

Name of Work: :- Providing operation of transformer Substation, Engine Alternator sets , PAC units and comprehensive maintenance of PAC Plants at TE Building, K.K.Nagar, Chennai. (For Two months)(Recall)



## **BHARAT SANCHAR NIGAM LIMITED**

(A Govt of India Enterprise)  
(Electrical Wing)

**O/o The Executive Engineer (E)**

**BSNL Electrical Division-I**

No.22, KellysRoad,

Chennai - 600010.

Office: 044-26470405

E-mail: ee1chennai@gmail.com

### **SHORT NOTICE TENDER DOCUMENT**

**Name of work:** - Providing operation of transformer Substation, Engine Alternator sets, PAC units and comprehensive maintenance of PAC Plants at TE Building, K.K.Nagar, Chennai. (For 2 months)(Recall)

**NIT No:** 65 / EE (E) /ED-I /CH/2019-20

**Date of opening:** 12-03-2020

This tender document contains 38 pages only.

*(To be filled in by the Contractor)*

**Name of the Agency** .....

**Address** .....

.....

.....

**Telephone No. of agency:**

**E-mail ID :**

Name of Work :- Providing operation of transformer Substation, Engine Alternator sets , PAC units and comprehensive maintenance of PAC Plants at TE Building, K.K.Nagar, Chennai. (For Two months)(Recall)

## **INDEX**

| <b>SL.No</b> | <b>Description</b>                                              | <b>Page no.</b> |
|--------------|-----------------------------------------------------------------|-----------------|
| 1            | Front cover and Index                                           | 2               |
| 2            | Important Instructions                                          | 3               |
| 3            | Notice Inviting Tender form - BSNL EW 6                         | 6               |
| 4            | General Instructions to the Bidders                             | 10              |
| 5            | Undertaking to abide by EW 6 & EW 8 (Form 'A')                  | 12              |
| 6            | Undertaking regarding EPF & ESI provisions (Form 'B')           | 13              |
| 7            | Performance report of works (Form 'C')                          | 14              |
| 8            | No Near relative working certificate (Form 'D')                 | 15              |
| 9            | Model form of Bank Guarantee for EMD (Annexure-I)               | 16              |
| 10           | Model form of Performance security Guarantee bond (Annexure-II) | 17              |
| 11           | Schedule of Quantities                                          | 19              |
| 12           | Specifications for work                                         | 22              |
| 13           | Inventory Details                                               | 25              |
| 14           | List of annexure                                                | 26-32           |
| 14           | List of Approved Makes                                          | 33              |
| 15           | Proforma Schedules                                              | 36              |
| 16           | BSNL EW – 8 form                                                | 37-38           |

Name of Work :- Providing operation of transformer Substation, Engine Alternator sets , PAC units and comprehensive maintenance of PAC Plants at TE Building, K.K.Nagar, Chennai. (For Two months)(Recall)

### **INFORMATION AND INSTRUCTIONS FOR BIDDERS**

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                              | Providing operation of transformer Substation, Engine Alternator sets, PAC units and comprehensive maintenance of PAC Plants at TE Building, K.K.Nagar, Chennai. (For 2 months) (Recall) |
| 2 | Estimated cost put to tender              | Rs.182728/- Excluding GST                                                                                                                                                                |
| 3 | Earnest Money                             | Rs.3655/-                                                                                                                                                                                |
| 4 | Period of completion                      | Two months                                                                                                                                                                               |
| 5 | Last date & time for submission of tender | <b>Up to 15:00 Hrs. on 12.03.2020</b>                                                                                                                                                    |
| 6 | Date and time for opening of tender       | <b>15:30 Hrs. on 12.03.2020</b>                                                                                                                                                          |
| 9 | Tender cost (Non refundable)              | Rs.500/- + GST 18%= Rs. 590/-                                                                                                                                                            |

### **ELIGIBILITY CRITERIA**

The bidders satisfying the following conditions:

The Contractors satisfying the following conditions:

1.1 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

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

OR

1.3 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 substation/ Package AC Plant"

Name of Work :- Providing operation of transformer Substation, Engine Alternator sets , PAC units and comprehensive maintenance of PAC Plants at TE Building, K.K.Nagar, Chennai. (For Two months)(Recall)

**IMPORTANT INSTRUCTIONS TO BIDDERS DOWN LOADING THE TENDER DOCUMENT  
FROM WEB SITE**

The bidders, who have down loaded the tenders from the web site, shall read the following important instructions carefully before quoting the rates and submitting the tender documents.

1. The tenderer should see carefully and ensure that the tender document containing all the pages as per the index has been down loaded for making required entries. The balance pages of Standard BSNL EW8 form will be attached with the agreement after the award of work.
2. A clear print out of tender document shall be taken on good quality A4 size paper and the printer settings, etc., shall be such that the document is printed as appearing in the web and without any change in format, number of pages, etc., and shall also ensure that no page is missing. Only original computer printout of the document shall be used. Photocopy shall not be accepted.
3. In case of any doubt in the downloaded tender, the same shall be got clarified from the Engineer in charge calling the NIT before submission.
4. The name of the bidder shall be filled on the relevant pages of tender document and all the pages shall be invariably signed. (With stamp)
5. The tenderer shall ensure that the downloaded tender document is properly stitched before submitting the document.
6. There shall be no correction / addition / alteration / omission made in the text of the downloaded tender document. If found otherwise, the same shall be treated as non-responsive and rejected.
7. The tenderer shall sign the declaration enclosed before submitting the tender.
8. The tenderer shall submit the tenders in 2 covers marked as No.1 and No.2. The tenderer shall submit the credentials for meeting the eligibility conditions along with the cost of the tender fee and EMD in the prescribed format as detailed in NIT, along with a covering letter on his printed letter head stating the details of enclosures in the **first cover**. The credentials shall be self-attested. The **second cover** shall contain the price bid. The rates and amounts should be filled in the schedule of work attached thereto.
9. The **cover-1** shall contain the following.
  - 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 if applicable
  - 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. Certificate of work experience issued by client department (Form 'C') if applicable

Name of Work :- Providing operation of transformer Substation, Engine Alternator sets , PAC units and comprehensive maintenance of PAC Plants at TE Building, K.K.Nagar, Chennai. (For Two months)(Recall)

**Not submitting the above documents in Cover-1, the Cover-2 will not opened**

2. The **Cover-1 and 2** 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.

Name of Work: :- Providing operation of transformer Substation, Engine Alternator sets , PAC units and comprehensive maintenance of PAC Plants at TE Building, K.K.Nagar, Chennai. (For Two months)(Recall)

**BSNL EW-6**

Bharat Sanchar Nigam Limited  
Electrical Wing

Electrical Division: **ED-I,Chennai**

Sub Division: **ESD-III,Chennai**

Item rate tenders on single bid system are invited on behalf of CMD,BSNL for the work "Providing operation of transformer Substation, Engine Alternator sets, PAC units and comprehensive maintenance of PAC Plants at TE Building, K.K.Nagar, Chennai. (For 2 months) (Recall) 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.

1. Tenders which should always be placed in sealed covers with the name of the work written on the envelope will be received and opened by the tender opening authority as per the date and time mentioned in **INFORMATION AND INSTRUCTIONS FOR BIDDERS. Unsealed tenders will be summarily rejected.**
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.182728/- (Excl.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 **Two Months** from the 10<sup>th</sup> 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 **Chennai.bsnl.co.in** at free of cost. The BSNL EW-8 document can be seen from the web site **Chennai.bsnl.co.in** at free of cost.
8. 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 Telephones** payable at **Chennai**. The validity of the tender cost in the form of DD shall be **60 days** from the date of opening.
9. 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 Telephones** payable at **Chennai**. 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 /

Name of Work: :- Providing operation of transformer Substation, Engine Alternator sets , PAC units and comprehensive maintenance of PAC Plants at TE Building, K.K.Nagar, Chennai. (For Two months)(Recall)  
Security deposit. Exemption from payment of Tender Fee, Earnest Money and Security Deposit by any other unit/ department shall not hold good for BSNL.

10. **The last date for submission of bid is 12/03/2020 up to 3:00 PM** and the bid submitted shall be opened at 03:30 PM on the day. If a holiday is declared on the tender opening day, the tender will be opened on the next working day.
11. **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.**
12. **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.**
13. If it is found at any stage of tender scrutiny after submission of tender that the bidder has made any correction/addition/alteration/omission in tender documents vis-à-vis tender documents available on the website /original Draft NIT in office, the bid shall be treated as non-responsive and shall be summarily rejected 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.
14. The Tender documents shall not be sent through the Courier/Post. Tender documents received through Courier/post shall not be opened/ considered at all. All communication with the bidders shall be in writing. Fax / E-mail shall be covered under this category and considered as adequate means of communication.
15. 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.

Name of Work: :- Providing operation of transformer Substation, Engine Alternator sets , PAC units and comprehensive maintenance of PAC Plants at TE Building, K.K.Nagar, Chennai. (For Two months)(Recall)

16. 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.
17. 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.
18. 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.
19. 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.

Name of Work: :- Providing operation of transformer Substation, Engine Alternator sets , PAC units and comprehensive maintenance of PAC Plants at TE Building, K.K.Nagar, Chennai. (For Two months)(Recall)

20. 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.
21. The bidder 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'**.
22. **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.
23. 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.
24. 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 at the time of submission of bid and acceptance thereof together with any correspondence leading thereto.
  - b. Standard BSNL EW-8 form

Name of Work: :- Providing operation of transformer Substation, Engine Alternator sets , PAC units and comprehensive maintenance of PAC Plants at TE Building, K.K.Nagar, Chennai. (For Two months)(Recall)

**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. 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.
5. 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.
6. 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.
7. **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.
8. 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.
9. 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.

Name of Work: :- Providing operation of transformer Substation, Engine Alternator sets , PAC units and comprehensive maintenance of PAC Plants at TE Building, K.K.Nagar, Chennai. (For Two months)(Recall)

**10. 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.

**11. 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.

**12. 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.

13. 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.

Name of Work :- Providing operation of transformer Substation, Engine Alternator sets , PAC units and comprehensive maintenance of PAC Plants at TE Building, K.K.Nagar, Chennai. (For Two months)(Recall)

**FORM 'A'**

**Undertaking to abide by EW 6 & EW 8**

"I.....Son/Daughter 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 BSNL EW 6 & 8 forms.

(Seal of the firm)

(Signature of Bidder)

Name of Work :- Providing operation of transformer Substation, Engine Alternator sets , PAC units and comprehensive maintenance of PAC Plants at TE Building, K.K.Nagar, Chennai. (For Two months)(Recall)

**FORM 'B'**

**Undertaking regarding EPF provisions**

"I..... Son /Daughter 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)

Name of Work: :- Providing operation of transformer Substation, Engine Alternator sets , PAC units and comprehensive maintenance of PAC Plants at TE Building, K.K.Nagar, Chennai. (For Two months)(Recall)

**FORM 'C'**

**Performance report of works**

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

Dated:

Executive Engineer or Equivalent

Name of Work :- Providing operation of transformer Substation, Engine Alternator sets , PAC units and comprehensive maintenance of PAC Plants at TE Building, K.K.Nagar, Chennai. (For Two months)(Recall)

**FORM 'D'**

**No Near relative working certificate**

I..... Son /Daughter 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)

Name of Work: :- Providing operation of transformer Substation, Engine Alternator sets , PAC units and comprehensive maintenance of PAC Plants at TE Building, K.K.Nagar, Chennai. (For Two months)(Recall)

**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:**

Name of Work: :- Providing operation of transformer Substation, Engine Alternator sets , PAC units and comprehensive maintenance of PAC Plants at TE Building, K.K.Nagar, Chennai. (For Two months)(Recall)

## **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 fulfilment 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 undertake 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.

Name of Work :- Providing operation of transformer Substation, Engine Alternator sets , PAC units and comprehensive maintenance of PAC Plants at TE Building, K.K.Nagar, Chennai. (For Two months)(Recall)  
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)

Name of Work: :- Providing operation of transformer Substation, Engine Alternator sets , PAC units and comprehensive maintenance of PAC Plants at TE Building, K.K.Nagar, Chennai. (For Two months)(Recall)

**Schedule of Quantities**

Providing operation of transformer Substation, Engine Alternator sets, PAC units and comprehensive maintenance of PAC Plants at TE Building, K.K.Nagar, Chennai. (For two months)

| 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 round the clock operation of following services as per details given in the relevant sections by deploying a total of 3 person per day and by arranging required tools and plants etc to keep all services operational required up to standards.<br>a.Package AC, [3 x 7TR], Broadband (G floor)<br>b.Package AC, [5 x 7TR], OCB(1st floor)<br>c.Package AC, [5 x 7TR], Transmission (1 st Floor)<br>d.Package AC, [5 x 7TR], GSM (2nd Floor)<br>e.Package AC, [4 x 7TR], EWSD (3rd Floor)<br>f. Substation<br>g. DG sets<br>h. Monitoring of Alarm in power plants and informing the same to the concerned SDE incharge etc. | 2 Months | Month |                      |        |               |        |               |        |               |                          |                            |                            |               |

Name of Work: :- Providing operation of transformer Substation, Engine Alternator sets , PAC units and comprehensive maintenance of PAC Plants at TE Building, K.K.Nagar, Chennai. (For Two months)(Recall)

|   |                                                                                                                                                                                                                                                                                       |             |       |  |  |  |  |  |  |  |  |  |  |  |
|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------|--|--|--|--|--|--|--|--|--|--|--|
| 2 | Carrying out comprehensive maintenance of following PAC Plants as per details given in the relevant sections by deploying the required staff including specialized manpower and by arranging required tools and plants etc to keep all services operational required up to standards. |             |       |  |  |  |  |  |  |  |  |  |  |  |
|   | a.Package AC, [3 x 7TR], Broadband (G floor)                                                                                                                                                                                                                                          | 2<br>Months | Month |  |  |  |  |  |  |  |  |  |  |  |
|   | b.Package AC, [5 x 7TR], OCB(1st floor)                                                                                                                                                                                                                                               | 2<br>Months | Month |  |  |  |  |  |  |  |  |  |  |  |
|   | c.Package AC, [2 x 7TR], Transmission (1 st Floor)                                                                                                                                                                                                                                    | 2<br>Months | Month |  |  |  |  |  |  |  |  |  |  |  |
|   | d.Package AC, [3 x 7TR], Transmission (1 st Floor)                                                                                                                                                                                                                                    | 2<br>Months | Month |  |  |  |  |  |  |  |  |  |  |  |
|   | e.Package AC, [5 x 7TR], GSM (2nd Floor)                                                                                                                                                                                                                                              | 2<br>Months | Month |  |  |  |  |  |  |  |  |  |  |  |
|   | f.Package AC, [4 x 7TR], EWSD (3rd Floor)                                                                                                                                                                                                                                             | 2<br>Months | Month |  |  |  |  |  |  |  |  |  |  |  |
|   |                                                                                                                                                                                                                                                                                       |             |       |  |  |  |  |  |  |  |  |  |  |  |
|   | Note: The Agency shall Engage the C license holder personal when need to operate/work with the HT installations                                                                                                                                                                       |             |       |  |  |  |  |  |  |  |  |  |  |  |
|   | Total for item no 1 & 2                                                                                                                                                                                                                                                               |             |       |  |  |  |  |  |  |  |  |  |  |  |

Name of Work: :- Providing operation of transformer Substation, Engine Alternator sets , PAC units and comprehensive maintenance of PAC Plants at TE Building, K.K.Nagar, Chennai. (For Two months)(Recall)

|                                                                                                                                                                                                                                |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Important Note:</b>                                                                                                                                                                                                         |
| 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 <b>of Nett cost to BSNL</b> on the prices offered inclusive of packing, forwarding, freight and insurance charges etc., <b>but excluding GST</b> . |
| 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.                                                                                                                                         |
| The agency shall make payment as per extant minimum wages. They shall make the payment online or through bank and shall produce proof of payment along with every bill.                                                        |

**Contractor**

**Executive Engineer(E)**

Name of Work :- Providing operation of transformer Substation, Engine Alternator sets , PAC units and comprehensive maintenance of PAC Plants at TE Building, K.K.Nagar, Chennai. (For Two months)(Recall)

### **SPECIFICATIONS FOR WORK**

#### **A. GENERAL**

##### **1.0 SCOPE**

1.1 Operation and maintenance of electrical services Technical/ Administrative/ Residential Building(s) as applicable in this contract means that all Electro Mechanical Services included in the schedule of work are kept in clean and working condition. Specific details of activities required with regard to each service are detailed under sections pertaining to those service/technical specifications.

1.2 Operation and maintenance of services shall be carried out as per instructions contained herein. All documents to be used shall be as per works instructions / forms & checklists, proforma schedules etc., forming part of the agreement and that are issued by from time to time. Services under operation shall be generally maintained clean.

1.3 Watch and ward of the installation under Operation shall be the responsibility of the contractor during contract period.

1.4 After the contract period is over the installation has to be duly handed over to the new agency along with the record of test results of equipments & associated items, under supervision of SDE (E)/JTO (E) in charge.

#### **3. METHODOLOGY**

2.1 It is presumed that contractor will provide minimum qualified staff at the site, which will be adequate to perform routine operational functions. For optimum utilization one person can be responsible for number of services. Also operation staff has to be available round the clock, even on holidays. However, strength may vary during day and night shifts. Scheme for staff employed shall be got approved by the Engineer-in-charge. Wherever the shifts/strength is indicated elsewhere in the specifications, the same shall be binding on the firm.

2.2 At the start of work, firm shall prepare an inventory of service under operation jointly with J.T.O (E)/SDE(E), concerned.

2.3 Before start of the work complete equipments/services under scope of operation/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. Based on the type of preceding contract, the Defects/discrepancies agreed upon by BSNL shall be got attended by the outgoing agency or by BSNL itself. Since the material for maintenance/breakdown are to be separately measured, agency shall maintain a record of breakdown and carryout urgent works upon information to SDE(E)/JTO(E). For items not covered in the schedule of work depending upon the necessity and requirements, agency shall carryout the same under specific instructions of SDE(E)/JTO(E).

2.4 A complaint / fault Register as per annexure 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 annexures.

2.6 If during the period of contract, any of the equipment(s) are added/ altered, the operation of those equipments/ services shall be done by the agency at no extra cost except for the situation where deployment of additional staff is required on permanent basis to manage operation. Seminary in case of deletion of any of the equipment, no recovery shall be made except for the situation when strength of operator on shifts on daily basis is reduced.

##### **3.0 OPERATION PERSONNEL**

Three Electrician (skilled labour) per day.

Name of Work: :- Providing operation of transformer Substation, Engine Alternator sets , PAC units and comprehensive maintenance of PAC Plants at TE Building, K.K.Nagar, Chennai. (For Two months)(Recall)

3.1 The operating staff has to be available round the clock throughout the month even on holidays. Since the firm will be doing the operation of critical services such as Substation and standby genset, responsible & trained person(s) placed at site, should be able to take initial steps under emergency situation.

3.2 The operating staff shall also monitor the working of the DC power plants and should inform the alarm status to the concerned exchange incharge.

3.3 Agency shall issue identity cards to the workers and a list of personnel employed together with the copies of such identity cards should be submitted to SDE (E)/JTO (E) concerned. Before being posted at site police should be informed about the personnel and a copy of the intimation shall be submitted to SDE (E).

3.4 The workers engaged by firm should maintain proper discipline and good behaviour with occupants. The firm shall remove such workers from the site whose behaviour is found improper. Engineer – in – Charge's decision shall be final and binding.

3.5 The firm has to supply details of all the workers likely to be engaged by it before start of the work.

3.6 The sitting arrangement for the staff engaged by the agency, space, water, telephone and electricity shall be made available by BSNL free of cost.

3.7 Provision of Supervisor shall also be made as per standard form of contract (EW8) which forms the part of this contract.

#### 4.0 DAMAGES TO BSNL INSTALLATION:

4.1 Any damage to the installation(s)/building during the period of contract due to the carelessness on the part of staff shall be the responsibility of firm. Firm is liable to be penalized for careless as per relevant penalty clauses.

4.2 Any accident or damage during /operation will be the responsibility of the firm/contractor & the Department 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.

#### 5.0 CURRENCY OF CONTRACT:

5.1 The currency of contract shall be 60 days. The Department 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.

5.2 The Department reserves the right to extend the contract for a maximum period of 15 days at the same rates & conditions, without the consent of the firm and beyond this period with mutual consent.

#### 6.0 TERMINATION OF CONTRACT:

6.1 Right is reserved by BSNL for terminating the contract due to serious default. This includes major break down or accident or loss due to negligence on the part of firm or their workers, disobedience and abandoning the site etc. In such a case, Full Performance Guarantee shall be forfeited to BSNL. The Decision of the Engineer in charge in this regard shall be final and binding.

6.2 Right is reserved by BSNL for closure of the contract at any time by giving one month's notice for reasons not attributed to the Contractor. The Decision of the Engineer incharge shall be final and binding on the contractor for closure of contract and for which BSNL shall not entertain any claim.

#### 7 PENALTY FOR DEFICIENCY IN SERVICE:

(a) In case of major accident/ loss on account of negligence on part of the contractor, the contract shall be terminated and 10% (ten percent) of the tendered amount shall be recovered. Decision of the Engineer in charge shall be final and binding on the contractor.

(b) Contractor shall be responsible to ensure proper working of PF Capacitor panel and that the power factor is maintained within 0.90 lag-.95 lag. Any penalty on this account levied by Supply Company (attributed to the wrong setting in APFC relay/ faults in capacitor panel not brought to the notice of the JTO(E)/SDE(E) in writing) shall be recovered from the agency with an additional penalty of Rs.1000/- per occasion. However in case of inadequacy of the capacitor bank at the time of taking over or due to

Name of Work: :- Providing operation of transformer Substation, Engine Alternator sets , PAC units and comprehensive maintenance of PAC Plants at TE Building, K.K.Nagar, Chennai. (For Two months)(Recall) addition of any services / Load during period of contract, the extra requirement shall be met out departmentally.

(c) In case of absence of worker from the duty/site where operation is carried out, penalty shall be made @ Rs. 500/- per day per person per shift. (Staff employed of less than the prescribed qualifications shall be treated as absent). The Decision of the Engineer incharge shall be final & binding.

(d) If the performance is found to be unsatisfactory (Such as non-recording of data, continuous non availability of staff at site, not informing in writing to the SDE(E)/JTO(E) the faults and/or defects requiring maintenance activity in time etc.,) noticed by the Officers during their site visits / test checks, penalty upto 5% of one month's bill for that service for that site shall be recovered. This is in addition to the penalty for specific deficiencies as per Clause(s) above.

(e) Notwithstanding the compensation clause described above, BSNL reserves the right to take necessary steps for operation of the installation at the risk and cost of the contractor within a day's notice or as decided by the E-in-C, depending upon the graveness of the situation. BSNL also reserves the right to levy additional penalties, wherever deficiency in the work carried out by the firm results in loss to BSNL.

#### 8 GENERAL CONDITIONS:

8.1 The contractor has to keep all the equipments under operation and site neat and clean to avoid any accident and or fire hazards.

8.2 The contractor shall not sublet the work or part thereof. However, services of specialized agencies for specific work can be obtained.

8.3 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.

#### 9 0 TEST CHECK BY THE FIELD ENGINEERS:

9.1 For the purpose of assessing the quality of service rendered by the firm against the above contract, the EE,SDE & JTO shall carryout inspection & test checks of the service/work under the contract periodically.

9.2 During these test checks they shall record any deficiency in the work. As per the principle of sampling, if service during sample test check is not found to be satisfactory, then penalty shall be imposed on the contractor as per the penalty clause no. 7.

#### I- ENERGY CONSERVATION

10.1 BSNL Electrical Wing, Chennai Telephones is committed to reduction in energy bills by the way of energy conservation over a year by 5%. The contractor shall continuously monitor & coordinate in energy conservation to save energy bills which includes suitable testing using energy monitoring instruments etc.,

10.2 The contractors are responsible for display of Energy conservation slogan stickers at prominent locations in the area under maintenance.

10.3 The firm shall follow energy conservation measures in respect of the services being maintained by him as when the same is issued.

Name of Work: :- Providing operation of transformer Substation, Engine Alternator sets , PAC units and comprehensive maintenance of PAC Plants at TE Building, K.K.Nagar, Chennai. (For Two months)(Recall)

### **INVENTORY DETAILS of PAC Unit**

| <b>Capacity of Plant</b>                        | <b>Location</b>           | <b>Year of Installation</b> | <b>Make</b>   |
|-------------------------------------------------|---------------------------|-----------------------------|---------------|
| a.Package AC, [3 x 7TR],<br>Broadband (G floor) | Broadband (G floor)       | 2010                        | Fedders Lloyd |
| b.Package AC, [5 x 7TR],                        | OCB(1st floor)TXM         | 2008                        | Fedders Lloyd |
| c.Package AC, [2 x 7TR],                        | Transmission (1 st Floor) | 2005                        | Sidwal        |
| d.Package AC, [3 x 7TR],                        | Transmission (1 st Floor) | 2010                        | Fedders Lloyd |
| e.Package AC, [5 x 7TR],                        | GSM (2nd Floor)           | 2005                        | Sidwal        |
| f.Package AC, [4 x 7TR],                        | EWSD (3rd Floor)          | 2008                        | Fedders Lloyd |

### **INVENTORY DETAILS of Substation & EA set**

| <b>Equipment</b>                                     | <b>Year of Installation</b> | <b>Make</b>       |
|------------------------------------------------------|-----------------------------|-------------------|
| 500KVA, 11KV/433V,<br>Indoor Transformer oil<br>type | 1999                        | Alsotham          |
| 750KVA, 11KV/433V,<br>Indoor Transformer oil<br>type | 2014                        | Kirloskar         |
| 630KVA, 11KV/433V,<br>Indoor Transformer oil<br>type | 2005                        | Kirloskar         |
| 1250KVA EA set-I                                     | 2010                        | Cummins- Stamford |
| 750KVA EA set-II                                     | 2017                        | KOEL- LEROY SOMER |

Name of Work: :- Providing operation of transformer Substation, Engine Alternator sets , PAC units and comprehensive maintenance of PAC Plants at TE Building, K.K.Nagar, Chennai. (For Two months)(Recall)

**COMPLAINT REGISTER**

**Annexure-I**

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

Name of Work: :- Providing operation of transformer Substation, Engine Alternator sets , PAC units and comprehensive maintenance of PAC Plants at TE Building, K.K.Nagar, Chennai. (For Two months)(Recall)

## **ANNEXURE II**

### **LOG BOOK FOR SUBSTATION**

The front cover of the log book shall indicate

**Name of work:**

**Name of contractor:**

1(a) Each page shall contain in one side the following table for recording data

DATE: \_\_\_\_\_

| Time  | HT PANEL   |            |             | TRANSFORMER 1 |            |    |    |            |    |    | TRANSFORMER 2             | POWER MEASUREMENT |      |        |     | SIGN OF OPERATOR | SIGN OF EXCHANGE STAFF |
|-------|------------|------------|-------------|---------------|------------|----|----|------------|----|----|---------------------------|-------------------|------|--------|-----|------------------|------------------------|
|       | HT VOLTAGE | HT CURRENT | MD RECORDED | HT Current    | LT Voltage |    |    | LT Current |    |    | Temperature               | KWH               | KVAH | KVAR H | P F |                  |                        |
|       |            |            |             |               | RY         | YB | BR | RY         | YB | BR |                           |                   |      |        |     |                  |                        |
| 10.00 |            |            |             |               |            |    |    |            |    |    | Same as for transformer 1 |                   |      |        |     |                  |                        |
| 12.00 |            |            |             |               |            |    |    |            |    |    |                           |                   |      |        |     |                  |                        |
|       |            |            |             |               |            |    |    |            |    |    |                           |                   |      |        |     |                  |                        |
|       |            |            |             |               |            |    |    |            |    |    |                           |                   |      |        |     |                  |                        |

# 1. READINGS SHALL BE TAKEN EVERY TWO HOURS UNLESS OTHERWISE SPECIFIED

1. THE ABOVE IS GENERIC COLOUMNS AND ANY OTHER COLOUMNS/DATA COLLECTION SPECIFIC TO SITE SHALL ALSO BE RECORDED IF INSTRUCTED BY SDE(E)

Name of Work: :- Providing operation of transformer Substation, Engine Alternator sets , PAC units and comprehensive maintenance of PAC Plants at TE Building, K.K.Nagar, Chennai. (For Two months)(Recall)

ANNEXURE III

LOG BOOK FOR E/A SET AT \_\_\_\_\_

Name of work:  
Name of contractor:

LOG BOOK FOR EA SET RUNNING OR THE MONTH OF

| Date | E/A<br>set<br>No. | Start<br>time | Stop<br>time | Voltage |    |    | Load<br>Current |   |   | F<br>r<br>e<br>q | Spe<br>ed | L<br>u<br>b<br>o<br>i<br>l<br>T<br>e<br>m<br>p | Lu<br>b<br>o<br>i<br>l<br>Pr. | Water<br>Temp | Diesel<br>level<br>Ltrs |                  | KWH                   |                  |
|------|-------------------|---------------|--------------|---------|----|----|-----------------|---|---|------------------|-----------|------------------------------------------------|-------------------------------|---------------|-------------------------|------------------|-----------------------|------------------|
|      |                   | Hrs           | Hrs          | RY      | YB | BR | R               | Y | B | Hz               | RP<br>M   |                                                | Kg/<br>cm<br>2                |               | S<br>t<br>a<br>r<br>t   | S<br>t<br>o<br>p | S<br>t<br>a<br>r<br>t | S<br>t<br>o<br>p |
|      |                   |               |              |         |    |    |                 |   |   |                  |           |                                                |                               |               |                         |                  |                       |                  |
|      |                   |               |              |         |    |    |                 |   |   |                  |           |                                                |                               |               |                         |                  |                       |                  |
|      |                   |               |              |         |    |    |                 |   |   |                  |           |                                                |                               |               |                         |                  |                       |                  |
|      |                   |               |              |         |    |    |                 |   |   |                  |           |                                                |                               |               |                         |                  |                       |                  |
|      |                   |               |              |         |    |    |                 |   |   |                  |           |                                                |                               |               |                         |                  |                       |                  |
|      |                   |               |              |         |    |    |                 |   |   |                  |           |                                                |                               |               |                         |                  |                       |                  |

Name of Work: :- Providing operation of transformer Substation, Engine Alternator sets , PAC units and comprehensive maintenance of PAC Plants at TE Building, K.K.Nagar, Chennai. (For Two months)(Recall)

**PAC plant LOG BOOK**

**ANNEXURE-IV**

|                                            |                       |                   |                    |                               |                     |                        |                            |    |                               |       |               |                                    |              |                                                                                        |                          |                               |                                  |             |                           |               |             |      |                      |              |
|--------------------------------------------|-----------------------|-------------------|--------------------|-------------------------------|---------------------|------------------------|----------------------------|----|-------------------------------|-------|---------------|------------------------------------|--------------|----------------------------------------------------------------------------------------|--------------------------|-------------------------------|----------------------------------|-------------|---------------------------|---------------|-------------|------|----------------------|--------------|
| 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:<br>(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<br>o<br>l<br>t<br>s | Total<br>Amp<br>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                  |                        |                            |    |                               |       |               |                                    |              |                                                                                        |                          |                               |                                  |             |                           |               |             |      |                      |              |
|                                            |                       |                   | D<br>B             | W<br>B                        | D<br>B              | W<br>B                 | DB                         | WB | DB                            | WB    | DB            | WB                                 | DB           | WB                                                                                     |                          |                               | Co<br>mp<br>-I                   | Com<br>p-II | Amp<br>s                  | Comp-I        | Com<br>p-II | Amps |                      |              |
|                                            |                       |                   |                    |                               |                     |                        |                            |    |                               |       |               |                                    |              |                                                                                        |                          |                               |                                  |             |                           |               |             |      |                      |              |
|                                            |                       |                   |                    |                               |                     |                        |                            |    |                               |       |               |                                    |              |                                                                                        |                          |                               |                                  |             |                           |               |             |      |                      |              |
|                                            |                       |                   |                    |                               |                     |                        |                            |    |                               |       |               |                                    |              |                                                                                        |                          |                               |                                  |             |                           |               |             |      |                      |              |
|                                            |                       |                   |                    |                               |                     |                        |                            |    |                               |       |               |                                    |              |                                                                                        |                          |                               |                                  |             |                           |               |             |      |                      |              |
|                                            |                       |                   |                    |                               |                     |                        |                            |    |                               |       |               |                                    |              |                                                                                        |                          |                               |                                  |             |                           |               |             |      |                      |              |
| <b>Measured CFM for units in Operation</b> |                       |                   |                    |                               |                     |                        | <b>FAULT STATUS</b>        |    |                               |       |               |                                    |              |                                                                                        |                          |                               |                                  |             |                           |               |             |      |                      |              |
| (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.                                   |                       |                   | CF<br>M            |                               | Hrs                 |                        |                            |    |                               |       |               |                                    |              |                                                                                        |                          |                               |                                  |             |                           |               |             |      |                      |              |
| Unit No.                                   |                       |                   | CF<br>M            |                               |                     |                        |                            |    |                               |       |               |                                    |              |                                                                                        |                          |                               |                                  |             |                           |               |             |      |                      |              |

Signature of JTO(E) with remarks

Signature of SDE(E) with remarks

Contractor

EE(E)

Name of Work :- Providing operation of transformer Substation, Engine Alternator sets , PAC units and comprehensive maintenance of PAC Plants at TE Building, K.K.Nagar, Chennai. (For Two months)(Recall)

**Annexure-V**  
**Capacity Test-Monthly**

**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<br>$\frac{\text{Cfm} \times \text{Enthalpy diff}}{200 \times \text{Sp.Volume}}$        |         |                                            |
| 12.   | <b>Observed Tonnage</b>                                                                               |         |                                            |
|       | <b>a) Sensible Cooling Capacity</b><br>$\frac{1.08 \times \text{Cfm} \times \text{Temp Diff}}{12000}$ |         |                                            |
|       | <b>b) Latent Cooling capacity</b><br>(Total capacity – sensible cooling)                              |         |                                            |
| 13.   | <b>Evaluated tonnage at design conditions</b>                                                         |         | To be evaluated by the Engineer-in-Charge. |
|       | <b>a) Sensible Cooling capacity</b>                                                                   |         |                                            |
|       | <b>b) Latent Cooling capacity</b>                                                                     |         |                                            |

**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)**

Contractor

EE(E)

Name of Work :- Providing operation of transformer Substation, Engine Alternator sets , PAC units and comprehensive maintenance of PAC Plants at TE Building, K.K.Nagar, Chennai. (For Two months)(Recall)

## **ANNEXURE-VI**

### **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                                                                                                                                                                   |       | X      |         |           |        |

Name of Work: :- Providing operation of transformer Substation, Engine Alternator sets , PAC units and comprehensive maintenance of PAC Plants at TE Building, K.K.Nagar, Chennai. (For Two months)(Recall)

|    |                                                                                                                                                                                                                          |  |   |   |   |   |
|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---|---|---|---|
|    | wherever applicable                                                                                                                                                                                                      |  |   |   |   |   |
| 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 platform/stand and fans i/c painting all the external parts listed as above Preferably before monsoon. |  |   |   |   | X |

Name of Work :- Providing operation of transformer Substation, Engine Alternator sets , PAC units and comprehensive maintenance of PAC Plants at TE Building, K.K.Nagar, Chennai. (For Two months)(Recall)

LIST OF APPROVED MAKES-BSNLELECTRICAL WING

| 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) Above 400 KVA | 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 /                                                                                            |

Name of Work: :- Providing operation of transformer Substation, Engine Alternator sets , PAC units and comprehensive maintenance of PAC Plants at TE Building, K.K.Nagar, Chennai. (For Two months)(Recall)

|    |                                   |                                                                                                                             |
|----|-----------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| 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.
3. Any additional makes may be approved by concerned PCEs/Sr CEs/CEs(Elect) for the work under his jurisdiction as already accorded vide letter no. 3-2-5/EW/VEP-1/2007 dated 05-07-2007.

Name of Work :- Providing operation of transformer Substation, Engine Alternator sets , PAC units and comprehensive maintenance of PAC Plants at TE Building, K.K.Nagar, Chennai. (For Two months)(Recall)

### **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.

Name of Work :- Providing operation of transformer Substation, Engine Alternator sets , PAC units and comprehensive maintenance of PAC Plants at TE Building, K.K.Nagar, Chennai. (For Two months)(Recall)

### **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  
Chennai

EE (E), Electrical Circle -II,

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

10% (TEN)

#### **CLAUSE 5**

Time allowed for execution

**Two 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.

Name of Work: :- Providing operation of transformer Substation, Engine Alternator sets , PAC units and comprehensive maintenance of PAC Plants at TE Building, K.K.Nagar, Chennai. (For Two months)(Recall)

**BSNL EW-8**  
**Bharat Sanchar Nigam Limited**  
**Electrical Wing**

Electrical Division: I, Chennai

Sub Division: III, **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 there from 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.

Name of Work :- Providing operation of transformer Substation, Engine Alternator sets , PAC units and comprehensive maintenance of PAC Plants at TE Building, K.K.Nagar, Chennai. (For Two months)(Recall)

|                                                                                                                                                          |                                                                                                                              |
|----------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| <p>Signature of Witness (required in the case of bidder's thumb impression is given by the bidder in place of signature)<br/>Occupation of Witness :</p> | <p>(Signature of bidder )<br/>(Name &amp; Postal address)</p> <p style="text-align: center;">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 :