments & accessories etc.				



03	<p>DOE 35 TR A/C Plant - Direct expansion type Comprising of</p> <ul style="list-style-type: none">a. Compressor (Model 5H40) - 2 No's (1 No. Stand by) (Voltas Make)a. Condenser - 2 No's (1 No. Stand by)b. Air handing Unit - 1 No'sc. Cooling Tower - 1 No.d. Condenser Pump - 3 No's (1 No. Stand by)e. Compressor Motors - 2 No's (1 No. Stand by)f. Condensate drain pump - 1 n og. Fresh Air Fan - 1 no.h. Drain water Pump - 1 Noi. Refrigeration circuit, cooling water circuit and all connected electrical and mechanical equipments & accessories etc.				
04	<p>DOE 35 TR Chiller plant - comprising of</p> <ul style="list-style-type: none">a. Compressor with motor (Model 5H40) - 2 No's (1 No. Stand by). (Voltas Make)b. Condenser - 2 No's (1 No Stand by)c. Chiller Pump - 2 No's (1 No Stand by)d. Chilled water Pressure Tank - 1 No.e. Portable Air Compressor (for chilled water pressure tank -1 Nof. Mapex chilled water pump - 3 nos (2 No stand by)g. Refrigeration circuit, cooling water circuit and all connected electrical and mechanical equipments & accessories etc. <p>Note : Cooling tower and condenser water pumps are common for Both AC and Chiller plants of DOE.</p>				



05	EAST ANNEX 'G' floor 11 X 3 = 33 TR Package (Model OPUA SC110) and 5.5 Tr. AC Package . OPUA SC 55) Voltas make - comprising of a. Hermetic SCROLL Compressor (Model Z872KC) 7 No's (1 No Stand by) (Copeland) b. Condenser (Air cooled) - 7 No's (2 Nos. Stand by). c. Package blower Unit - 4 No. (1 No. Stand by) d. Refrigeration circuit, and all connected electrical and mechanical equipments & accessories etc.				
06	EAST 'G' FLOOR 88TR A/C Plant (ETA make) - Air cooled scroll chiller comprising of a. Scroll Compressor 11TR each - 8 No's (4 No. Stand by) (Copeland Make) b. Air Cooled Condenser - 4 sets c. Air handing Unit (Voltas Make) - 1 No's d. Chiller Pump - 2 No's (1 No. Stand by) e. Drain pump -1 no f. Chilled water Make up tank -1 No g. Refrigeration circuit, chilled water circuit and all connected electrical and mechanical equipments with accessories etc.				
07	EAST ANNEX 1st floor 11 X 3 = 33 TR Package and 5.5 Tr. AC Package Trac make - comprising of a. Hermetic SCROLL Compressor (Model ZR72KC) - 7 No's (1 No Stand by) (Copeland) b. Condenser (Air cooled) - 7 No's (2 Nos. Stand by). c. Package blower Unit - 4 Nos. (1 No. Stand by) d. Refrigeration circuit, and all connected electrical and mechanical equipments & accessories etc.				



08	TSC (Module) 40TR A/C Plant – Direct expansion type a. Compressor (Model SMC 4X100) - 2 No's (1 No. Stand by). (Accel Make) b. Condenser - 2 No's (1 No. Stand by). c. Air handling Unit - 1 No's d. Condenser Pump - 2 No's (1 No. Stand by). e. Compressor Motors - 2 No's (1 No. Stand by). f. Cooling Tower - 1 No's g. Refrigeration circuit, cooling water circuit and all connected electrical and mechanical equipments & accessories etc.				
09	System testing 189 TR screw chiller (Carrier Make)-2 Nos (1 No stand by) -Indirect expansion type comprising of a. Semi hermetic screw compressors -2 No's each b. Condenser -12 Nos each c. Air handling unit -3 No's d. Chiller pump -2 No's (1 No. Stand by) e. Refrigeration circuit, Chilled water Make up tank, cooling water circuit and all connected Electrical, Electronics and Mechanical equipments & accessories etc.				
10	HVDC Bldg. No.13 floor 11 X 3 = 33 TR Package(Voltas Make) (Model DPUA SC110R407) - comprising of a. Hermetic SCROLL Compressor (Model HLPO72T4LC6) - 6 No's (2 No Stand by) b. Condenser (Air cooled- 6 No's (2 Nos. Stand by). c. Package blower Unit - 3 No. (1 No. Stand by) d. Refrigeration circuit, and all connected electrical and mechanical equipments & accessories etc.				



11	PV AC Plant 129 TR screw chiller (Clivet make)-Indirect expansion type comprising of a. Semi hermetic screw compressors -2 No's b. Condenser -8 Nos c. Air handling unit -4 No's d. Chiller pump -2 No's (1 No. Stand by) e. Refrigeration circuit, Chilled water makeup tank, cooling water circuit and all connected Electrical, Electronics and Mechanical equipments & accessories etc.				
12*	105 MW PV cell line AC Plant 175 TR screw chiller (Voltas make)-Indirect expansion type a) Semi hermetic screw compressors -2 No's b) Condenser -10 Nos c) AHU (Zeco Make) -2 No's Note: AHU along with filter and piping system will be added after AC plant at sl. No. 3 upgradation d) Chiller pump -2 No's (1 No. Stand by) Refrigeration circuit, Chilled water makeup tank, cooling water circuit and all connected Electrical, Electronics and Mechanical equipments & accessories etc				
13*	105 MW PV cell line 150 TR screw chiller Voltas Make)-2 Nos (1 No stand by) -Indirect expansion type comprising of a) Semi hermetic screw compressors -1 No's each b) Condenser -8 Nos each c) Process chilled water pump -2 No's (1 no. standby) d) Chiller pump -2 No's (1 No. Stand by) Note: chilled water piping system and pumps will be added after chiller plant at sl. No. 4 upgradation e) Chilled water Mixing -1 No f) Refrigeration circuit, cooling water circuit and all connected Electrical, Electronics and Mechanical equipments & accessories etc.				



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14	105 MW PV cell line 33 X 3 = 99 TR DX type AC plant ETAmake - comprising of a. Hermetic SCROLL Compressor - 9 No's of 11TR each (3 No Stand by) (Copeland) b. Condenser (Air cooled)- 9 No's (3 Nos. Stand by) c. AHU - 3 No. (1 No. Stand by) d. Refrigeration circuit, and all connected electrical and mechanical equipments & accessories etc.				
15	EDP 10 X 3 = 30 TR Package (Model A 1000A1B4) AC Plant. (1 Unit is Stand by) - comprising of a. Semi Hermetic Compressor (Model BH 100) - 3 No's (Batliboi Make) b. Condenser (Air cooled - 6 No's (2 No. Stand by). c. Package blower Unit - 3 No. (1 No. Stand by) d. Refrigeration circuit, and all connected electrical and mechanical equipments & accessories etc.				
TOTAL VALUE (IN FIGURES) Please mention tax breakup clearly					

Note:

*** The plants at Sl. No. 12 and 13 will be considered for evaluation only for six quarters.**

- 1) Evaluation for all plants will be based on total cost to BHEL**
- 2) Invoice to be provided for tax amount claimed.**