



BHARAT SANCHAR NIGAM LIMITED

(A Govt of India Enterprise)
(Electrical Wing)

**O/o The Executive Engineer (E)
BSNL Electrical Division-I**

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E-TENDER DOCUMENT

Name of work: Operation and comprehensive maintenance of 8 x 10 TR PAC plant at TE Anna Nagar, Chennai (2017-19)

NIT no: 124/ EE (E) /ED-I/CH/2017-18

This tender document contains **40 pages (Forty)** pages only.

**For E Tender Helpdesk Pls Contact M/s ITI LTD, Ph:91-80-40482000 &
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INFORMATION AND INSTRUCTIONS FOR BIDDERS FOR E-TENDERING FORMING PART OF NIT AND TO BE POSTED ON WEBSITE

The Executive Engineer (Elect), BSNL, **Electrical Division-I, Chennai** on behalf of the CMD, Bharat Sanchar Nigam Limited, invites online Item rate bids from eligible bidders in Single bid system for the following work:

1	Name of work	Operation and comprehensive maintenance of 8 x 10 TR PAC plant at TE Anna Nagar, Chennai (2017-19)
2	Estimated cost put to tender	Rs.17,85,321/- Including GST
3	Earnest Money	Rs.35,706/-
4	Period of completion	Twenty Four months
5	Last date & time for downloading of tender document by bidder	Up to 14:55 Hrs. on 7-2 -2018
6	Last date & time for online submission of tender	Up to 15:00 Hrs. on 7-2-2018
7	Last date & time for submission of original EMD	Up to 15:00 Hrs. On 7-2-2018
8	Date and time for opening of tender	15:30 Hrs. on 7-2-2018
9	Tender cost (Non refundable)	Rs.500/- + GST 18%
10	E-tender Processing fee (Non refundable)	0.05% of estimate cost subject to the minimum of Rs.500 and Maximum of Rs. 5000 plus Service Tax

ELIGIBILITY CRITERIA

The bidders satisfying the following conditions:

(a) Financial Norms:

Average annual turnover during the last 3 years, ending 31st March of the previous financial year, should be at least 30% of the estimated cost put to tender.

AND

(b) Physical Norms:

BSNL enlisted contractors in Electrical category of respective class as per their tendering limits.

OR

The manufacturer / authorized dealer/ OEM of any of the makes of major equipment included in the NIT. The letter of authorization from manufacturer in original/Photo copy attested by BSNL executive will be submitted.

OR

Experience of having successfully completed similar works in BSNL comprising of either substation or air conditioning service as part of scope of work during last 7 years ending last day of month previous to the one in which applications are invited, should be either of the following :
Three similar successfully completed works costing not less than the amount equal to 40% of the estimated cost put to tender.

OR

Two similar successfully completed works costing not less than the amount equal to 60% of the estimated cost put to tender.

OR

One similar successfully completed work costing not less than the amount equal to 80% of the estimated cost put to tender.

NOTE: The estimated cost of one year shall be considered to evaluate the eligibility criteria. Similar work Means "Operation and maintenance of Package AC Plant"

IMPORTANT NOTE:

1. The self-attested copies of the following documents shall be scanned and uploaded to the e-tendering website within the period of tender submission. Online bid documents submitted by intending bidders shall be opened only of those bidders, who have scanned and uploaded the following documents (and whose uploaded documents are found to be in order), otherwise the bid will not be opened and shall lead to disqualification.
 - a. Tender Fee in the prescribed format
 - b. EMD in the prescribed format
 - c. Certificate of Financial Turnover from Chartered Accountant if applicable
 - d. Documents fulfilling Eligibility criteria (Please note that in case the bidder is authorised by the manufacturer, the original authorisation letter is to be scanned and uploaded)
 - e. Enlistment certificate issued by BSNL (for BSNL enlisted contractors)
 - f. Electrical license issued by TN Govt. if applicable
 - g. GST Registration Number details
 - h. PAN Card
 - i. EPF and ESI Registration certificate (if applicable)
 - j. Undertaking to abide by EW-6 and EW-8 (Form 'A')
 - k. Undertaking regarding EPF and ESI provisions (Form 'B')
 - l. Certificate of work experience issued by client department (Form 'C') if applicable
 - m. Undertaking regarding No Near relative working certificate (Form 'D')

Not uploading the above documents, (even if the documents are submitted physically) shall lead to disqualification.

2. The Physical Tender Fee, EMD, and if applicable the original authorisation letter by the manufacturer, (the scanned copies of which are uploaded) **shall be deposited in the tender box available in the office of tender opening authority**, by all the bidders before 3:00 PM on the tender opening date, **failing which the tender shall not be opened**

BSNL EW 6
Bharat Sanchar Nigam Limited
Electrical Wing

Electrical Division: ED-I, Chennai

Sub Division: IV, Chennai

1. Item rate tenders on single bid system are invited on behalf of CMD, BSNL for the work "**Operation and comprehensive maintenance of 8 x 10 TR PAC plant at TE Anna Nagar, Chennai (2017-19).**" from the eligible bidders as per NIT notification. The enlistment of the bidders should be valid on the opening date of tender. In case the date of opening of tender is extended, the enlistment of bidder should be valid on the original date of opening of tender.
2. Intending bidder is eligible to submit the bid provided that he has definite proof from the appropriate authority, which shall be to the satisfaction of the competent authority as per the eligibility conditions mentioned in the NIT notification page.
3. The work is estimated to cost **Rs.17,85,321/- Including GST**. This estimate, however, is given merely as a rough guide.
4. Agreement shall be drawn with the successful bidder on prescribed form as amended up to the date of opening of tender. Bidder shall quote his rates as per various terms and conditions of the said form which will form part of the agreement.
5. The time allowed for carrying out the work will be **Twenty four** month from the 10th day after the date of written order to commence the work.
6. The site for the work is available / or the site for the works shall be made available in parts. The successful bidder shall execute the work in coordination with other agencies working in the campus.
7. The bid documents consisting of plans, specifications, the schedule of quantities of various types of items to be executed and the set of terms and conditions of the contract to be complied with and other necessary documents can be seen and downloaded from website www.tenderwizard.com/BSNL at free of cost. The BSNL EW-8 document can be seen from the web site www.chennai.bsnl.co.in at free of cost.
8. After submission of the bid, the bidder can re-submit revised bid any number of times but before last time and date of submission of tender as notified. While submitting the revised bid, bidder can revise the rate of one or more item(s) any number of times (he need not re-enter rate of all the items) but before last time and date of submission of tender as notified.
9. The Tender Fee in the form of Demand Draft issued by the Nationalized / Scheduled bank authorized by the Reserve Bank of India, drawn in favour **of BSNL, CHENNAI TELPHONES** payable at **CHENNAI** shall be scanned & uploaded in the e-tendering website within the period of tender submission. The validity of the tender cost in the form of DD shall be **60 days** from the date of opening.
10. The Earnest money deposit (EMD) in the form of Demand Draft / FDR / BG (BG is only for Air Conditioning, Diesel Engine Alternator, Lifts, and Sub Station works wherever the amount of EMD is more than Rs.20,000)/ CDR of a nationalized / scheduled bank authorized by the Reserve Bank of India, drawn in favour of **BSNL, CHENNAI TELPHONES payable at CHENNAI** shall be scanned & uploaded in the e-tendering website within the period of

tender submission. The validity of the EMD in the form of DD shall be **60 days** from the date of opening. If the EMD is in the form of CDR/FDR/BG, the validity shall be **180 days** from the date of opening. In case of L1 bidder, the validity of CDR/FDR/BG is to be extended up to the observation period as that of the Performance guarantee / Security deposit. Exemption from payment of Tender Fee, Earnest Money and Security Deposit by any other unit/ department shall not hold good for BSNL.

11. Interested bidder who wishes to participate in the bid shall pay the e-tender processing fee to M/s. ITI Limited through their e-gateway by credit/debit card/ internet banking/ RTGS/NEFT facility.
12. All the documents as specified in the tender document shall be scanned and uploaded to the e-Tendering website within the period of bid submission.
13. The last date for online submission of bid is **7.2.2018** up to 3:00 PM and the bid submitted shall be opened at 03:30 PM on the same day. If a holiday is declared on the tender opening day, the tender will be opened on the next working day.
14. The e-Tender processing fee and tender cost are non-refundable
15. **Performance Guarantee:** The bidder is required to furnish Performance guarantee for an amount equal to 5% of the contract value in the form of bank guarantee/CDR/FDR/DD (of a Nationalized/ Scheduled Bank in a standard format) within two weeks from the date of issue of acceptance letter. This period can be further extended by the Engineer-in-charge up to a maximum period of two weeks on written request of Bidder. The validity period of the performance security in the form of performance bank guarantee shall be: Three Months from the date of actual completion of work, for AMC works; and One year from the date of actual completion of work for all other works. **In case the bidder fails to deposit the said performance guarantee within the stipulated period, including the extended period if any, the Earnest Money deposited by the bidder shall be forfeited automatically without any notice to the bidder and the bidder will not be allowed to participate in the re tendering for the same work.**
16. **Security Deposit:** In addition to Performance guarantee stated above, a sum @ 10% of the gross amount of the bill shall be deducted from each running bill of the contractor till the sum be deducted with the sum already deposited as earnest money, will amount to security deposit of 5% of the contract value of the work. **The security deposit shall be released after an observation period as follows: Three Months from the date of actual completion of work, for AMC works; and One year from the date of actual completion of work for all other works.**
17. **In case any discrepancy is noticed in the documents as uploaded at the time of submission of the bid online, then the bid submitted shall become invalid and the BSNL shall, without prejudice to any other right or remedy, be at liberty to forfeit 50% of the said earnest money as aforesaid. Further, the bidder shall not be allowed to participate in the retendering process of the work.**
18. Intending bidders are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their tenders, the form and nature of the site, the means of access to the site, the accommodation they may require and in general shall themselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their tender. A bidder shall be deemed to have full knowledge of the site whether he inspects it or not and no extra charge consequent on any misunderstanding or otherwise shall be allowed. The bidder shall be responsible for arranging and maintaining at his own cost all materials, tools & plants, water, electricity

access, facilities for workers and all other services required for executing the work unless otherwise specifically provided for in the contract documents. Submission of a tender by a bidder implies that he has read this notice and all other contract documents and has made himself aware of the scope and specifications of the work to be done and of conditions and rates at which stores, tools and plant, etc. will be issued to him by the BSNL and local conditions and other factors having a bearing on the execution of the work.

19. The competent authority on behalf of the CMD does not bind himself to accept the lowest or any other tender and reserves to himself the authority to reject any or all the tenders received without the assignment of any reason. All tenders in which any of the prescribed condition is not fulfilled or any condition including that of conditional rebate is put forth by the bidder shall be summarily rejected. The competent authority on behalf of CMD reserves to himself the right of accepting the whole or any part of the tender and the bidder shall be bound to perform the same at the rate quoted.
20. Canvassing whether directly or indirectly, in connection with tenders is strictly prohibited and the tenders submitted by the bidders who resort to canvassing will be liable to rejection.
21. Agreement shall be drawn with the successful bidder on prescribed form. Bidder shall quote his rates as per various terms and conditions of the said form, which will form part of the agreement.
22. The bidder should give a certificate as per the following that none of his/her relative is employed in BSNL units as per **Form 'D'**. In case of proprietorship firm, certificate will be given by the proprietor and for partnership firm certificate will be given by all the Directors of the company.
 - a. Near relatives of all BSNL employees either directly recruited or on deputation are prohibited from participation in tenders and execution of works in the different units of BSNL. The near relatives for this purpose are defined as:
 - i. Members of a Hindu Undivided family.
 - ii. They are husband and wife.
 - iii. The one is related to the other in the manner as father, mother, son(s) & son's wife(daughter-in-law), Daughter(s) & daughter's husband(son-in-law), brother(s) & brother's wife, sister(s) & sister's husband(brother -in-law).
 - b. The company or firm or any other person is not permitted to tender for works in BSNL unit in which his near relative(s) is(are) posted. The unit is defined as SSA/Circle/Chief Engineer/Chief Archt. /Corporate office for non-executive employees and all SSA in a circle including circle office/Chief Eng./Chief Archt./Corporate office for executive employees (including those called as Gazetted officers at present). The bidder should give a certificate that none of his/her such near relative is working in the units as defined above where he is going to apply for tender/work, for proprietorship, partnership firms and limited company certificate shall be given by the authorized signatory of the firm. Any breach of these conditions by the company or firm or any other person, the tender/work will be cancelled and earnest money/performance guarantee will be forfeited at any stage whenever it is so noticed. BSNL will not pay any damages to the company or firm or the concerned person. The company or firm or the person will also be debarred for further participation in the concerned unit.
 - c. No employee in BSNL/ Govt. of India is allowed to work as a contractor for a period of two years of his retirement from service without the prior permission. The contract is liable to be cancelled if either the bidder or any of his employees is found at any time to be such a person who had not obtained the permission as aforesaid before submission of tender and engagement in the bidders service.

23. The tender for the work shall remain open for acceptance for a period of ninety (90) days from the date of opening of tenders. If any bidder withdraws his tender before the said period or issue of letter of acceptance, whichever is earlier, or makes any modifications in the terms and conditions of the tender which are not acceptable to the BSNL, then the BSNL shall, without prejudice to any other right or remedy, be at liberty to forfeit 50% of the said earnest money as aforesaid. Further the tenderer shall not be allowed to participate in the retendering process of the work.
24. The agency has to comply with the provisions of EPF and miscellaneous provisions Act-1952 and employees provident fund scheme-1952 as amended up to date in respect of labours/employees engaged by them for this work. Any consequence arising due to non-complying of provisions as specified above shall be the sole responsibility of the firm only. The agency shall give an undertaking to this effect as per **Form 'B'**.
25. **Extension of Validity of tender:** In case, where the letter of award of work cannot be placed within the validity period of the tender, the BSNL can request the bidder to extend the validity of their respective tenders and the Earnest Money deposit by a reasonable period. In such cases, extension of validity of Earnest Money deposit by 30 days beyond the extended validity date of tender should also be asked for. While BSNL can make the request for extension, the tenderer is free to either extend the validity or refuse the request to extend the validity.
26. Rates quoted by the contractor shall be firm and shall be valid for the currency of contract. No cost escalation shall be permitted during the currency of contract.
27. This notice inviting tender shall form a part of the contract document. The successful bidder, on acceptance of his tender by the Accepting Authority shall within 15 days from the stipulated date of start of the work, sign the contract consisting of:-
 - a. The Notice Inviting Tender, all the documents including additional conditions, specifications and drawings, if any, forming part of the tender as uploaded at the time of invitation of tender, subsequent amendments issued and the rates quoted online at the time of submission of bid and acceptance thereof together with any correspondence leading thereto.
 - b. Standard BSNL EW-8 form

General Instructions to the Bidders

1. The intending bidder must read the terms and conditions of BSNL-EW 6 carefully. He should only submit his bid, if he considers himself eligible and he is in possession of all the documents required.
2. Information and instructions for bidders posted on website shall form part of bid document.
3. Applicants are advised to keep visiting the above mentioned website from time to time (till the deadline for bid submission) for any updates in respect of the tender documents, if any. Failure to do so shall not absolve the applicant of his liabilities to submit the applications complete in all respect including updates thereof, if any. An incomplete application may be liable for rejection.
4. Those bidders not registered on the website mentioned above, are required to get registered themselves beforehand. The intending bidder must have valid class-III digital signature to submit the bid.
5. On opening date, the bidder can login and see the bid opening process. After opening of bids he will receive the competitor bid sheets.
6. Bidder can upload documents in the form of JPG format or / and PDF format.
7. Bidder must ensure to quote rate of each item. The column meant for quoting rate in figures appears in yellow colour. In addition to this, while selecting any of the cells a warning appears that if any cell is left blank the same shall be treated as "0". Therefore, if any cell is left blank and no rate is quoted by the bidder, rate of such item shall be treated as "0" (ZERO)
8. Even though any bidder may satisfy the above requirements, he would be liable to disqualification if he has:
 - a. Made misleading or false representation or deliberately suppressed the information in the forms, statements and enclosures required in the eligibility criteria document.
 - b. Record of poor performance such as abandoning work, not properly completing the contract, or financial failures / weaknesses etc.
9. If any information furnished by the bidder is found incorrect at a later stage, he shall be liable to be debarred from tendering/taking up of works in BSNL. The BSNL reserves the right to verify the particulars furnished by the applicant independently.
10. GST and any other tax applicable in respect of this contract shall be borne by the bidder himself. The bidder shall quote his rates considering all such taxes. The TDS as per the Govt. regulations will be recovered from the contractor.
11. **Tender Evaluation :**
 - (a) The evaluation and comparison of responsive bids shall be done on the basis of Net cost to BSNL on the prices offered inclusive of packing, forwarding, freight and insurance charges etc., but excluding GST. The bid with lowest net cost as elaborated above will be the L1 bidder.
 - (b) Vendors should furnish the correct GST Rate in the price schedule. If the Input Tax Credit is found to be not admissible at any stage subsequently owing to wrong furnishing of GST Rate, then the vendors will be liable to refund such non-admissible amount, if already paid, along with penalty if charged by the concerned authority.

12. However, pursuant to the constitution (Forty-sixth amendment) act, 1982, if any further tax or levy is imposed by statute, after the last date of receipt of tenders, and the contractors there upon necessarily and properly pays such taxes/ levies, the contractor shall be reimbursed the amount so paid, provided such payment, if any, is not in the opinion of Superintending engineer (whose decision shall be final and binding) be attributable to delay in execution of work within the control of contractor.
13. The Contractor shall, within a period of 30 days of imposition of any further tax or levy in pursuant to the constitution of (Forty sixth amendment) act 1982 give a written notice thereof to the Engineer-in-charge that the same is given pursuant to this condition, together with all necessary information relating thereto.

14. Bye laws Indemnity against liabilities:

- a. The bidder shall comply with all bylaws and regulations of the local and statutory authorities having jurisdiction over the works and shall be responsible for payment of all fees and other charges and giving and receiving all necessary notices and keep the Engineer –in-charge informed about the notices issued and received.
- b. The bidder shall indemnify the department against all claims in respect of patent rights design, trademark or name of other protected rights in respect of any plant, machine, work or materials used for or in connection with the works or temporary works and from and against all claims demands, proceedings, costs, charges and expenses whatsoever in respect of or in relation thereto.
- c. The bidder shall defend all actions arising from such claims and shall himself pay all royalties, License fees, damages, costs and charges of all and every sort that may be legally incurred in respect hereof shall be borne by the bidder.
- d. All liabilities / penal recoveries on matters arising out of tax /levies such as incorrect deductions, discrepancies in the filing of returns, revised assessments by the concerned authorities etc., shall be borne by the bidder.

15. Termination of contract on death of contractor :

Without prejudice of any of the rights or remedies under this contract, if the contractor dies, the Engineer in charge on behalf of the BSNL shall have the option of terminating the contract without compensation to the contractor.

16. Indulging of contractor in criminal /antisocial activities and cases under investigation/charge sheeted by CBI or any other government agencies etc. :

If the CBI/Independent External Monitor (IEM) /Income tax/ Sales Tax /GST/ Central Excise/Custom Departments recommend such a course - Action will be taken as per the directions of CBI or concerned department.

17. As a general notion, the terms and conditions/instructions contained in various pages of this document are addressed assuming the bidder as 'Male'. However, the same shall remain and assumed to be addressed in case of 'Female' bidder also, except for the gender centric words, which shall be 'female' centric at appropriate places.

FORM 'A'

Undertaking to abide by EW 6 & EW 8

"I.....Son of
.....Resident of
hereby give an undertaking that I have read the complete bid document and I am aware of all the clauses and sub clauses of BSNL EW 6 & 8 forms and I confirm that I will abide by all the terms and conditions available in original standard BSNL EW 6 & 8 forms.

(Seal of the firm)

(Signature of Bidder)

FORM 'B'

Undertaking regarding EPF provisions

"I..... Son of
.....Resident of hereby give an undertaking that

* I/We have employed only ----- persons in our establishment and hence the EPF and Miscellaneous provisions Act, 1952 is not applicable to my / our establishment.

* I/ We have registered as per the EPF and Miscellaneous provisions Act, 1952 and our registration no is ----- . We undertake to keep it valid during the currency of contract.

In case at any stage, it is found that the information given by me is false / incorrect, BSNL shall have the absolute right to take any action as deemed fit/without any prior intimation to me".

* strike out whichever is not applicable

**Attach a self-attested photo copy of the above said EPF registration certificate.

(Seal of the firm)

(Signature of Bidder)

Undertaking regarding ESI provisions

"I..... Son of
.....Resident of hereby give an undertaking that

* I/We have employed only ----- persons in our establishment and hence the ESI and Miscellaneous provisions Act,1948 is not applicable to my / our establishment.

* I/ We have registered as per the ESI and Miscellaneous provisions Act, 1948 and our registration no is ----- . We undertake to keep it valid during the currency of contract.

In case at any stage, it is found that the information given by me is false / incorrect, BSNL shall have the absolute right to take any action as deemed fit/without any prior intimation to me".

* strike out whichever is not applicable

** Attach a self-attested photo copy of the above said ESI registration certificate.

(Seal of the firm)

(Signature of Bidder)

FORM 'C'

Performance report of works

1. Name of work
2. Agreement no.
3. Final Value of Work Done
4. Date of start
5. Actual date of completion
6. Performance: Satisfactory / Not Satisfactory

Dated:

Executive Engineer or Equivalent

FORM 'D'

No Near relative working certificate

I..... Son of Shri.....Resident of..... hereby certify that none of my relative(s) as defined in the tender document is/are employed in BSNL unit as per details given in tender document. In case at any stage, it is found that the information given by me is false/incorrect, BSNL shall have the absolute right to take any action as deemed fit/without any prior intimation to me.

(Seal of the firm)

(Signature of Bidder)

Annexure I
MODEL FORM OF BANK GUARANTEE FOR EMD
(For submitting EMD for Air Conditioning, Diesel Engine Alternator, Lifts, and Sub Station Works wherever the amount of EMD is more than Rs.20,000/-)

Whereas _____ (hereinafter called "the bidder(s)") has submitted its Tender dated _____ for the work _____ KNOW ALL MEN by these presents that WE _____ OF _____ having our registered office at _____ (hereinafter called "the Bank") are bound unto _____ (hereinafter called "the BSNL") in the sum of _____ for which payment will and truly to be made of the said BSNL, the Bank binds itself, its successors and assigns by these presents.

THE CONDITIONS of the obligation are:

1. If the Bidder(s) withdraws its Tender during the period of Tender validity specified on the Tender Form: or
2. If the Bidder(s) having been notified of the acceptance of its Tender by the BSNL during the period of Tender validity.
 - (a) Fails or refuses to execute the Contract.
 - (b) Fails or refuses to furnish security Deposit in accordance with the conditions of Tender document.

We undertake to pay to the BSNL up to the above amount upon receipt of its first written demand, without the BSNL having to substantiate its demand, provided that in its demand, the BSNL will note that the amount claimed by it is due to it owing to the occurrence of one or both of the two conditions, specifying the occurred condition or conditions.

This guarantee will remain in force as specified in the Tender Document up to and including Thirty (30) days after the period of the Tender validity and any demand in respect thereof should reach the Bank not later than the specified date/dates.

Signature of the Bank

Signature of the Witness
Name of Witness

Address of Witness:

ANNEXURE II
PERFORMANCE SECURITY GUARANTEE BOND

In consideration of the CMD, BSNL (hereinafter called 'BSNL') having agreed to exempt _____ (hereinafter called 'the said bidder(s)') from the demand under the terms and conditions of an agreement/Advance Purchase Order No _____ dated _____ made between _____ and _____ for the supply of _____ (hereinafter called "the said agreement"), of security deposit for the due fulfillment by the said bidder (s) of the terms and conditions contained in the said Agreement, on production of the bank guarantee for _____ we, (name of the bank) _____ (hereinafter refer to as "the bank") at the request of _____ (bidder(s)) do hereby undertake to pay to the BSNL an amount not exceeding _____ against any loss or damage caused to or suffered or would be caused to or suffered by BSNL by reason of any breach by the said Bidder(s) of any of the terms or conditions contained in the said Agreement.

2. We (name of the bank) _____ do hereby undertake to pay the amounts due and payable under this guarantee without any demur, merely on a demand from the BSNL by reason of breach by the said bidder(s)' of any of the terms or conditions contained in the said Agreement or by reason of the bidders(s)' failure to perform the said Agreement. Any such demand made on the bank shall be conclusive as regards the amount due and payable by the Bank under this guarantee where the decision of BSNL in these counts shall be final and binding on the bank. However, our liability under this guarantee shall be restricted to an amount not exceeding _____.

3. We under take to pay to the BSNL any money so demanded notwithstanding any dispute or disputes raised by the bidder(s)/supplier(s) in any suit or proceeding pending before any court or tribunal relating thereto our liability under this present being absolute and unequivocal. The payment so made by us under this bond shall be valid discharge of our liability for payment there under and the bidder(s)/supplier(s) shall have no claim against us for making such payment.

4. We(name of the bank) _____ further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said agreement and that it shall continue to be enforceable till all the dues of the BSNL under or by virtue of the said Agreement have been fully paid and its claims satisfied or discharged or till _____ (office/BSNL) BSNL certifies that the terms and conditions of the said Agreement have been fully or properly carried out by the said bidder(s) and accordingly discharges this guarantee. Unless a demand or claim under this guarantee is made on us in writing on or before the expiry of TWO/TWO AND HALF/THREE YEARS (as specified in P.O) from the date hereof, we shall be discharged from all liabilities under this guarantee thereafter.

5. We (name of the bank) _____ further agree with the BSNL that the BSNL shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Agreement or to extend time of performance by the said bidder(s) from time to time or to postpone for any time or from time to time any of the powers exercisable by the BSNL against the said Bidder(s) and to forbear or enforce any of the terms and conditions relating to the said agreement and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said Bidder(s) or for any forbearance, act or omission on the part of the BSNL or any indulgence by the BSNL to the said Bidder(s) or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us.

6. This guarantee will not be discharged due to the change in the constitution of the Bank or the Bidder(s)/supplier(s).

7. We (name of the bank) _____ lastly undertake not to revoke this guarantee during its currency except with the previous consent of the BSNL in writing.

Dated the _____ day of _____

for _____ (indicate the name of bank)

IMPORTANT INSTRUCTIONS TO THE TENDERERS

Please note that the offers, which do not comply the following, will not be considered and will be totally rejected. These instructions supersede the BSNL/EW 8 clauses in case of any Disparity.

1(i) INCREASE /DECREASE OF TENDERED QUANTITY

a) BSNL will have the right to increase or decrease up to 25% of the Contract value depending upon the requirement of goods and services specified in the schedule of items without any change in the unit price or other terms and conditions at the time of award of contract.

b) In exceptional situation where the requirement is of an emergent nature and it is necessary to ensure continued supplies from the existing vendors, the purchaser reserves the right to place repeat orders up to 50% of the quantity of goods and services contained in the running tender/contract within a period of 12 months from date of award of work at the same rate or a rate negotiated (downwardly) with the existing vendors considering the reasonability of rates based on prevailing market conditions and the impact of reduction in duties and taxes etc.

1(ii) CURTAILMENT OF QUANTITY:-

BSNL reserves the right to enforce curtailment in the assigned quantum of work for any contractor on the grounds of defaults/delay in regard to execution of the individual work assigned.

2) COMPLETION OF WORK:-

At the time of issuing NIT for a particular work, the time allowed for completion of work consistent with magnitude and urgency of work is specified. The time allowed for carrying out the work as entered in the contract is reckoned from the tenth day after the date on which the orders to commence the work are given to the Contractor. To ensure good progress of the work during the execution, the contractor is bound in all cases in which the time allowed for any work exceeds one month (except special jobs) to complete 1/8th of the whole of the work before 1/8th of the time allowed under the contract has elapsed, 3/8th of the work before half of the time has elapsed and 3/4th of the work before 3/4th of such time has elapsed. However, for special jobs, if a time schedule has been submitted by the Contractor and the same has been accepted by the Engineer-in-charge, the contractor shall comply with such time schedule. For Substation, the work is deemed to have been completed after clearance by Electrical Inspector.

3) EXTENSION OF TIME:-

If the contractor shall desire an extension of time for completion of work on the grounds of his having been unavoidably hindered in its execution or on any other grounds, he shall apply in writing to the Engineer in charge within 30 days of the hindrance on the account on which he desires such extension as aforesaid, and the Engineer in charge shall if in his opinion reasonable grounds to be shown therefore, authorize such provisional extension of time, if any as in his opinion be necessary are proper.

4) COMPENSATION FOR DELAY :

If the contractor fails to maintain the required progress or complete the work and clear the site on or before the contract or extended date of completion, he has to pay the compensation for delay which is limited to 0.5% per week of the tendered value for the first 10 weeks and 0.7% per week for next 10 weeks and thereafter subject to a maximum of 12% of the tendered value for the location where the work is delayed and the firm is found responsible for the same. The clause 2 of BSNL - 8 forms stands modified accordingly. Flow chart of the Procurement process/ contract shall be supplied by the contractor and approved by Executive Engineer concerned.

5) TERMS OF PAYMENT:

Quarterly Payment shall be made after completion of maintenance period. With each bill, a certificate from the Contractor that maintenance has been carried out properly and testing / drills etc. required during the period have been performed in addition to the penalty explicitly indicated under penalty clauses.

6) EPF PROVISIONS:-

The agency has to comply with the provisions of EPF and miscellaneous provisions Act-1952 and employees provident fund scheme-1952 as amended up to date in respect of labours /employees engaged by them for this work. Any consequence arising due to non- complying of provisions as specified above shall be the sole responsibility of the firm only.

Agency has to observe all the labour rules & regulation in force. Agency shall be fully responsible for any violation observed at any time.

7) PROGRAMME FOR EXECUTION

The firm shall supply detailed programme to Engineer-in-Charge for execution of contract within fifteen days of award of work. The programme shall contain details about submission of drawing, supply of materials, tentative dates for installation and commissioning.

8) STORES AND SAFETY

All the stores and materials required for the satisfactory completion of the work shall be arranged at work site by the contractor from his own source. Space for storing the same materials may be provided on request from the contractor. However safe custody of the material stores at site will be responsibility of the contractor.

9) CO-ORDINATION AT SITE

At the site of work more than one agency may be working. Full cooperation shall be extended to other agencies during the progress of work. Further work shall be carried out in such a way so that it may not cause abnormal noise and hindrance to the officers of the BSNL engaged in erection as well as to normal routine work.

10) COMPLETION DRAWINGS

The firm shall supply three sets of drawings/documents after completion of the work but before the proposed date of completion of work.

- ❖ Schematic diagram of control wiring.
- ❖ Operation and maintenance manual.

11) CHANGES IN SPECIFICATIONS

The BSNL reserves the right to make changes in respect of specifications of work if in its opinion same is found necessary. However such alterations shall be made after mutual discussions and agreement between the BSNL and the contractor. Any price implications in this regard shall be mutually discussed and agreed up on in terms of clause 12 of EW forms. The BSNL as matter of principle will not permit modifications by the contractor in design /specifications of any document /material. However the same can be agreed upon by the BSNL under exceptional circumstances where

- a) The same is necessitated due to non-availability of material/components of certain specifications/make.

Or

- b) Such alterations constitute an improvement in the opinion of BSNL.

Prior approval is necessary before undertaking any alteration/modification in the specifications of the equipment.

12) I.S. Standards:

The entire system shall conform to relevant BIS including safety standards as amended up to date. Where IS standards are not available the British standard(s) shall be followed. In case of conflict, the requirements of these specifications shall be given over-riding priority. The electrical and earthing work shall be carried out as per CPWD specifications for electrical works (internal) and electrical works (external) as amended up to date. A list of relevant standards, approved makes of equipment is furnished and forms part of the tender document.

Name of Work: Operation and comprehensive maintenance of 8 x 10 TR PAC plant at TE Anna Nagar, Chennai (2017-19)

Schedule of Quantities

NAME OF WORK:- Operation and comprehensive maintenance of 8 x 10 TR PAC plant at TE Anna Nagar, Chennai (2017-19)														
S. N	Description of Items	Qty	Unit	Rate / excluding GST	CGST		SGST		IGST		Rate /unit including GST	Total Amount excluding GST	Total Amount including GST	HSN/ SAC Code
					% Rate	Rate per unit	% Rate	Rate per unit	% Rate	Rate per unit				
1	2	3	4	5	6	7=6x5	8	9=8x5	10	11=10x5	12=5+(7+9)or 11	13=3x5	14=3x12	15
1)	Carrying out comprehensive maintenance of following services as per details given in the relevant sections with the specialized manpower and by arranging required tools and plants, attending faults, i/c preventive /routine /break down maintenance rectifying/ replacing the defective/worn out components in order to keep the system in healthy working condition etc up to standards as reqd. a) Package AC Unit (8 x 10 TR)	24 Months	Month											
2	Providing round clock operation of AC plant by employing 1 operator /shift for 3 shifts per day including on Sunday and holidays as per specifications/ conditions of contract & as per the details given in relevant sections with the required staff i/c arranging required tools and plant etc. to keep all the services operational up to the required standards, complete as per specification as attached.	24 Months	Month											
Total for item no 1 & 2														

Important Note:
The firm shall be responsible to ensure that GST shown in the above columns is correct & Input Tax Credit for the amount shown above is admissible as per GST Act as amended up to date.
Tax Invoice /Bill of supply should be pre-printed with all the details as per the requirement under GST Act.
The evaluation and comparison of responsive bids shall be done on the basis of Net cost to BSNL on the prices offered inclusive of packing, forwarding, freight and insurance charges etc., but excluding GST .
The rates for all items of work shall, unless clearly specified otherwise, include cost of all labour, materials and other inputs involved in the execution of the terms as specified in the scope of work.
No advance payments can be made. Stipulations like levy of interest if payment is not made in a specified time are also not acceptable and the payment is governed by the normal BSNL practice.
Bidder must mandatorily quote for all GST components (CGST,SGST,IGST) as applicable.
Bidder must mandatorily mention correct HSN/SAC codes.

Contractor

Executive Engineer(E)

IMPORTANT NOTE TO CONTRACTORS

Note:1) The rate quoted shall be inclusive of all taxes/duties, GST etc. Nothing will be paid extra. No concessional form / certificate will be issued by the Department.

2) The rate of all items of work shall include cost of labour and materials and other inputs involved in execution of items as specified in the scope of work.

3) The firm has to submit before award of work performance guarantee for 10% of the estimated cost for 24 months. This amount is to be given either in the form of Bank guarantee or any other acceptable form. No SD shall be deducted from the running bills. This amount shall be refunded after successful completion of maintenance period. The EMD deposited along with tender shall be adjusted against performance guarantee.

4) The minimum staff required for operation and maintenance for all working days and holidays shall be as given below. However, it is the firm's responsibility to carry out the proper work as per agreement and if more persons are required, it is to be arranged by firm without extra cost.

5) GST component shall be indicated for each items and the percentage of GST component shall also be mentioned.

No. of staff required:

One Operator/Shift for Three shifts a day (i.e Total three operators per day)

INVENTORY DETAILS

Capacity of Plant	Location	Year of Installation	Make
8 x 10TR PAC	Anna Nagar TE	2007	Batliboi

GENERAL CONDITIONS

1.0 Scope of Maintenance

- 1.1 This includes round the clock operation of as given in the schedule of work and also carrying out repairs, as and when required. All these services are to be kept in healthy, clean and working condition. The operation and maintenance of AC plants as available in the schedule of work are to be done whenever the same is required.
- 1.2 All the spares required for the operation and repairs are to be arranged by the contractor without any extra cost. In addition to these, all periodic maintenance as per tender document should be carried out. The schedule given in the tender document is only to give an idea of the services to be operated and maintained. But operation and maintenance of all the allied components and accessories of each system will under the scope of work. All major repairs and periodical maintenance are to be got done through specialized agencies only

2.0 METHODOLOGY

- 2.1 The contractor shall provide minimum qualified staff at the site, which will be adequate to perform routine maintenance and operational functions. For optimum utilization one person can be responsible for number of services. Also maintenance staff has to be available round the clock, round the Year even holidays. However, strength may vary during day and night shifts Scheme for staff employed shall be got approved by the Engineer-in-charge.
- 2.2 In case of faults beyond the capacity of the staff provided as above, contractor shall immediately provide extra-specialized work force so as to attend to the fault in minimum reasonable time without any extra cost.
- 2.3 Before start of the work complete equipment/services under scope of maintenance shall be thoroughly examined by the agency jointly with SDE(E)/JTO(E) concerned. All Defects/discrepancies should be brought to the notice of the SDE(E)/JTO(E) in writing within first 15 days of award of work. Defects/discrepancies agreed upon by BSNL shall be got attended by the outgoing agency before handing over the site to the new agency. If the outgoing agency fails to correct the defects/discrepancies within 15 days, the same shall be got done by BSNL at the risk and cost of the outgoing agency. However any defect pointed out beyond 15 days, the agency is responsible for attending to the defects/discrepancies.
- 2.4 A complaint Register as per **Annexure-IV** shall be kept up-to-date at site by the firm and the same shall be available for checking & verification.
- 2.5 Firm shall maintain logbooks as per **Annexure - V** for A/C plants, etc.
- 2.6 At the start of each month, the firm in consultation with the SDE (E) concerned shall prepare a Program for preventive maintenance if any, to be carried out during the month. The actual maintenance carried out shall be recorded in **Annexure-VI** at the end of each month as per maintenance schedule vide **Annexure-IX**.
- 2.7 Firm Shall submit bills along with a Certificate as per **Annexure - VII**
- 2.8 Firm Shall Carry out Capacity test of Package AC unit Half yearly as per **Annexure-VIII**
- 2.8 If during the period of contract, any of the electromechanical services are added/ altered, the operation, all inclusive maintenance & comprehensive maintenance of the same shall be done by the firm, the rates will be regularized **as per Clause -12 of EW**

8. However in case of deletion of any major services similar recovery shall be made from the bill of the contractor.

2.9 The details in the section are approximate to give an idea of services to be maintained. Any variation on higher or lower side shall deem to be included. However the tenderer are advised to inspect the site (s) and make them acquainted before quoting.

3.0 QUALIFICATION

Air-conditioning:

Pass in Matriculation for AC plant operator. In addition, one qualified supervisor / Mechanic should inspect all the services at least once in a month to ensure proper operation & maintenance of the services under maintenance.

Persons attending maintenance work should possess certificate of competency for carrying out required tasks.

3.1 Minimum staff required.

Sufficient staff should be available to attend the day to day operation in all the 3 shifts as per the NIT and to attend all break down/periodical maintenance then and there

3.2 All electrical repairs should be carried out by qualified electricians. Electrician should be ITI or equivalent certificate holder in the trade of electrical from a recognized institute authorized by central/State Govt. with a minimum experience of 3 years in electrical works.

4.0 COMMERCIAL

- 4.1 The workers engaged by firm should maintain proper discipline and good behavior with occupants.
- 4.2 The firm shall remove such workers from the site whose behaviour is found improper. Executive Engineer's decision in this matter shall be final.
- 4.3 Any damage to the installation (s) / building during the maintenance period due to the carelessness on the part of maintenance staff shall be the responsibility of firm & be replaced / rectified without any extra cost.
- 4.4 Any accident or damage during maintenance / operation will be the responsibility of agency & BSNL will not entertain any claim, compensation, penalty etc. on this account or on account of non-observance of law to the work.
- 4.5 Agency has to observe all the labour rules & regulations in force.
- 4.6 The agency has to supply the details of all the workers likely to be engaged by it as per **Annexure-III**, before start of the work and get it approved by the Executive Engineer.
- 4.7 Firm should also supply two pass port size photographed identity cards of the workers. One copy of the identity card should be submitted to SDE(E) in charge of the maintenance and original shall bear with the workers.
- 4.8 Dismantled materials shall be returned to the department except those items for which the replacement is supplied by the agency.
- 4.9 The BSNL reserves the right to carry out any work at the risk and cost of the agency, if the agency fails to perform any duty as per the contract.
- 4.10 The tenderer must obtain himself at his own expense all the information necessary for the purpose of execution, before tendering.
- 4.11 The agency should inspect the site & acquaint itself with all the local condition, means of access to work & nature of work etc. No claim shall be entertained on these accounts.
- 4.12 The rate quoted must be full & final.
- 4.13 Nothing extra is payable other than quoted rates unless specified.

- 4.14 The contractor shall not sublet the work or part thereof. However, services of specialised agencies for specified work can be obtained.
- 4.15 The firm shall maintain the installation(s) in such a way as to provide uninterrupted required conditions in air conditioned rooms.
- 4.16 The sitting arrangement for the staff engaged by the agency should be arranged by the firm at its own cost. The space, water & electricity shall be made available by the BSNL, free of cost.
- 4.17 The BSNL reserves the right to terminate the contract by giving show-cause notice of one month duration at any time during the currency of the contract.
- 4.18 The BSNL reserves the right to extend the contract as per the provisions of agreement at the same rate & conditions.
- 4.19 The contractor has to keep all the Electro mechanical equipment at site neat and clean to avoid any accident and fire hazard.
- 4.20 The operating staff has to be available round the clock throughout the year even on holidays. Since the firm will be doing the maintenance of Air Conditioning. Operating staff placed at site, should be able to take initial steps under emergency situation.
- 4.21 Firm should have the round the clock contact number. In case of emergency contractor and authorized engineer / supervisor shall be available at the site on short notice from engineer-in-charge and make efforts to take situation to normal at the earliest.
- 4.22 A complaint register as per **Annexure-IV** shall be kept at site by the firm and same shall be available for checking & verification.
- 4.23 The staff engaged by the firm shall bear the identity card.
- 4.24 Once the installation is handed over to the contractor, it is the responsibility of the contractor to attend whatever defects / damages arising after the date of handing over i/c replacement of defective components etc.
- 4.25 After the contract period is over, the installation has to be duly handed over to the department with all the services in good, healthy, neat, working condition. The contractor shall be responsible for any discrepancies Vis-a-vis, the status of installation at the start of work plus any modification carried out during the currency of the contract.
- 4.26 Any defects, shortcomings brought to the notice of the BSNL within 15 days of award of work shall be the responsibility of the BSNL.
- 4.27 The proforma of Log sheets for Operation & Maintenance can be obtained from the Engineer-in-charge.
- 4.28 The contractor agrees that he shall at all times indemnify BSNL against all claims for compensation under the provisions of any law for the time being in force or in respect of any person employed by it in carrying out the contract. Further, such staff has no right to claim employment in BSNL.
- 4.29 Contractor has to observe all the labour rules and regulations in force & BSNL shall not be liable for any default.
- 4.30 The firm shall also coordinate with the JTO (E) / SDE (E) for carrying out energy audit/capacity test at site with respect to all Electromechanical Services whenever required.
- 4.31 The Firm/Contractor will provide the workers with necessary Testing and Safety Equipment.
- 4.32 BSNL is having right to pre close the agreement in special cases with one month notice without assigning any reason.
- 4.33 BSNL is having the right to curtail the quantity according to the requirement.
- 4.34 The rate quoted must be full and final, it is inclusive of all taxes and duties. Nothing extra is payable other than quoted rates.

5.0 MATERIALS AND TOOLS & PLANTS

5.1 Material

- 5.1.1. The scope of work includes comprehensive maintenance, such services, as per inventory shall be maintained on comprehensive basis i.e. no material will be supplied by the Department. Only replacement of major equipment as specified in technical specification which is required to be replaced as a whole after due scrapping shall be the responsibility of the BSNL. Till such time firm has to maintain the scrapped equipment.
- 5.1.2 Contractor shall comply with any inclusion/exclusion in the above items and/or their quantity depending upon site requirements. The decision of the Engineer in charge shall be final in this regard.
- 5.1.3 The replacement of material shall be with the same rating and make as that of the original or makes approved by BSNL. The firm may also replace an item with energy efficient item wherever the same is available, upon intimation to JTO (E)/SDE (E). However, in case of non-availability of a particular make, Engineer-in-charge will approve the alternate make.
- 5.1.4 Dismantled and unserviceable items for which a replacement is supplied, shall be removed from the site under intimation to the JTO (E)/SDE (E).
- 5.1.5 All materials shall be of approved make, model and capacity and shall be matching to the system.
- 5.1.6 Supplier Invoice/Bill / Purchase particulars shall be produced in case of all major items such as compressor etc. as a proof of genuineness. For replacement compressor, the firm shall produce necessary documentary proof.

5.2 TOOLS & PLANTS:

The following tools, plants and safety equipment shall be kept at site. However special tools and plants required for special maintenance may be brought to site whenever required.

1. Insulated Screw Driver
2. Line Tester
3. Insulated Cutting Plier
4. Torch Light
5. Test Lamps
6. Psychrometer.
7. Aneometer
8. Screw spanner, combing tool etc

All tools and plants, testing & safety equipments required for carrying out various tasks relevant to operation and maintenance have to be arranged by firm at its own cost.

6. PENALTY CLAUSE

1. Any damage to the installation(s)/building due to the carelessness on part of firm's staff shall be the responsibility of firm and shall be replaced/rectified without any extra cost

2. Any accident or damage will be the responsibility of agency and the BSNL will not entertain any, claim, compensation, penalty etc on this account or on account of non-observance of any other requirement of law relevant to his work.
3. Exemption for this condition: If any accident or damage to the installation due to the natural calamity such as cyclone/flood/earth quake occurs, based on the report of JTO(E) /SDE(E) the penalty clause may be waived. The SE (E) is the competent authority for such waiver which is final and binding
4. If the agency fails to rectify any fault within reasonable time, the department reserves the right to carry out the work at the risk and cost of the agency. In case the fault is of emergency nature which may affect the normal functioning of the services and if the firm fails to take immediate necessary action, the work shall be carried out the risk and cost of the firm without giving any notice. The decision of the EE(E) shall be final
5. In case the agency do not engage the minimum staff mentioned in schedule of work, recovery shall be made from his bill @ the prorata basis as applicable per person/Shift for AC operator at twice the rate. The decision of the EE(E) Shall be final.
6. In case of a major accident/loss on account of negligence on the part of the contractor apart from the action taken as per Sl.No-1 above the contract shall be terminated and 10% of the estimated cost shall be recovered. Decision of Superintending Engineer (E) /EE shall be final and binding on the contractor.
7. In case of unsatisfactory performance during the period of maintenance one Percent (1%) penalty of the bill amount shall be imposed.
8. For repeated unsatisfactory performance during the contract period penalty up to 5% of bill amount shall be imposed. Decision of Executive Engineer (E) shall be final on this account.

PENALTY FOR DEFICIENCY IN SERVICE:

SERVICE	SERVICE CONDITIONS	PENALTY FOR DEFICIENCY IN SERVICE
AC units	Faults pending more than 48 hours (Affecting the performance)	Rs. 500/- per day

Note:-

1. In case contractor fails to comply with preventive/ periodical maintenance schedules for AC plants/ services, payment for such services for that particular period will not be made. In addition penalty of 25% of one month's bill amount for such units/services shall be imposed.
2. In case of a major accident/loss on account of negligence on the part of the contractor, the contract shall be terminated and 10% of the estimated cost shall be recovered. Decision of Executive Engineer (E) shall be final and binding on the contractor.
3. Repair etc. of faulty equipment for which comprehensive maintenance is included, if not done by the firm, will be got done at the risk & cost of firm, beyond 7 days of continuing failure, without further notice. The decision of EE (E) shall be final in this regard.
4. Notwithstanding the compensation clause described above, BSNL reserves the right to take necessary steps for maintenance of the services at the risk and cost of the

contractor within two day's notice or as decided by the Engineer-in-Charge, depending upon the graveness of the situation attributed to the contractor. BSNL also reserves the right to carryout scheduled maintenance activity, if not done by the agency, at its risk & cost.

A. Details to be supplied before starting the work

1.	Name of the Agency (with Office address)		
2.	Name of the Proprietor		
3.	Telephone No.(s) of the firm		
4.	E_mail of the firm		
5.	Name & Address of the Supervisor		
6.	24 Hours contract No.		
7.	Particulars of the License/		
8.	FAX no. of the Firm		

B. Details of the Staff to be posted at site

Annexure - III

	Name & Address	Qualification	Responsibility
1			
2			

COMPLAINT REGISTER

Annexure-IV

Date & Time of complaint	Officer / Sections lodging complaint	Nature of complaint	Date & Time redressal of complaint	Acknowledgement of rectification by complaint	Remarks

AIR CONDITIONING PACKAGE UNITS

Part I : Scope of Maintenance

The scope of maintenance in this contract is carrying out comprehensive maintenance of packaged type AC plant and its associated items forming part of AC plant including round the clock operation of the AC plant including on holidays.

Ensure operations, keeping installation clean and performing preventive maintenance and attending to emergency breakdown.

Task (Part-III) responding to alarms to avoid serious damage.

Part II: Tasks to be performed within 15 days

Keeping in mind that operation of system is to be carried out, inspect the complete system for any shortcoming which may come in the way of proper operation.

Familiarize with the installation and with alarms & response called for.

Make note of recommended parameters during operation.

Part III: Maintenance schedule to be followed

1. As indicated in the maintenance schedule. **(Annexure-IX)**
2. Main log book in the form required by maintenance-in-charge.
3. Record of time when any break down occurs in a unit and when it is rectified is to be maintained.
4. The system should be kept in clean and healthy conditions.

Part-IV: Materials

1.1 *All the materials required for running the plant in healthy condition i/c Compressors (in case of failure), Refrigerant gas, thermostat, Contactors, switches, indication lamps, blower fan, condenser fans, MCBs, MCCBs, refrigerant line, receiver, accumulator, humidistat, isolators, interconnecting cables, wires, timers, Single phase preventers, Strainers, oil , fan belts , LT Panel, HRC fuses, annunciation panel, all bolts and nuts & All other items required shall be arranged by the firm.*

1.2 Note: *The approved makes of the consumables required may be maintained in the stock by the agency for smooth operation of the plant.*

Part-V :Special Conditions Relevant To Particular Job / Particular Site

Rewound / cut compressors, rewind blower / condenser motors shall not be used in the PAC units. The faulty compressors, blower / condenser motors shall be replaced with new one. Replacements for failed compressors, blower with new one shall have **warranty** for a period of not less than **one year**.

PART VI: Stipulated Inside conditions

The following norms for air conditioning plants are to be adopted and conditions, maintained in respect of all Electronic-switching equipments.

Temperature : Switch room:23 +/- 3 Deg C DB
: Below the rack (for bottom feed exchanges): 20 +/- 2 Deg C DB
Humidity : RH=45 +/- 15%
Fresh Air : One air change per hour

Part -VII: Special Conditions Relevant to Particular Job / Particular Site:

Any addition / alteration during the period of contract shall also be maintained by the firm and nothing extra shall be payable on this account.

Annexure-IX**Maintenance Schedule of PAC to be followed**

Sl No	Description of Item	Daily	Weekly	Monthly	Quarterly	Yearly
1	Keep the plant room, units and all the ancillary items clean	X				
2	Check crank case heaters are in good working condition, if not rectify.	X				
3	Check oil level in the compressor. This should be 3/4 to 1/2 of the oil sight glass	X				
4	Check for overheating of any part of the plant and Electrical Switches	X				
5	Check thoroughly for any refrigerant leakage in the system Breakage/leakage. Thorough leak testing for refrigerant leaks by hailed leak detector	X				
6	Record reading of the condition space on hourly basis as per the log book	X				
7	Look for/Observe unusual noise/vibration than normal	X				
8	Check voltage, current pressure, return air temperature and take hourly reading	X				
9	Check fire dampers, volume control dampers, guide vain's and their normal position	X				
10	Record current and voltage reading of all equipments and the total current	X				
11	Check Discharge pressure Suction pressure Air quantity Current consumption	X				
12	Check for abnormal noise& abnormal vibration noise	X				
13	Analyze the pressure temperature reading s to ensure satisfactory working of the plant	X				
14	Check proper working of Annunciation system	X				
15	Ensure all the pressure gauges, thermometers, thermostat, HP/LP cut outs are indicating correct readings. Low operating Suction/discharge pressure HP/LP cut out should be investigated promptly and rectified		X			
16	Check Fire Alarm inter-locking with Control panel and its proper functioning.		X			
17	Ensure that refrigerant return is proper		X			
18	Check crank case heater for proper operation wherever applicable		X			
19	Check the drains for free flow and Flush the drain system		X			
20	Cleaning of the air filters, fine filters and pre-filters. If found necessary replace it			X		

21	Water Cleaning of Condenser and fans and ensure that no thick layer of dust on them.			X		
22	Cleaning of Evaporator coil and fans and ensure that no thick layer of dust on them. Clean the cooling fins with water			X		
23	Inspection and checking of safety circuits and controls			X		
24	Tighten and grease all the grouting bolts of various equipments			X		
25	Check the temperature, current drawn by motors and compressors.			X		
26	Check all bearing surfaces for abnormal heating, grease it			X		
27	Check the earth continuity			X		
28	Check electrical contacts of starters relays etc. and clean it, replace it if found necessary.			X		
29	Check operation of all safety controls			X		
30	Check tightness of all fastening bolts			X		
31	Check all pre-heaters and re-heaters and the terminal controls for the proper functioning.			X		
32	Check the condition of compressor refrigerant lines/pipes and to be changed if necessary			X		
33	Lubricate the bearings of all machinery items such as pump, motor, fans				X	
34	Adjust the belt tension, alignment, if necessary Check fan belt and tighten if slack, change worn out or torn belts				X	
35	Check& Clean and paint all the rusted machinery items like refrigerant lines condenser tray, condenser, condenser plat form/stand and fans i/c painting all the external parts listed as above Preferably before monsoon.					X

ANNEXURE – VI

Name of contractor: _____.

Agreement No. : _____.

Site :

Certificate that Daily/Weekly/Monthly/Quarterly/Yearly Maintenance for Month of ----- have been carried out properly as per Maintenance schedule (Annexure – IX) and as per terms and condition of the agreement and i/c testing/drills etc. required during the period has been performed. Except the following due to the reasons mentioned against the respective item:

Sl.No	ITEM/SERVICES	REASONS FOR NON OPERATION

Contractor's representative

Exchange In- Charge

JTO(E)

SDE(E)

ANNEXURE - VII

CERTIFICATE TO BE SUBMITTED ALONG WITH EACH BILL

1. CERTIFIED THAT WE HAVE CARRIED OUT THE PREVENTIVE MTCE. OF ALL THE SERVICES COVERED IN THE ABOVE CONTRACT SATISFACTORILY AND ALL THE SERVICES HAVE BEEN UNDER SATISFACTORY WORKING CONDITION EXCEPT THE FOLLOWING DUE TO THE REASONS MENTIONED AGAINST THE RESPECTIVE ITEM:

Sl.No	ITEM/SERVICES	REASONS FOR NON OPERATION

2. CERTIFIED THAT THE EQUIPMENTS FOR WHICH THE ENERGY EFFICIENCY PARAMETERS HAVE BEEN PRESCRIBED WERE MAINTAINED WITHIN THE PRESCRIBED BENCHMARK.
3. CERTIFIED THAT REQUIRED INVENTORY HAS BEEN REPLENISHED BY US.
4. CERTIFIED THAT EPF FOR THE EMPLOYEES ARE REMITTED.

SIGNATURE OF CONTRACTOR

JTO (E)

SDE (E)

Annexure-VIII

Capacity Test-Half Yearly

Evaporator & Compressor

S.NO.	Parameter	Results	Remarks
1.	Area of the PAC air inlet Grill of the evaporate in SFT		
2.	Air Velocity in FPM		
3.	Air Quantity in CFM		
4.	Required Air Quantity as per Agreement		
5.	Inlet Air Temp DB°F		
	WB °F		
6.	Canvas Air Temp DB°F		
	WB°F		
7.	Inlet Enthalpy		
8.	Canvas Enthalpy		
9.	Enthalpy difference		
10.	Specific Volume		
11.	Total Capacity $\frac{\text{Cfm} \times \text{Enthalpy diff}}{200 \times \text{Sp.Volume}}$		
12.	Observed Tonnage		
	a) Sensible Cooling Capacity $\frac{1.08 \times \text{Cfm} \times \text{Temp Diff}}{12000}$		
	b) Latent Cooling capacity (Total capacity – sensible cooling)		
13.	Evaluated tonnage at design conditions		To be evaluated by the Engineer-in-Charge.
	a) Sensible Cooling capacity		
	b) Latent Cooling capacity		

Inside Conditions during the Tonnage test

Switch Room Temperature DB F :
 WB F :
 RH % :
 HP of the PAC unit being tested :
 LP of the PAC unit being tested :

Signature of Operator

Signature of JTO (E)

Signature of SDE (E)

Name of Work: Operation and comprehensive maintenance of 8 x 10 TR PAC plant at TE Anna Nagar, Chennai (2017-19)

LOG BOOK

ANNEXURE-V

SITE:				AGENCY:										Design Data to be issued by the Engineer-in-Charge as per the agreement-Proto approval									
EXCHANGE:				Agmt.No:										No of Units to be Operated:									
DATE:				Operator in charge: (Name)	Shift -1(Hrs to Hrs):					Shri.					Inside conditions to be maintained	DB:		23°C +/- 3°C (73.4°F +/- 3°F)					
AC plant configuration:					Shift -2(Hrs to Hrs):					Shri.						WB:		°C +/- °C (°F +/- °F)					
AC Unit Make & capacity:					Shift -3(Hrs to Hrs):					Shri.						RH:		45%+/-15%					
AC Unit Model No:																CFM/Unit:							
Time	V o l t s	Total Amp s	SW room temp Deg F				OMC		Exploitation		AC plant room		Ambient Temp		No of units in operation	UNIT NO _____			UNIT NO _____			Fresh air fan on/off	Alarm Status
			I		II		DB	WB	DB	WB	DB	WB	DB	WB		Comp-I	Comp-II	Amps	Comp-I	Comp-II	Amps		
			D B	W B	D B	W B																	
06.00Hrs																							
08.00Hrs																							
10.00Hrs																							
12.00Hrs																							
14.00Hrs																							
Measured CFM for units in Operation						FAULT STATUS																	
(To be Measured daily)			Time of Measurement		Time of Occurance of fault		Nature & Description of Fault					Action Taken			Fault cleared at(Time) on (date)		Signature of the Operator						
Unit No.		CFM		Hrs																			
Unit No.		CFM																					

Signature of JTO(E) with remarks

Signature of SDE(E) with remarks

Contractor

EE(E)

LIST OF APPROVED MAKES-BSNLELECTRICALWING

S. No.	Item	Makes
1	Engine	Ashok Leyland /Cummins/ Caterpillar /KOEL/ Volvo Penta / Mahindra & Mahindra (up to 200 KVA) /Escorts (up to 30 KVA)/ Eicher (up to 35 KVA)
2	Alternator(Brushless)	Crompton Greaves (AL. series) / KEC / Leroy Somer / Stamford/Jyoti Ltd
3	Battery (Lead Acid / Mntc. Free)	Amara Raja / AMCO / Farukawa / Hitachi / Exide/ Prestolite / Standard
4	HV Switchgear (Vacuum Circuit Breaker/SF6)	BieccoLawrie / Crompton / Kirloskar / MEI / Jyoti Ltd
5	Transformer (Oil filled / Dry type) a)	ABB / Schneider Electric /Andrew Yule / Bharat Bijlee / Crompton / EMCO /Kirloskar / Siemens
	b) Up to 400 KVA	In addition to above makes, Uttam/ Patson /Rajasthan Transformer and Switchgear
6	Air Circuit Breaker	L&T/ Schneider Electric / Siemens
7	MCCB(Ics=Icu)	L&T/ Schneider Electric / Siemens
8	SDF units	L&T/ Schneider Electric / Siemens/HPL/Havells
9	Power Contactors	L&T/ Schneider Electric / Siemens/ Lakshmi(LECS)
10	Change Over Switch	HPL / Havells / H-H Elcon
11	Intelligent APFC Relay	L&T/EPCOS(Siemens)/ Schneider Electric / Neptune Ducati/Syntron/ABB
12	Bus Bar Trunking/ Sandwiched Bus Duct	Moeller/L&T/Schneider Electric/ABB/ Legrand /Zeta
13	Power Capacitors (MPP/APP)	L&T/EPCOS(Siemens)/ABB/Crompton/ Schneider Electric / Neptune Ducati
14	Digital/ KWHr meter	Schneider Electric/ AE/ Digitron / IMP/Meco / Rishabh /Universal/HPL/L&T/ABB/Yokins
15	Cold shrink HT/LT Cable Joint	Denson / 3M(M-Seal)/ Raychem
16	Rubber Matting	ISI mark
17	MCB/ Isolator /ELCB/RCCB/ Distribution Board	Crompton / Havells / Indokopp / MDS Legrand / L&T / Schneider Electric/ Siemens / Standard/ABB/HPL
18	MS/ PVC Conduit	ISI mark
19	Cable Tray	MEM/Bharti/Ratan/Slotco/Profab
20	HT/LT Cables	ISI mark
21	PVC insulated copper conductor wire	ISI mark
22	Centrifugal Pump	Amrut / BE / Beacon / Batliboi /Crompton / Jyoti / Kirloskar / KSB / Mather &platt / WASP/Grundfos
23	Submersible Pump	Crompton/Amrut / BE / Calama / Kirloskar / KSB
24	Motors	ABB/ Bharat Bijlee / Crompton Greaves / Schneider Electric / HBB / KEC / Siemens/Jyoti Ltd
25	Fresh Air Fans	GE / Khaitan/Almonard/Crompton
26	Starter	ABB / BCH / Schneider Electric / L&T / Siemens /
27	Single Phase Preventer	L&T / Minilec / Siemens / Zerotrip

28	GI/MS Pipe	ATC / ATL / BST / GSI / ITC / ITS / IIA / JST / Jindal /TTA / Tata/Zenith
29	Foot Valve	ISI mark
30	Gate Valve	Advance/Audco/Johnson Controls / Zoloto /Annapurna / Fountain /Kirloskar / Leader / Sant / Trishul
31	Compressors	Carrier/Emerson copeland/York/Danfoss (for chillers only)
32	Resin Bonded Glass wool	Fibre Glass / Pilkington / UP Twiga
33	Expanded Polystyrene	BASF(India) Ltd.
34	Gauge	Feibig / H.Guru / Pricol
35	Controls	FLICA / Honeywell / Indfoss / Penn- Danfoss / Ranco / Ranutrol / Sporland
36	Fine Filters	Anfiltra Effluent / ARW / Athlete/ Airtake / Dyna / Kirsloskar/ Puromatic/ Purafill/ Purolator / Tenacity
37	GI Sheet	HSU Jindal / National / Nippon Denro / Sail / Tata
38	Heat Detector	Appollo / Chemtron/ Edward / Fenwal/ Hochiki / Nitton /System Sensor/ Wormald/Honeywell Essar/Notifier
39	Ionization Detector	Appollo / Cerebrus / Edward/ /Fenwal / Hochiki / Nitton / System Sensor /Wormald
40	Photo Electric Smoke Detector	Appollo / Cerebrus / Edward / Fenwal/ Hochiki / Nitton / Wormald /System Sensor
41	Fire Panel (Microprocessor based)	Agni Instruments / Agni Devices/ Aruna Agencies / Carmel Sensor / Ravel Elect. / Honeywell Essar / Notifier / Navin Systems
42	Sprinkler/ Hose Reel & Hose Pipe	ISI mark
43	Fire Extinguisher	ISI mark
44	Lift	OTIS, Kone, Mitsubishi , Schindler, Johnson, Thyssenkrupp Elevator(India)

NOTE:

1. The accessories such as CT/PT/measuring instrument/relays provided by approved make in respect of Transformer/HT Panel/DG /AC Package Units as supplied by approved manufacturer along with the equipments are also acceptable in addition.
2. Any other makes which are approved by BSNL CO up to the last date of sale of tender can also be used in this contract.

LIST OF INDIAN STANDARDS

- I.S.277 Galvanized steel sheets.
- I.S.325 Three Phase Induction Motors
- I.S.655 Metal Air Ducts
- I.S.732 Code of Practice for Electrical Wiring and fittings for Buildings.
- I.S.778 Gun Metal Gate, Globe and Check Valves for general purposes.
- I.S.900 Code of Practice for Installation and Maintenance of Induction Motors.
- I.S.996 Single Phase small AC and Universal Motors.
- I.S.1239 Mild Steel Tubes, G.I. Pipes, Tubular and other wrought steel fittings.
- I.S.1248 Direct Acting Electrical Indicating Instruments.
- I.S.1520 Horizontal Centrifugal Pumps for clear, cold and fresh water.
- I.S.1554 PVC Insulated (heavy duty) Electrical Cables (Part-I) for working voltages upto and including 110 volts.
- I.S.2372 Timber for cooling towers.
- I.S.2516 AC Circuit Breakers.
- I.S.2592 Recommendation for Methods of Measurements of Fluid flow by means of Orifice Plates and Nozzles.
- I.S.1822 Motor Starters of Voltage not exceeding 1000 volts.
- I.S.2208 HRC Cartridge Fuse – Links upto 650 volts.
- I.S.3589 Electrically welded steel pipes for water, gas and sewage.
- I.S.3624 Bourden Tube Pressure and Vacuum Gauges.

- I.S.4047 Heavy Duty air break switches and composite units of air break switches and fuses for voltage not exceeding 1000 volts.
- I.S.6392 Steel Pipe Flanges.
- I.S.7403 Code of Practice for Selection of Standard Worm and Helical Gear Boxes.
- I.S.8148 Specification for packaged air conditioning.
CPWD General Specifications for Heating, Ventilation & Air conditioning (HVAC)-2004

IMPORTANT NOTE

All references to I.S.I. appearing in this specification may be read as Bureau of Indian Standards, Latest amended versions.

LIST OF SAFETY STANDARDS

- I.S.618 Code of Practice for safety and health requirements in Electrical and Gas Welding and Cutting Operations.
- I.S.659 Safety code for Air Conditioning.
- I.S.660 Safety code for Mechanical Refrigeration.
- I.S.3016 Code of Practice for Fire precautions in welding and cutting operations.
- I.S.3210 Code for Safety procedures and practices in Electrical works.
- I.S.3696 Safety for Scaffolds and Ladders.

PROFORMA OF SCHEDULES

(Operative Schedules to be supplied separately to each intending tenderer)

SCHEDULE 'A'

Schedule of quantities : Attached

SCHEDULE 'B'

Schedule of materials to be issued to the bidder: **Nil**

SCHEDULE 'C'

Tools and plants to be hired to the bidder: Nil

SCHEDULE 'D'

Extra schedule for specific requirements/documents for the work, if any: Nil

SCHEDULE 'E'

Schedule of components of Materials, Labour etc. for escalation: Nil

SCHEDULE 'F'

Reference to General Conditions of contract :

Name of work:	As per NIT notification page
Estimated cost of work:	
Earnest money:	
Security Deposit and performance Guarantee	

General Rules & Directions: Officer inviting tender: **Executive Engineer (E)
Electrical Division-I
Chennai**

Definitions:

2(v) Engineer-in-Charge **Executive Engineer (E), ED-I,
Chennai**

2(vi) Accepting Authority **SE (E), Electrical Circle -II,
Chennai**

2(x) Percentage on cost of materials and labour to cover all over heads and profits **10% (TEN)**

CLAUSE 5

Time allowed for execution **Twenty Four Months**

Authority to give fair and reasonable extension of time for completion of work: **SE (E), EC-II, Chennai**

Competent Authority for deciding reduced rates: **SE (E), EC-II, Chennai**

Clause 25

Competent authority for conciliation: **SE (E) not in-charge of the work.**

BSNL EW-8
Bharat Sanchar Nigam Limited
Electrical Wing

Electrical Division: **I, Chennai**

Sub Division: **IV, Chennai**

1. I/we have read and examined the notice inviting tender, schedule, specifications applicable, Drawings & Designs, General Rules and Directions, Conditions of Contract, clauses of contract, special conditions, Schedule of Rates and other documents and Rules referred to in the conditions of contract and all other contents in the tender document for the work.
2. I/We hereby tender for the execution of the work specified for BSNL within the time specified, schedule of quantities and in accordance in all respects with the specifications, designs, drawings and instructions and other documents and Rules referred to in the conditions of contract and all other contents in the tender document for the work.
3. I/We agree to keep the tender open for ninety (90) days from the due date of submission thereof and not to make any modifications in its terms and conditions.
4. If I/We, fail to commence the work specified, I/We agree that the said BSNL shall without prejudice to any other right or remedy, be at liberty to forfeit the said earnest money absolutely and the same may at the option of the competent authority on behalf of BSNL be recovered without prejudice to any other right or remedy available in law out of the deposit in so far as the same may extend in terms of the said bond and in the event of deficiency out of any other money due to me/us under this contract or otherwise.
5. Should this tender be accepted, I/We agree to execute all the works referred to in the tender documents upon the terms and conditions contained or referred to therein and to carry out such deviations as may be ordered upto maximum of percentage mentioned in clause 12.3 of the tender form and those in excess of that limit at rates to be determined in accordance with provisions contained in clause 12.2.
6. I/we agree to furnish to BSNL, Deposit at Call receipt/FDR/ Bank guarantee of a Nationalized/ Scheduled Bank for an amount equal to 5% of the of the contract value in a standard format within two weeks from the date of issue of award letter. I/We agree to keep the performance bank guarantee valid as per the BSNL terms and conditions.
7. I/We hereby declare that I/We shall treat the tender documents drawings and other records connected with the work as secret/confidential documents and shall not communicate information/derived therefrom to any person other than to whom I/We am/are authorized to communicate the same or use the information in any manner prejudicial to the safety or interest of BSNL.

<p>Signature of Witness (required in the case of bidder's thumb impression is given by the bidder in place of signature) Occupation of Witness :</p>	<p>(Signature of bidder) (Name & Postal address)</p> <p>Seal of Bidder</p> <p>Date:</p>
--	--

Acceptance of Tender

The above tender (as modified by you as provided in the letters mentioned hereunder) is accepted by me for and on behalf of BSNL for a sum of Rs. _____Rupees_____)

The letters referred to below shall form part of this contract Agreement

- a)
- b)

For & on behalf of BSNL

Dated

Signature :
Designation :