

Name of work: Operation and Comprehensive maintenance of Electromechanical services at Telephone Exchange, Flower Bazaar, Chennai (for the year 2021-23) (for 24 months)



**Bharat Sanchar Nigam Limited
(Electrical Wing)**

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

Name of work: Operation and Comprehensive maintenance of Electromechanical services at Telephone Exchange, Flower Bazaar, Chennai (for the year 2021-23) (for 24 months)

NIT No: 35 / EEE/ED-I/CH/2021-22

This tender document contains **59 (fifty nine)** pages only.

For E Tender Help Desk of M/s ITI Limited. Tel.No.011 49424365; Mail Id : twhelpdesk680@gmail.com,
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INFORMATION AND INSTRUCTIONS FOR BIDDERS FOR E-TENDERING FORMING PART OF NIT AND TO BE POSTED ON WEBSITE

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

| | | |
|----|---|---|
| 1 | Name of work | “Operation and comprehensive maintenance of Electromechanical services at Telephone Exchange, Flower Bazaar, Chennai (for the year 2021-23) (for 24 months)” |
| 2 | Estimated cost put to tender | Rs. 39,78,733/- (Excluding GST) |
| 3 | Earnest Money (Rs.) | <i>Nil. However undertaking as per Annexure-IIA to be submitted.</i> |
| 4 | Period of completion | Twenty four months |
| 5 | Last date & time for downloading of tender document by bidder | Up to 14:55 Hrs. on 17 -09 -2021 |
| 6 | Last date & time for online submission of tender | Up to 15:00 Hrs. on 17- 09 -2021 |
| 7 | Last date & time for submission of original Tender cost and EMD | Up to 15:00 Hrs. on 17 -09 -2021 |
| 8 | Date and time for opening of tender | 15:30 Hrs. on 17 -09 -2021 |
| 9 | Tender cost (Non refundable) | Rs.1000/- (+) GST 18% |
| 10 | E-tender Processing fee (Non refundable) | 0.05% of estimate cost subject to the minimum of Rs.500 and Maximum of Rs. 5000 plus GST |

(a) Financial Norms:

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

(b) Physical Norms:

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

(OR)

2) Experience of having successfully completed similar works in BSNL comprising of substation 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: 1. Agency participating in the tender shall have a valid HT license.

2. The estimated cost of one year shall be considered to evaluate the eligibility criteria. **Similar work means operation and Maintenance of Electrical Installations comprising of HT substation**

IMPORTANT NOTE:

1. The self-attested copies of the following documents shall be scanned and uploaded to the e-tendering website within the period of tender submission. Online bid documents submitted by intending bidders shall be opened, only of those bidders, who have scanned and uploaded the following documents (and whose uploaded documents are found to be in order), otherwise the bid will not be opened and shall lead to disqualification.
 - a. Tender Fee in the prescribed format
 - b. EMD in the prescribed format
 - c. Certificate of Financial Turnover from Chartered Accountant
 - 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. Valid Electrical license issued by licensing authority, Govt. of Tamil Nadu**
 - g. GST Registration Number Details
 - h. PAN Card
 - i. EPF and ESI Registration certificate (if applicable)
 - j. Undertaking to abide by EW-6 and EW-8 (Form 'A')
 - k. Undertaking regarding EPF and ESI provisions (Form 'B')
 - l. Certificate of work experience issued by client department (Form 'C') if applicable
 - m. Undertaking regarding No Near relative working certificate (Form 'D')

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

2. The Physical Tender Fee, EMD shall be deposited in the tender box available in the office of tender opening authority, by the bidder before 3:00 PM on the tender opening date, failing which the tender shall not be opened.

BSNL EW-6
Bharat Sanchar Nigam Limited
Electrical Wing

Electrical Division: ED-I, Chennai

Sub Division: VI, Chennai

Item rate tenders on single bid system are invited on behalf of CMD,BSNL for the work **“Operation and comprehensive maintenance of Electromechanical services at Telephone Exchange, Flower Bazaar, Chennai (for the year 2021-23) (for 24 months).”** 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. 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.
2. The work is estimated to cost **Rs. 39,78,733/- (Excluding GST)** This estimate, however, is given merely as a rough guide.
3. 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.
4. The time allowed for carrying out the work will be **Twenty Four months** from the 10th day after the date of written order to commence the work.
5. 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.
6. The bid documents consisting of plans, specifications, the schedule of quantities of various types of items to be executed and the set of terms and conditions of the contract to be complied with and other necessary documents can be seen and downloaded from website www.tenderwizard.com/BSNL at free of cost. The BSNL EW-8 document can be seen from the web site www.chennai.bsnl.co.in at free of cost.
7. After submission of the bid, the bidder can re-submit revised bid any number of times but before last time and date of submission of tender as notified. While submitting the revised bid, bidder can revise the rate of one or more item(s) any number of times (he need not re-enter rate of all the items) but before last time and date of submission of tender as notified.
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 shall be scanned & uploaded in the e-tendering website within the period of tender submission. The validity of the tender cost in the form of DD shall be **60 days** from the date of opening.
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 shall be scanned & uploaded in the e-tendering website within the period of tender submission. The validity of the EMD in the form of DD shall be 60 days from the date of opening. If the EMD is in the form of CDR/FDR/BG, the validity shall be 180 days from the date of opening. In case of L1 bidder, the validity of CDR/FDR/BG is to be extended up to the observation period as that of the Performance guarantee / Security deposit.~~
10. The Physical **TENDER COST** and **EMD** of which the scanned copy is uploaded shall be deposited by all the bidders before 15.00hrs on the tender opening date, failing which the tender shall not be opened.
11. Interested bidder who wishes to participate in the bid shall pay the e-tender processing fee to M/s. ITI Limited through their e-gateway by credit / debit card / internet banking / RTGS / NEFT facility.
12. All the documents as specified in the tender document shall be scanned and uploaded to the e-Tendering website within the period of bid submission.

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13. Online bid documents submitted by intending bidders shall be opened only of those bidders, who have deposited e-Tender Processing Fee with M/s ITI Limited and Earnest Money Deposit and other documents fulfilling eligibility criteria, scanned and uploaded are found in order.
14. The last date for online submission of bid is **17 -09 -2021 up to 15.00hrs** and the bid submitted shall be opened at **15:30hrs on 17 -09 -2021**. If a holiday is declared on the tender opening day, the tender will be opened on the next working day.
15. The e-Tender processing fee is non-refundable.
16. **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.**
17. **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.~~**
18. In case any discrepancy is noticed in the documents as uploaded at the time of submission of the bid online, then the bid submitted shall become invalid and the BSNL shall, without prejudice to any other right or remedy, be at liberty to forfeit 50% of the said earnest money as aforesaid. Further, the bidder shall not be allowed to participate in the retendering process of the work.
19. 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.
20. The competent authority on behalf of the CMD does not bind itself to accept the lowest or any other tender and reserves to itself 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.
21. 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.
22. 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.

23. 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.
24. 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.
25. The agency has to comply with the provisions of EPF and miscellaneous provisions Act-1952 and employees provident fund scheme-1952 as amended up to date in respect of labours/employees engaged by them for this work. Any consequence arising due to non-complying of provisions as specified above shall be the sole responsibility of the firm only. The agency shall give an undertaking to this effect as per **Form 'B'**.
26. **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.
27. 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.
28. This notice inviting tender shall form a part of the contract document. The successful bidder, on acceptance of his tender by the Accepting Authority shall within 15 days from the stipulated date of start of the work, sign the contract consisting of:-

- a. The Notice Inviting Tender, all the documents including additional conditions, specifications and drawings, if any, forming part of the tender as uploaded at the time of invitation of tender, subsequent amendments issued and the rates quoted online at the time of submission of bid and acceptance thereof together with any correspondence leading thereto.
- b. Standard BSNL EW-8 form.

GENERAL INSTRUCTIONS TO THE BIDDERS

1. The intending bidder must read the terms and conditions of BSNL-EW 6 carefully. He should only submit his bid, if he considers himself eligible and he is in possession of all the documents required.
2. Information and instructions for bidders posted on website shall form part of bid document.
3. Applicants are advised to keep visiting the above mentioned website from time to time (till the deadline for bid submission) for any updates in respect of the tender documents, if any. Failure to do so shall not absolve the applicant of his liabilities to submit the applications complete in all respect including updates thereof, if any. An incomplete application may be liable for rejection.
4. Those bidders not registered on the website mentioned above, are required to get registered themselves beforehand. The intending bidder must have valid class-III digital signature to submit the bid.
5. On opening date, the bidder can login and see the bid opening process. After opening of bids he will receive the competitor bid sheets.
6. Bidder can upload eligibility documents in the form of JPG format or / and PDF format. Documents uploaded in any other format, which could not be opened may result in non opening of the bids.
7. Bidder must ensure to quote rate of each item. The column meant for quoting rate in figures appears in yellow colour. In addition to this, while selecting any of the cells a warning appears that if any cell is left blank the same shall be treated as "0". Therefore, if any cell is left blank and no rate is quoted by the bidder, rate of such item shall be treated as "0" (ZERO)
8. Even though any bidder may satisfy the above requirements, he would be liable to disqualification if he has:
 - a. Made misleading or false representation or deliberately suppressed the information in the forms, statements and enclosures required in the eligibility criteria document.
 - b. Record of poor performance such as abandoning work, not properly completing the contract, or financial failures / weaknesses etc.
9. If any information furnished by the bidder is found incorrect at a later stage, he shall be liable to be debarred from tendering/taking up of works in BSNL. The BSNL reserves the right to verify the particulars furnished by the applicant independently.
10. GST and any other tax applicable in respect of this contract as applicable shall be borne by the bidder himself. The bidder shall quote his rates considering all such taxes. The TDS as per the Govt. regulations will be recovered from the contractor.
11. **Tender Evaluation :**
 - (a) The evaluation and comparison of responsive bids shall be done on the basis of Net cost to BSNL on the prices offered inclusive of packing, forwarding, freight and insurance charges etc., but excluding GST. The bid with lowest net cost as elaborated above will be the L1 bidder.
 - (b) Vendors should furnish the correct GST Rate in the price schedule. If the Input Tax Credit is found to be not admissible at any stage subsequently owing to wrong furnishing of GST Rate, then the vendors will be liable to refund such non-admissible amount, if already paid, along with penalty if charged by the concerned authority.
12. However, pursuant to the constitution (Forty-sixth amendment) act, 1982, if any further tax or levy is imposed by statute, after the last date of receipt of tenders, and the contractors there upon necessarily and properly pays such taxes/ levies, the contractor shall be reimbursed the amount so paid, provided such payment, if any, is not in the opinion of Superintending engineer (whose decision shall be final and

binding) be attributable to delay in execution of work within the control of contractor.

13. The Contractor shall, within a period of 30 days of imposition of any further tax or levy in pursuant to the constitution of (Forty sixth amendment) act 1982 give a written notice thereof to the Engineer-in-charge that the same is given pursuant to this condition, together with all necessary information relating thereto.

14. Bye laws Indemnity against liabilities:

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

15. Termination of contract on death of contractor :

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

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

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

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

Undertaking to abide by EW 6 & EW 8

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

(Seal of the firm)

(Signature of Bidder)

FORM 'B'

Undertaking regarding EPF provisions

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

* I/We have employed only ----- persons in our establishment and hence the EPF and Miscellaneous provisions Act, 1952 are 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 ofResident of
..... hereby give an undertaking that

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

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

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

* strike out whichever is not applicable

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

(Seal of the firm)

(Signature of Bidder)

FORM 'C'

Performance report of works(model form)

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

Dated:

Executive Engineer or Equivalent /above

(Note: The performance certificate given by the organisations shall at least contain the above details for consideration towards eligibility). Submission of work orders/award letters will not be considered.)

FORM 'D'

No Near relative working certificate

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

(Seal of the firm)

(Signature of Bidder)

**MODEL FORM OF BANK GUARANTEE
(For submitting EMD)**

Whereas _____ (hereinafter called "the contractor(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 Contractor(s) withdraws its Tender during the period of Tender validity specified on the Tender Form: or
2. If the Contractor(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

PERFORMANCE SECURITY GUARANTEE BOND

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

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

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

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

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

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

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

Dated the _____ day of _____

for _____ (indicate the name of bank)

Bid Security/EMD DECLARATION (As per the BSNL CO Lr No. BSNL CO-MMT/12(15)/1/2020-MMT dated 05-12-2020)

BID SECURITY / EMD UNDERTAKING & DECLARATION

I / We R/o
And authorized signatory of the firm M/s.(Hereafter referred to as bidder) have read, understood and agree with all the terms and conditions included in the tender documents for participation in the tender of work/supply of

..... vide tender No..... do hereby undertake and declare that:

1. If I/We fail to enter in to the agreement & commence the work in time as per BSNL order.
2. If any loss or damage caused to or would be caused to or suffered by the BSNL by reason of breach by the bidder(s) of any of terms or conditions contained in the said tender document or by reason of the bidder(s) failure to perform the said agreement.

3. If anything is found false and / or incorrect and / or reveals any suppression of fact at any time.

4. if the bidder either registered with body specified by Ministry of Micro, Small & Medium Enterprise or Non MSE bidder claiming any concessional benefits is awarded work by BSNL and subsequently fails to obey any of the contractual obligations.

I hereby undertake that under any/all the above conditions, BSNL reserves the right to debar our tender offer / cancel the LOA/purchase/work order if issued, and to suspend/Debar/Ban for a period of one year from the date of such order/instance. BSNL can debar my/our firm from any further work/contract by BSNL for one year from the date of issue of such order.

In lieu of EMD/Bid Security, this declaration is submitting.

Date:..... Signature of the tenderer.....

Place : Name of tenderer.....
Along with date & Seal

IMPORTANT INSTRUCTIONS TO THE TENDERERS

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

1(i) INCREASE /DECREASE OF TENDERED QUANTITY

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

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

1) CURTAILMENT OF QUANTITY:-

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

2) TERMS OF PAYMENT:

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

3) EPF PROVISIONS:-

The agency has to comply with the provisions of EPF and miscellaneous provisions Act- 1952 and employees provident fund scheme-1952 as amended up to date in respect of labours

/employees engaged by them for this work. Any consequence arising due to non- complying of provisions as specified above shall be the sole responsibility of the firm only.

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

4) STORES AND SAFETY

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

5) CO-ORDINATION AT SITE

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

6) CHANGES IN SPECIFICATIONS

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

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

Or

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

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

7) I.S. Standards:

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

Name of work: Operation and Comprehensive maintenance of Electromechanical services at Telephone Exchange, Flower Bazaar, Chennai (for the year 2021-23) (for 24 months)

| Operation and CMAC of Electromechanical services at Telephone Exchange, Flower Bazaar, Chennai (for the year 2021-23) (for 24 months) | | | | | | | | | | |
|--|---|----------|-------|------|------------------------------|-----------|------------------|-----------|------------------|----------------------------------|
| Sl.no | Description of Items | Qty | Unit | Rate | Total Amount excl. GST | CGST | | SGST | | Total Amount including GST |
| | | | | | | % Rate | Rate per unit | % Rate | Rate per unit | |
| 1 | 2 | 3 | 4 | 5 | 6 = 3x5 | 7 | 8 = 6x7 | 9 | 10 = 6x9 | 11= (6+8+10) |
| | SH-I Operation of Services | | | | | | | | | |
| 1 | Providing operation of the following installations in TE flower bazaar by deploying required manpower as per specifications & carrying out scheduled activities for smooth operation of installation on all working days, including all holidays and by arranging required tools and plants etc to keep all services operational i/c maintaining records, required up to standards complete as per specification etc as reqd. Services a. EI/Fans, Compound Lighting & Pumps b. Precision Package AC units (5 x 7TR - OCB & 5 x 7TR - GSM, Only monitoring) c. 500 KVA EA set -4 Nos d. Substation 2x 500 KVA & 2 x 750 KVA e. Monitoring of Power plant alarms & reporting the status to the SDE In charge | 24months | month | | | | | | | |
| | SH- II Comprehensive Maintenance of Transformer substation & EA set | | | | | | | | | |

Name of work: Operation and Comprehensive maintenance of Electromechanical services at Telephone Exchange, Flower Bazaar, Chennai (for the year 2021-23) (for 24 months)

| | | | | | | | | | | |
|---|---|----------|-------|--|--|--|--|--|--|--|
| 1 | Comprehensive maintenance of the following Transformers along with HT / LT panels, switch gears, starter boxes, SFUs i/c arranging specialised manpower and materials for replacement of faulty components, attending to faults, and carrying out periodical checks as per maintenance schedule etc as required. | | | | | | | | | |
| a | (2x750KVA) + (2x500KVA) Transformers | 24months | month | | | | | | | |
| b | 4x500KVA EA set | 24months | month | | | | | | | |
| | <p>Note: The contract is for the comprehensive maintenance as such the firm shall arrange all materials at his own cost including Rewinding of Transformers replacement of ACB'S & MCCB's</p> <p>(1) Oil filtration of Transformers / BOCB's / PT's and Calibration of Protection / instrumentation relays shall be carried out once during the contract period preferably on completion of 12 months.</p> <p>(2) Oil servicing of EA sets including replacement of Lub oil and all filters of the EA set shall be carried out twice in the contract period.</p> | | | | | | | | | |
| | SH- III Comprehensive Maintenance of pumps | | | | | | | | | |

Name of work: Operation and Comprehensive maintenance of Electromechanical services at Telephone Exchange, Flower Bazaar, Chennai (for the year 2021-23) (for 24 months)

| | | | | | | | | | | |
|---|---|----------|-------|--|--|--|--|--|--|--|
| 1 | Comprehensive maintenance of the following pump sets along with starter boxes, SFUs i/c arranging specialised manpower and materials for replacement of faulty components, attending to faults, and carrying out periodical checks as per maintenance schedule etc as required. , Lifting the existing pipes from existing open well/ bore well transportation, reinstallation, servicing, replacement of minor items such as bearings/bushes/spares, terminal plates, glands, rewinding of motors, etc shall also be covered in this item. | | | | | | | | | |
| a | 10HP water supply pump - 4Nos | 24months | month | | | | | | | |
| b | 5HP sump pump - 2 Nos | 24months | month | | | | | | | |
| c | 1HP sump pump - 1No | 24months | month | | | | | | | |
| d | 1HP Bore well pump - 1No | 24months | month | | | | | | | |
| | SH- III Misc Items | | | | | | | | | |
| 1 | Supplying of following materials / accessories in the existing Lamp Fitting, Fan, switch board, compound light pole, MCB DB, LT Panel, for attending the daily faults received from the various offices occupied in the building etc on all the seven days a week including removing the faulty components and replacing with new items shall be done by labours provided in SH-I etc as required. | | | | | | | | | |
| | <i>Note: These item shall be replaced only if the items under maintenance becomes faulty & with the consent of EE (E) /SDE(E) / JTO(E).</i> | | | | | | | | | |
| a | 36W Fl. Tubes | 600 Nos | each | | | | | | | |
| b | Electronic Ballast suitable for 36/40 W Fl.Tube | 100 Nos | each | | | | | | | |

Name of work: Operation and Comprehensive maintenance of Electromechanical services at Telephone Exchange, Flower Bazaar, Chennai (for the year 2021-23) (for 24 months)

| | | | | | | | | | | |
|---|--|---------|------|--|--|--|--|--|--|--|
| c | Starters for FL. Fittings | 300 Nos | each | | | | | | | |
| d | Side holder for Fl. Fittings | 40 Nos | each | | | | | | | |
| e | 2.5 mfd capacitor for ceiling fan | 50 Nos | each | | | | | | | |
| f | Replacing of bearings including greasing in the Ceiling/ Wall mounting fan | 40 Nos | each | | | | | | | |
| g | Rewinding of faulty winding in the Ceiling/ Wall mounting /pedestal fan | 20 Nos | each | | | | | | | |
| h | Rewinding of winding in the Exhaust fan etc as required. | 5 Nos | each | | | | | | | |
| i | 5/6 Amps Piano type switch | 25 Nos | each | | | | | | | |
| j | 3 pin 5/6 Amps socket outlet | 10 Nos | each | | | | | | | |
| k | 15/16 Amps Piano type switch | 5 Nos | each | | | | | | | |
| l | 6 pin 15/16 Amps socket outlet | 10 Nos | each | | | | | | | |
| m | 5A Ceiling Rose | 10 Nos | each | | | | | | | |
| n | Step type electronic Fan Regulator | 10 Nos | each | | | | | | | |
| o | 5-32 A Single Pole C series MCB | 10 Nos | each | | | | | | | |
| p | 5-32 A Double Pole C series MCB | 5 Nos | each | | | | | | | |
| q | 40A Double Pole Isolator | 3 Nos | each | | | | | | | |

Name of work: Operation and Comprehensive maintenance of Electromechanical services at Telephone Exchange, Flower Bazaar, Chennai (for the year 2021-23) (for 24 months)

| | | | | | | | | | | |
|----|--|--------|------|--|--|--|--|--|--|--|
| r | 40A /63A Four Pole Isolator | 5 Nos | each | | | | | | | |
| s | 1 x 1.5sqmm PVC insulated copper wire | 50 Nos | mtr | | | | | | | |
| t | 1 x 4 sqmm PVC insulated copper wire | 25 Nos | mtr | | | | | | | |
| u | 45W LED lamp | 10 Nos | mtr | | | | | | | |
| v | 11W LED lamp | 5 Nos | each | | | | | | | |
| w | 32A HRC fuse carrier and base | 5 Nos | each | | | | | | | |
| x | 32A HRC fuse link | 5 Nos | each | | | | | | | |
| y | 63A HRC fuse carrier and base | 5 Nos | each | | | | | | | |
| z | 63A HRC fuse link | 5 Nos | each | | | | | | | |
| aa | 125A HRC fuse link | 3 Nos | each | | | | | | | |
| ab | 32A TPN SDFU switch (open execution) | 2 Nos | each | | | | | | | |
| ac | 63A TPN SDFU switch (open execution) | 2 Nos | each | | | | | | | |
| ad | single tune musical call bell | 5 Nos | each | | | | | | | |
| ae | 28W T5 FI Tubes | 10 Nos | each | | | | | | | |
| af | Replacing of bush in the Ceiling/ Wall mounting/ exhaust fan | 5 Nos | each | | | | | | | |
| ag | Replacement of 16" wall/pedestal fan blade | 5 Nos | each | | | | | | | |

Name of work: Operation and Comprehensive maintenance of Electromechanical services at Telephone Exchange, Flower Bazaar, Chennai (for the year 2021-23) (for 24 months)

| | | | | | | | | | |
|----|---|------------------------|------|--|--|--|------------------------|--|--|
| ah | Replacing shaft in the Ceiling/ Wall mounting /pedestal fan | 5 Nos | each | | | | | | |
| ai | Painting of compound lighting poles | 10 Nos | each | | | | | | |
| aj | 20mm PVC conduit i/c accessories | 25 Nos | mtr | | | | | | |
| ak | 25mm PVC conduit i/c accessories | 10 Nos | mtr | | | | | | |
| | | Total Amount excl. GST | | | | | Total Amount incl. GST | | |

Man power:

(a) Three shifts of skilled labour per day

(b) Two shifts of Unskilled labour per day.

(Note: The allocation of shifts for both categories is at the discretion of the Engg-in-charge)

Name of work: Operation and Comprehensive maintenance of Electromechanical services at Telephone Exchange, Flower Bazaar, Chennai (for the year 2021-23) (for 24 months)

IMPORTANT NOTE:

| |
|--|
| 1. The firm shall be responsible to ensure that GST shown in the above columns are correct & Input Tax Credit for the amount shown above is admissible as per GST Act as amended up to date”. |
| 2. Tax Invoice /Bill should be pre-printed with all the details as per the requirement under the GST Act. |
| 3. 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 |
| 4. 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. |
| 5. 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. |
| 6. Bidder must mandatorily quote for all GST components (CGST,SGST,IGST)AS APPLICABLE. |
| 7. Bidders must mandatorily mention correct HSN/SAC codes. |
| 8. The agency shall adhere to all statutory and labour laws as applicable |

Name of work: Operation and Comprehensive maintenance of Electromechanical services at Telephone Exchange, Flower Bazaar, Chennai (for the year 2021-23) (for 24 months)

SPECIFICATIONS FOR WORK

A. GENERAL

1.0 SCOPE

- 1.1 Operation & 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. However in general, installation is to be taken over by the agency for Operation within 15 days of award of work.

2.0 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, round the Year 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. In case of faults beyond the capacity of the staff provided as above, contractor shall immediately provide extra-specialized work force so as to attend to the fault in minimum reasonable time without any extra cost.
- 2.3 At the start of work, firm shall prepare an inventory of service under operation jointly with J.T.O (E)/SDE (E), concerned.
- 2.4 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).
- 2.5 A complaint / fault Register as per **annexure- III** shall be kept up-to-date at site by the firm and the same shall be available for checking & verification.
- 2.6 Firm shall maintain records / logbooks as per annexure listed below

| | | |
|---|--|------------------------|
| 1 | INVENTORY | Annexure I |
| 2 | DETAILS TO BE SUPPLIED BEFORE STARTING WORK WITHIN 15 DAYS | Annexure II |
| 3 | COMPLAINT / FAULT REGISTER (model) | Annexure III |
| 4 | LOGBOOK FOR AIR-COOLED PACKAGE AC PLANT | Annexure IV |
| 5 | Log Books in respect of E/A Set | Annexure V |

Name of work: Operation and Comprehensive maintenance of Electromechanical services at Telephone Exchange, Flower Bazaar, Chennai (for the year 2021-23) (for 24 months)

| | | |
|----|--|---------------|
| 6 | Log Books in respect of Sub- Station | Annexure VI |
| 7 | Log Books in respect of Pump set | Annexure VII |
| 8 | Log book for Electricity bill | Annexure VIII |
| 9 | Program for periodical maintenance | Annexure IX |
| 10 | Actual periodical maintenance carried out in the month of | Annexure X |
| 11 | Layout Details of the various Equipments to be displayed at Site | Annexure XI |
| 12 | CERTIFICATE TO BE SUBMITTED ALONG WITH EACH BILL | Annexure XII |

- 2.7 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 a permanent basis to manage operation. Similarly 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. Wherever equipments are added or removed from comprehensive maintenance rates will be worked out from the similar class of item. Decision of SE(E) is final and binding in this regard.
- 2.8 The details in the annexure I (Inventory) are approximate to give an idea of services to be taken over for operation. Any variation on higher or lower side shall deem to be included at the initial take over. However the tenderers are advised to inspect the site (s) and make them acquainted before quoting.
- 2.9 For services under comprehensive maintenance, at the start of each month, the firm in consultation with the SDE (E) concerned shall prepare a Program for preventive maintenance to be carried out during the month as per **annexure- IX**. The actual maintenance carried out shall be recorded in **annexure- X** at the end of each month.

3.0 MAINTENANCE PERSONNEL

| Service | Type | Skill requirements | No. of personnel | To be based at |
|-----------------------------------|---|---|---|-------------------|
| Operation of Substation & E/A set | Electrician (Skilled) Three Shifts per day | 10th Pass with Minimum ITI or equivalent certificate holder in electrician/wireman/ switchboard technician trade from a recognized institute. with a minimum experience of 1year OR 10th Pass with Minimum of 5 Year experience, preferably in operation / maintenance of transformer substation and/or E/A sets and/or attending electrical faults in industrial establishment | Round the clock in shifts | Site of operation |
| | Helper (unskilled) Two shifts per day | Minimum 8th pass with at least 1 year experience in attending electrical faults/operation of electrical installation. | One in each shift with two shifts per day | Site of operation |

3.1 Wherever HT Sub-station is included in the scope of work, Operation & Maintenance of HT equipments shall have to be carried out under strict supervision of supervisor with valid permit / HT license for working in Tamilnadu / Pondicherry states.

3.2 The maintenance staff has to be available round the clock throughout the year 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.

3.3 The firm shall maintain attendance register which can be inspected at any time by the SDE/JTO. The workman shall not leave the duty point, till his reliever has reported for duty. In addition to the attendance register, the firm shall abide by the attendance recording methods in vogue in the site of

Name of work: Operation and Comprehensive maintenance of Electromechanical services at Telephone Exchange, Flower Bazaar, Chennai (for the year 2021-23) (for 24 months)

operation such as finger print scanning, punch card etc., which are available or will be installed by BSNL at a later date.

3.4 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).

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

3.6 The firm has to supply details as per **annexure- II** of all the workers likely to be engaged by it before start of the work. The workers engaged by the firm should wear proper formal dresses with detachable badge indicating the name of the person and firm's name.

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

3.8 Provision of Supervisor to be made as per standard form of contract (EW8) which forms the part of this contract.

3.9 The firm and their personnel shall follow the attendance guidelines / practices such as finger print identification,

3.10 The firm and their personnel shall also co-ordinate, operate and feed information on automatic data collection services/automation devices that will be introduced by BSNL at any date during the period of contract.

4.0 MATERIALS, TOOLS & PLANTS

4.1 **(A) Material** – Wherever the scope of work includes maintenance of complete installation on comprehensive basis i.e. no material will be supplied by the Department.

The minimum inventory of material as shown in the table below, required for smooth maintenance of installation shall be maintained at site. The inventory shall be from BSNL approved make wherever applicable. Items which are under comprehensive maintenance shall be maintained till such time BSNL decides to scrap and discontinue its usage, except in situations when the spare parts/components for the same is not available, product is discontinued from the market, obsolescence etc. .

| | | |
|---|---|---------|
| a | 36W Fl. Tubes | 25 Nos |
| b | Electronic Ballast suitable for 36/40 W Fl.Tube | 5 Nos |
| c | Starters for FL. Fittings | 5Nos |
| d | Side holder for Fl. Fittings | 5 Nos |
| e | 2.5 mfd capacitor for ceiling fan | 5 Nos |
| F | Step type electronic Fan Regulator | 2 Nos |
| g | 5-32 A Single Pole C series MCB | 2 Nos |
| h | 63A HRC fuse link | 1 No |
| i | 1.5sqmm copper flexible cable | 25 Mtrs |

4.2 Contractor shall comply with any inclusion/exclusion in the above items and/or their quantity depending upon site requirements. The decision of the Engineer in charge shall be final in this regard

Name of work: Operation and Comprehensive maintenance of Electromechanical services at Telephone Exchange, Flower Bazaar, Chennai (for the year 2021-23) (for 24 months)

4.3 The replacement of material shall be with the same rating and make as that of the original. The firm may also replace an item with energy efficient item wherever the same is available on intimation to JTO (E). However, in case of non-availability of a particular make, Engineer-in-charge will approve the alternate make.

4.4. Dismantled and unserviceable items for which a replacement is supplied, shall be removed from the site under intimation to the JTO(E).

4.5 .All materials shall be of approved make, model and capacity and shall be matching to the system. However, wherever approved makes are not readily available in the market and that there in urgency, matching makes may be provided with the approval of EE(E).

4.6 Invoice shall be produced in case of all major items etc. as a proof of genuine spares. Obsolete items not available in market can be repaired and re used.

4.7 The contractor shall maintain minimum inventories at site in addition to items/spares mentioned under specifications as section 4.0 above.

4.8 (B) TOOLS & PLANTS:. All tools and plants, testing & safety equipments required for carrying out various tasks relevant to operation have to be arranged by firm at its own cost.

4.1.1. Wherever the firm is carrying out the Operation of equipment, the firm shall possess the following minimum T&P

- i. Line Tester
- ii. Insulated Cutting Plier
- iii. Torch Light
- iv. Waste Cloth
- v. Ring and adjustable spanner -1 Set ; box spanners – 1set
- vi. Insulated Hand gloves
- vii. Test Lamps

4.1.2 In addition to the above, the firm shall generally posses the following T & P at their maintenance office according to the services covered under the scope.

GENERAL

- i. Crimping tool suitable for 6 Sq.mm To 300 Sq.mm Cable.
- ii. LT meggar
- iii. HT meggar
- iv. Earth tester
- v. Hammer
- vi. Blower for cleaning.
- vii. Tong tester.
- viii. Drilling Machine

4.2 The above list is general and any other requirements for smooth Operation of installation shall be contractor's responsibility and shall not claim anything extra on this account.

4.3 The firm shall also coordinate with the JTO (E) / SDE (E) for carrying out energy audit/capacity test at site in respect of services maintained by the firm, in addition to collection /recording of data such as MD , number of units in total or for a particular load for a fixed period/ interval as instructed by JTO(E)/SDE(E).

4.4 The Firm/Contractor will provide the workers with necessary Testing and Safety Equipment.

Name of work: Operation and Comprehensive maintenance of Electromechanical services at Telephone Exchange, Flower Bazaar, Chennai (for the year 2021-23) (for 24 months)

4.5 While the work is taken over the firm shall be provided with fully replenished First Aid box and other safety devices such as artificial resuscitator, rubber mat. The firm shall ensure that the same is maintained and replenished during the period of contract. Normal wear and tear of these items is allowed.

Note:-1.The stocking/ storing arrangement of minimum inventory and T&P shall be the responsibility of the firm.

5.0 COMMERCIAL.

5.1 The tender must obtain himself on his own expenses, all the information necessary for the purpose of tendering, inspect the site and acquaint himself with all the local conditions, means of access to work and nature of work etc. No claim shall be entertained on this account.

5.2 Payment shall be made on quarterly basis and on submission of bill in printed letter head together with requisite certificate and documents as per **Clause 2** of Important instructions to Contractors.

5.3 The rates quoted must be full & final. Nothing extra is payable other than quoted rates. Clause10-CC shall not be applicable for this account.

6.0 DAMAGES TO BSNL INSTALLATION:

6.1 Any damage to the installation(s)/building during the maintenance period due to the carelessness on the part of maintenance staff shall be the responsibility of firm/contractor & shall be replaced/rectified by the firm without any extra cost

6.2 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.

7.0 CURRENCY OF CONTRACT:

7.1 The currency of contract **shall be 24 months**. 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.

7.2 The Department reserves the right to extend the contract for a maximum period of six months (three months at a time) at the same rates & conditions, without the consent of the firm and beyond this period with mutual consent.

8.0 TERMINATION OF CONTRACT:

8.1 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 Superintending Engineer (E) in this regard shall be final and binding.

8.2 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 Executive Engineer shall be final and binding on the contractor for closure of contract and for which BSNL shall not entertain any claim.

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9 PENALTY FOR DEFICIENCY IN SERVICE:

| SL NO | SERVICE | SERVICE CONDITIONS | PENALTY FOR DEFICIENCY IN SERVICE |
|-------|---|---|---|
| 1 | Power Supply (Sub Station / LT Supply) | The Contractor shall maintain uninterrupted power supply to the campus /buildings. In case of disruption of normal power supply other than power failure from the supply company, for more than 4 hours in a day, the firm will be penalized, if this is on account of fault or carelessness on the part of the contractor. In case of major fault viz., OCB failure, ACB failure, HT cable fault etc agency shall try to restore power supply by alternative arrangement within 24 hours, beyond which penalty will be applicable. However, faults beyond the scope of the agency is not covered under this clause.[applicable where substation is under amc] | Rs. 500/- per hour |
| 2 | E/A set [applicable where items are under AMC] | <p>1. Where minimum of two E/ A sets are available, at least one E/A set shall always be in healthy working condition. The E/ A set shall be switched on within one hour. Failure to make available the E/A set supply beyond one hour will attract penalty.</p> <p>2. Where one E/A set is available, power supply shall be restored within 2 hours. If there is likely delay, the contractor has to arrange the mobile EA set at his own cost within 4 hours from the time of failure of power supply, failing which penalty shall be imposed.</p> <p>3. The standby EA set(s) shall not be out of service for more than 3 days failing which penalty shall be imposed.</p> | <p>Rs.10,000 each instant</p> <p>Rs.1000/- for each hour of delay.</p> <p>Rs 2000/- per day/ set</p> |

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| | | | |
|---|---|---|--|
| 4 | Pump sets | <p>1. Fault to 1st Pump is to be repaired within 3 days of becoming faulty failing which penalty shall be imposed.</p> <p>2. In case fault in Standby pump also occurs during above said period the firm shall be required to act fast and get the repair done within 1 day failing which penalty shall be imposed. However the contractor has to arrange water supply through alternative means such as portable pump set etc. (pump to be arranged by firm without any extra cost) as above</p> <p>3. If submersible pump set is to be removed from the tube well due to any fault, its repair including hiring charges etc. as required is to be arranged by the contractor free of cost and should not take more 7 days , failing which penalty shall be imposed. However the contractor has to arrange water supply through alternative means such as portable pump set etc. (pump to be arranged by firm without any extra cost) as above</p> | <p>Rs. 250 per day</p> <p>Rs. 1000/- per day</p> <p>Rs.1000/- per day</p> |
| 7 | Power factor panel [wherever covered under amc] | <p>1. Contractor shall be responsible for maintenance of power factor within range of 0.95 lag to UPF. Any penalty on this account levied by Supply Company shall be recovered from the agency. (Applicable in case of capacitor panel provided at site). However in case of inadequacy of the capacitor bank at the time of taking over or due to addition of any services / Load during period of contract, the extra requirement shall be met out departmentally.</p> | <p>Penal charges levied by supply company plus Rs.1000/- as penal charges.</p> |

Note:

- In case contractor fails to comply with preventive/ periodical maintenance schedules, penalty of **one month's bill amount per building** shall be imposed.
- 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 Executive Engineer (E) shall be final and binding on the contractor.
- Minimum inventory and T&P shall always be maintained and any loss/ worn-out inventory and/or T&P shall be recouped every month failing which penalty @ 1% of the bill amount per month shall be made for the period of lapse till the inventory is fully recouped.
- In case of absence of worker from the duty/site where operation is carried out, penalty shall be made @ Rs. 1000/- per day per person per shift. (Staff employed of less than the prescribed qualifications **shall be treated as absent**). The Decision of the Executive Engineer shall be final & binding. In case of persistent non wearing of badge by the operators, noticed and recorded in the relevant registers/records/conveyed in writing penalty of Rs.100/- per occasion shall be levied.

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- (e) 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.
- (f) 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.

10.0 GENERAL CONDITIONS:

- 10.1 The contractor has to keep all the equipment under operation under maintenance neat and clean to avoid any accident and or fire hazards.
- 10.2 Dates of earth test, refilling of fire extinguisher, servicing details of E/A set, ~~Package ac plants / window / split ac units~~ and sub-station equipments (wherever applicable), shall be displayed at site as per **annexure – XII attached**. Dates of weekly, monthly, biannual / annual tests (wherever applicable), shall be displayed / recorded in relevant columns.
- 10.3 Contractor shall have a round the clock communication landline/ Mobile telephone number at Chennai. A complaint register shall be maintained as per annexure - III. Whenever any complaint is received, it shall be recorded and complaint no. shall be given to the complainee. Disposal of complaint shall be recorded and monthly report shall be submitted to the SDE(E) concerned
- 10.4 If the complaint is covered under the scope of work, firm shall promptly attend to the same and record such action in relevant registers. Where action not covered under scope of work, the firm shall intimate the same to SDE(E)/JTO(E) in writing. Decision of Executive Engineer(E) shall be final and binding in this regard.
- 10.5 The Contractor will display on a board in Substation room important telephone numbers.
- 10.6 The contractor shall not sublet the work or part thereof. However, services of specialized agencies for specific work can be obtained.
- 10.7 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.
- 10.8 BSNL reserves the right to carry out any work at the risk and cost of the contractor, if the agency fails to perform any duty as per the contract.
- 10.9 The firm will be doing the maintenance and /or operation of critical services like sub-station, fire fighting standby power etc. responsible and trained person(s) should be placed round the clock at site who could take initial steps under emergency situation.
- 10.10 Firm shall ensure **energy conservation** by switching - on the air-conditioner units /lights & fans etc only when required, wherever Operation is forming the scope of contract.
- 10.11 In case of Emergency, contractor and/or his authorized engineer or supervisor shall be available at site on short notice from Engineer-in- charge and make all efforts to make the situation normal at the earliest

11.0 DOCUMENTS TO BE MAINTAINED AT SITE/MAINTENANCE OFFICE

The contractor shall maintain following documents,

- 11.1 A complaint / fault register as per format given in **annexure- III**.
- 11.2 **Log Book:** log book in format approved by Executive Engineer (E) shall be maintained at site for the following components of work **(as per Annexure - IV to VIII)**.
 - 1) Sub-Station (Both HT & LT) Annexure VI
 - 2) ~~Packaged A.C. system~~ Annexure IV
 - 3) E/A set. Annexure V
 - 4) Pumps. Annexure VII

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5) Electricity bills. Annexure VIII

11.3 Maintenance register:- In this register, the agency will keep a record of daily, weekly, fortnightly, monthly, quarterly, & annual maintenance activities carried out by him including details of replacement / repair of any item. Such register shall contain records of maintenance activities in respect of each service separately in standard form.(as per annexure- IX, X)

11.4 Report file:- Containing all the test reports in original Viz. Oil test report, IDMT test report, E/A set service reports, A.C. package reports, reports on fire drill conducted etc shall be maintained at site.

11.5 History register: The firm shall record all major breakdown maintenance carried out by the firm like rewinding of motor / compressor / transformer / alternators/ major overhauling of engine etc.

11.6 Inspection notes: A file containing all inspection notes released by CE(E) / SE(E) / EE (E) / SDE (E) along with the action taken report on it shall be available at site.

11.7 Maintenance card: A maintenance card in standard proforma (as shown below) showing the history of maintenance activities undertaken shall be displayed for every equipment such as EA set, AC units, Sub-Station, AFD panel & Fire fighting system.

FRONT SIDE OF CARD

SITE:-

AMC FIRM:-

EQUIPMENT:-

FIRM'S PH NO:-

CAPACITY:-

JTO (E)'S PH NO:-

MAKE & SL NO:-

SDE(E)'S PH NO:-

BACK SIDE OF CARD

| DATE | NATURE OF FAULT | REPORTED TO | SIGN OF XGE INCHARGE | ATTENDED ON | SIGN OF MECHANIC | SIGN OF XGE STAFF |
|------|-----------------|-------------|----------------------|-------------|------------------|-------------------|
| | | | | | | |

12.0 TEST CHECK BY THE FIELD ENGINEERS:

12.1 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.

12.2 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. 9.

13.0 Guarantee and Defect Liability

13.1 The guarantee for replaced components / equipments shall be valid for twelve months after successful commissioning. The contractor shall guarantee that all replaced components / equipments are free from any defects and also the equipments work with satisfactory performance and efficiency not less than the guaranteed values.

- Any part found defective during Guarantee period shall be replaced free of cost by the contractor. The service of the contractor's personnel, if required during this period shall be made available free of cost to the BSNL.
- In case the contractor fails to depute his representative to attend the fault within the time frame stipulated in various clauses or fails to cause remedial measure within reasonable time as decided during

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joint inspection, the BSNL may proceed to do so at the contractor's risk and expenses and without prejudice to any right of the BSNL to recover such expenses.

14.0 ENERGY CONSERVATION

BSNL TN zone is committed to reduction in energy bills by the way of energy conservation over a year by 12%. The contractor shall continuously monitor energy conservation measures to save energy bills with suitable testing using energy monitoring instruments at his own cost to meet the Energy Conservation Building Code.

The contractors shall co-ordinate with the departmental SDEs / JTOs while conducting Energy auditing of the buildings under maintenance for effective Energy Conservation.

The contractors are responsible for display of Energy conservation slogan stickers at prominent locations in the buildings under maintenance. The list of Energy conservation slogans as per **Annexure XI** shall be displayed by the firm at the respective locations and as directed by the JTO(E)/SDE (E) concerned.

Faulty chokes / fluorescent lamps / incandescent bulbs etc. shall be replaced by energy efficient items viz; electronic chokes, 36 watt fluorescent lamps, CFLs , LED lights etc.

Burnt out fan motors shall not be repaired but replaced with higher efficiency motors of reputed make.

Energy efficiency of ~~Package~~ AC plants, AC units, EA sets (whichever is forming part of maintenance), shall be maintained within the benchmark value. The benchmark value shall be assigned by JTO(E)/SDE(E) after testing, with respect to the present conditions within 2 months from the date of handing over the services for maintenance. A 10% allowance shall be given for ageing while setting the benchmark itself. Energy efficiency report shall be submitted once every 6 months by the contractor. Reduction in Energy efficiency below the benchmark value shall result in suitable penalty as per the penalty clause.

INVENTORY

Annexure I

A SUB – STATION.

| | |
|----------------------|--|
| CAPACITY | |
| CONTRACT DEMAND | |
| MAXIMUM DEMAND | |
| YEAR OF INSTALLATION | |

| H.T PANEL | | Type | | Indoor/Out door | |
|--------------------------|------------|------|-------|-----------------|----|
| Nos | | EB-I | EB-II | RM | RM |
| Type | | | | | |
| INCOMER | Type : | | | | |
| | Make : | | | | |
| | Capacity : | | | | |
| | Model : | | | | |
| OUT GOING SWITCHES GEARS | Type : | | | | |
| | Make : | | | | |
| | Capacity : | | | | |
| | Model : | | | | |
| | Nos : | | | | |

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| TRANSFORMER Type | Nos. | CAPACITY | Make / Model / Year of Mfg |
|------------------|------|----------|----------------------------|
| | | | |
| | | | |
| | | | |
| | | | |

| | | | |
|------------------------|----------------------------|----------|-----------------------------|
| OVER HEAD BUS TRUNKING |Nos | | |
| | Sets of 4xAmps | Material | Aluminum :mtrs (Appx) |
| | Sets of 4xAmps | | Copper :mtrs (Appx) |

| M V PANEL | | | |
|------------|------------|-------------|------------|
|Nos | | | |
| INCOMER-I | INCOMER-II | INCOMER-III | INCOMER-IV |
| Type : | Type : | Type : | Type : |
| Make : | Make : | Make : | Make : |
| Capacity : | Capacity : | Capacity : | Capacity : |
| Model : | Model : | Model : | Model : |

| | |
|---------------------------------|--|
| OUT GOING SWITCH GEARSNos | |
| Make | |
| Type | |
| Capacity | |
| Model | |
| Nos | |

| | | |
|------------------------|----------------------------|----------------|
| CAPACITOR PANEL | Year of Installation : | |
|No of Stages | Present PF Recorded: | |
| Type of APFC Relay: | | |
| Make : | Conventional | Microprocessor |
| Model : | | |

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| | | | | |
|-----------------------|----------|-----------|------------|-----------|
| | | | | |
| CAPACITY |KVA |KVA |KVA |KVA |
| Date of Commissioning | | | | |
| | EA Set-I | EA Set-II | EA Set-III | EA Set-IV |
| Engine Make | | | | |
| Engine Model | | | | |
| Engine BHP | | | | |
| Alternator Make | | | | |
| Alternator Model | | | | |
| Alternator KVA | | | | |
| Type of Control Panel | | | | |
| (AMF/Conventional) | | | | |
| Details switch Gear | | | | |
| MCCB/SWITCH/MCB | | | | |
| Details of AMF Logic | | | | |
| Details of MF Meter | | | | |

C) PUMPS

| | | | | | |
|--|--------|---------|----------|---------|--|
| Total No of Pumps | | | | | |
| <i>Date & Year of Commissioning</i> | | | | | |
| | Pump-I | Pump-II | Pump-III | Pump-IV | |
| Type (Centrifugal / Submersible) | | | | | |
| Capacity | | | | | |
| Make | | | | | |
| Model | | | | | |
| Control Panel | | | | | |
| Main Switch | | | | | |
| Starter | | | | | |
| Pump Protection | | | | | |
| Details of Capacitor | | | | | |
| Whether Automatic Level Controller is provided if so Details | | | | | |

Note:

The above is indicative list. The firm may visit the exchange to ascertain exact quantum of inventory and associated items before submission of tender.

DETAILS TO BE SUPPLIED BEFORE STARTING WORK WITHIN 15 DAYS

a) The following information to be pasted/displayed in the Substation.

The Operation of Substation & E/A sets , in this building is carried out by

| | | |
|----|---|--|
| 1. | Name of the Agency | |
| 2 | Address | |
| 3. | Person to contact | |
| 4. | Telephone No. | |
| 5 | Contact Numbers of Operators (i) (ii) (iii) | |
| 5. | Name of JTO(E) in-charge and his contact No.(landline & mobile) | |
| 6 | Name of the SDE(E) in-charge and his contact no.(landline & mobile) | |

▪ In case of emergency please call: _____ (Agency's Emergency Contact Number) __
or

▪ In case of no response call JTO (E)/SDE(E).

b) Details of staff to be deputed to site: To be furnished to JTO (E) along with qualification and antecedents certificate.

| Sl.no. | Name & Address | Qualification | Designation | To be stationed at |
|--------|----------------|---------------|-------------|--------------------|
| 1. | | | | |
| 2. | | | | |
| 3 | | | | |
| 4 | | | | |

c)List of T&P

d)List of Inventory

e) Test details of the equipments taken over for maintenance and defects discrepancies noticed if any.

COMPLAINT / FAULT REGISTER (model)

The following information shall be pasted in front cover of the register

Name of work:

Name of contractor:

Agreement No:

Name of Sub-Division:

Location:

| Complaint No. | Date & Time of complaint | Officer / section lodging complaint | Nature of complaint | Location | Time & Date of attending complaint vide service report no. | Cause of fault | Material used | Dated Signature of Firm's Representative | Dated Signature of SDE/JTO | Remarks |
|---------------|--------------------------|-------------------------------------|---------------------|----------|--|----------------|---------------|--|----------------------------|---------|
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

Note: The above format is general and addition/deletion of any of the data columns that may be required specific to particular site shall also be incorporated, with the approval of SDE(E)

ANNEXURE - V

LOG BOOK FOR EA SET READING FOR THE MONTH OF

| LOG BOOK FOR EA SET READING FOR THE MONTH OF | | | | | | | | | | | | | | | | | | | | | | |
|--|------------|-----------|---------|----|----|--------------|---|---|------|-------|--------------|-------------|------------|-------------------|------|-------|------|------------------------------|-------------------------|------------------------|-----------------------------|---------|
| Date | Start time | Stop time | Voltage | | | Load Current | | | Freq | Speed | Lub oil Temp | Lub oil Pr. | Water Temp | Diesel level Ltrs | | KWH | | Check before start of EA set | | | | Remarks |
| | Hrs | Hrs | RY | YB | BR | R | Y | B | Hz | RPM | | Kg/cm2 | | Start | Stop | Start | Stop | Water in radiator & coolant | Lub oil level & leakage | Battery charger system | Battery terminal connection | |
| | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |

Annexure VI

LOG BOOK FOR SUBSTATION (INDOOR) FOR THE MONTH OF

| | TR-1 | TR-2 | Total Power | | | | | | | | | | | | | | | | | | | | | | |
|-------|---------------|------|-------------|--------------------|---|---|---------|----|----|---------|---|---|-------------|---------|----|----|---------|---|---|------------|-----------|---------|----------|-----------|---------|
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | HT Voltage KV | | | HT Current In Amps | | | Voltage | | | Current | | | Temp in ° C | Voltage | | | Current | | | Temp in °C | MD in KVA | Kwh (a) | Kvah (b) | P.F (a/b) | Remarks |
| | RY | YB | BR | R | Y | B | RY | YB | BR | R | Y | B | | RY | YB | BR | R | Y | B | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8:00 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11:00 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 14:00 | | | | | | | | | | | | | | | | | | | | | | | | | , |

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- i) **Record no. & duration** of Mains failure on each day.
- ii) ii) Details of maintenance like, heating of silica gel dehydration of transformer oil, servicing of LT. ACBs, replacement of HRC fuses, indication lamps & contacts of contactors, etc
- iii) iii) Record of earth resistance.

ANNEXURE- VII

| LOG BOOK OF PUMP SET | | | | | | | | | |
|----------------------|--------------|-----------------|---------------|--------------|-----------------|----------------|--------------------|------------|---------|
| PUMP-1 | | Total hours run | PUMP-2 | | Total hours run | Supply voltage | Operator Signature | Checked by | Remarks |
| Time of Start | Time of Stop | | Time of Start | Time of Stop | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

ANNEXURE- VIII

| LOG BOOK OF ELECTRICAL BILL FOR THE MONTH OF :- | | | | | | | | | | | |
|---|------|-----|----------------|------|-----------------|-------|-----------------|---------|---------------------|----|---------|
| DATE | TIME | KWH | KWH Difference | KVAH | KVAH Difference | KVARH | Calculated P.F. | EB P.F. | Incentive / Penalty | MD | Remarks |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

Program of periodical maintenance (For applicable service)

ANNEXURE – IX

| | E.I & Fans | Pumps | Comp. Lighting | Lightning Cond. | S/Stn. & AVR | EA set | Fire Det./Alarm | W/SAC/Volt.St. | Package AC | Des.cooler/Heater | Lifts | Fire Fighting |
|----------|-------------------------|-------------------------|-------------------------|-------------------------|--|---------------------------------------|--------------------------------|--|---|-------------------------------|----------------------------------|---|
| January | | | | | | | Fire drill | Filter cleaning & servicing | Filter cleaning & servicing | Cleaning of Tank | Cleaning lift car & Machine Room | Fire drill |
| February | Fan/Fixture cleaning | | | | | | Fire drill | Filter cleaning & servicing | Filter cleaning, & servicing | Cleaning of Tank | Cleaning lift car & Machine Room | Fire drill |
| March | | | | | | | Fire drill & detector cleaning | Filter cleaning & servicing | Filter cleaning & servicing | Cleaning of Tank Pad changing | Cleaning lift car & Machine Room | Fire drill |
| April | Earth & insulation test | Earth & insulation test | Earth & insulation test | Earth & insulation test | Earth & insulation test, oil insulation test | Earth & insulation test, OEM services | Fire drill | Earth & insulation test, Filter cleaning & servicing | Filter cleaning & servicing Earth & insulation test | Cleaning of Tank | Cleaning lift car & Machine Room | Earth & insulation test, OEM services, Fire drill |
| May | Painting | Painting | Painting of poles etc. | | Painting | Painting | Fire drill | Filter cleaning, Painting & servicing | Filter cleaning, & servicing painting | Cleaning of Tank Painting | Cleaning lift car & Machine Room | Painting, Fire drill |
| June | | | | | | | Fire drill | Filter cleaning & servicing | Filter cleaning & servicing | Cleaning of Tank | Cleaning lift car & Machine Room | Fire drill |
| July | | | | | | | Fire drill | Filter cleaning & servicing | Filter cleaning & servicing | Cleaning of Tank | Cleaning lift car & Machine Room | Fire drill |
| August | | | | | | | Fire drill | Filter cleaning & servicing | Filter cleaning & servicing | Cleaning of Tank | Cleaning lift car & Machine Room | Fire drill |

Name of work: Operation and Comprehensive maintenance of Electromechanical services at Telephone Exchange, Flower Bazaar, Chennai (for the year 2021-23) (for 24 months)

| | | | | | | | | | | | | |
|-----------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|---|--------------------------------|-------------------------------------|---|--|---------------------|--|--|
| September | | | | | | | Fire drill, detector cleaning | Filter cleaning & servicing | Filter cleaning, & servicing | Cleaning of Tank | Cleaning lift car & Machine Room | Fire drill |
| October | Earth & insulation test | Earth & insulation test | Earth & insulation test | Earth & insulation test | Earth & insulation test, oil, insulation | Earth & insulation test. | Fire drill | Filter cleaning, & servicing Earth & insulation test | Filter cleaning & servicing Earth & insulation test | Cleaning of Tank | Cleaning lift car & Machine Room | Earth & insulation test, OEM services, Fire drill |
| November | | | | | Electrical Inspector report | | Fire drill | Filter cleaning & servicing | Filter cleaning & servicing | Cleaning of Tank | Cleaning lift car & Machine Room | Fire drill |
| December | | | | | Relay Calibration | | Fire drill | Filter cleaning & servicing | Filter cleaning & servicing | Cleaning of Tank | Cleaning lift car & Machine Room | Fire drill |

The above chart shows yearly programme schedule for reference. Actual Programme based on the sites and the services being maintained, to be drawn up after award of work.

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ANNEXURE – X

ACTUAL PERIODICAL MAINTENANCE CARRIED OUT IN THE MONTH OF _____

Name of contractor: _____.

Agreement No. : _____.

Month: _____

| Sr.no | Service | Activity as per quarterly plan | Date on which actual activity carried out | Result of the activity | Departmental representative | Remarks |
|-------|---------|--------------------------------|---|------------------------|-----------------------------|---------|
| | | | | | | |

1. Certified that we have carried out maintenance properly as per schedule of work and as per terms and condition of the agreement and testing/drills etc. required during the period has been performed.

Contractor's representative

Departmental representative

Annexure- XI

A. Layout Details of the various Equipments shall be preferably available at site wherever comprehensive maintenance of the service is carried out.

(i) Sub-Station Diagram

Layout Drawing.

Single Line Diagram.

Control Wiring Diagram as supplied by the Installation Co.

(iii) Engine Alternator Room Diagram

Layout Drawing.

Control Wiring Diagram for Engine Alternator & Control Panel.

(vi) Lightning Conductor

a) General Layout, Location of Final & Earthing Diagram

Following Items to be clearly displayed.

1 (a)

| |
|-------------------|
| FIRE DRILL..... |
| CONDUCTED ON..... |
| Next Due on..... |

1 (b)

| |
|--------------------------------------|
| Earthing & Lightning Conductors..... |
| CONDUCTED ON..... |
| Next Due on..... |

1 (c)

| |
|-------------------------|
| Fire Extinguishers..... |
| Refilled On..... |
| Next Due on..... |

ANNEXURE - XII

CERTIFICATE TO BE SUBMITTED ALONG WITH EACH BILL

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

| Sl.No | ITEM/SERVICES | REASONS FOR NON OPERATION |
|-------|---------------|---------------------------|
| | | |

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

SIGNATURE OF CONTRACTOR

Counter signed by:

JTO(E)

SDE(E)

MAINTENANCE SCHEDULE

SECTION – I

EI & FANS

Part 1: Scope of maintenance

1. Ensuring that EI installation & other appliances is always kept in clean, healthy working condition.
2. Attending day to day routine complaints in a prompt and satisfactory manner.
3. Ensuring that no breakdown in power supply takes place and in case it happens, to take all required steps including contacting supply Co. for earliest restoration.
4. Maintaining the installation i.e. fans, fittings and other components of the installation in clean condition including proper sign writing.
5. Checking all appliances before the onset of summer/ winter season as required.
6. Filling water in desert coolers and keeping it clean.
7. Cleaning of pads.
8. Change of water weekly
9. In case of desert coolers, servicing the same before onset of summer includes providing new pads and also draining of water every month end and refilling at the beginning of the week.
10. Replacement of Desert cooler pumps shall be the firm's responsibility.
11. Ensuring that there is no wastage of electrical energy. Details of steps to be taken in this regard to be worked out in consultation with the maintenance-in-charge.
12. Carrying out minor additions and alterations ordered by Engineer-in-charge.(Materials required shall be supplied by the Department).
13. Carrying out various maintenance routines and tests as stated in Part-III.
14. Maintaining registers for complaints and test results.

Part II. Tasks to be performed within first 15 days

- 1 Establish an Enquiry office and organize a system with the approval of Engineer-in-charge so that complaints be received and attended properly.
- 2 All measurement of the resistance of Earth stations of EI system and checking of continuity of earth conductor results to be recorded.
- 3 Prepare an inventory of spares and maintenance material be kept as site for prompt maintenance in consultation with engineer in-charge. Materials for all the services to be considered for preparation of inventory.
- 4 Inspection of main board and SDBs for (a) any loose/improper connection (No strand cutting for making connection to be allowed), (b) improper rating of switches / fuse/ (c) Cleanliness.
- 5 General inspection of EI system & other appliances to identify shortcoming. Also any other relevant aspect which may come in the way of proper maintenance should be recorded in register and also brought to the notice of engineer-incharge.
- 6 Insulation Test.
- 7 Check water pump & air circulating fan.

Part-III Maintenance schedule to be followed.

Daily

1. Attend complaints promptly and in satisfactory manner.
2. Check wastage of electricity.
3. In case desert coolers ensure adequate quantity of water during summer season and also draining of water every weekend and refill at the beginning of the week.
- 4 Check any faulty lights in stair case/ corridors.
- 5 Check faulty lights/ Exhaust fans in toilets.
- 6 Check faulty lights in Lift lobbies.
- 7 Check faulty Emergency Light in stair case/ corridors (if any)
- 8 Check faulty/ broken switches/Lamps/fittings/fans/regulators/5A, 15A Socket outlets in above areas.
- 9 Check Dirty lights/Exhaust fans, Emergency Light and make program for weekend cleaning.
10. Check proper working of desert coolers, Room heaters/heat convector, Geyser & Inverter.

(Rising Mains/Cable Shafts/SDBs)

1. Check that Rising Mains/Cable Shafts Door keys are available.
2. Check proper working of the lighting in the Rising Mains.
3. Check proper working of the Indication lamps.
4. Check proper working of selector switches of Voltmeter and Ammeter.
5. Check any abnormal difference in supply voltage in each phase.
6. Check for abnormal sound/ smell in the Rising Mains.
7. Check for abnormal heating of Riser casing, Tap off boxes, DB & SDBs and cables
8. Check for any inflammable material stacked or thrown in the riser/cable shaft and report to the Engineer-in-charge.
9. Check fire barriers for any damage or hole to avoid traveling any rats etc in the riser room.
10. Check for any seepage especially during rainy season.

Monthly

- 1 Inspection of MB & SDB.
- 2 Broken/incomplete louvers of fittings, switch plates etc. to be attended

Quarterly

- 1 Cleaning of fans, fittings etc..... (January, April, July, October)

Half yearly

- 1 Testing of Earthing system for earth resistance and continuity..... (April & October)

Yearly

- 1 Greasing and oiling of fans in winters..... (February)
- 2 Servicing of desert coolers before on set of summers including providing new pads..... (February)
- 3 In case of Room heaters/Heat convectors & Geysers servicing the same before onset of winter including repairing the faulty heater element as required.....(Oct)

Testing

Detailed Testing of the installation shall be done once in a year to find out capacity and efficiency of various equipment with respect to their rating. The testing procedure shall be same as adopted at the time of original testing (but without involving the T&D persons.)

Notes

1. The attendants shall check respective items daily as per the checklist. This shall be 100% test checked by JTO (E)/SDE (E) once in 15 days.
2. Monthly, Quarterly, Half Yearly & Yearly checks shall be performed directly under the supervision of JTO (E)/SDE (E) and monthly report on the same duly countersigned by EE (E) shall be sent to the SE (E) before 7th of next month.
3. The yearly testing report shall be sent to SE (E) with copy to CE (E) directly by EE (E) in charge.

PART IV: MATERIALS.

All the materials required for carrying out maintenance with the exception of following shall be arranged by the contractor at his own cost.

1. "Replacement of complete Fans & Fittings, Geysers, Room heaters, Desert coolers & Inverters."

NOTE:-

- 1 In case of replacement of tubes & ballast / choke, the same shall be with 36 W slim line tubes, electronic ballast / choke respectively.
2. The replacement of material shall be with the same rating and make as that of the original. However, in case of non-availability of a particular make, the Engineer-in-charge will approve the alternate make.
3. The material required for addition & alteration shall be supplied by the BSNL

Name of work: Operation and Comprehensive maintenance of Electromechanical services at Telephone Exchange, Flower Bazaar, Chennai (for the year 2021-23) (for 24 months)

Part V: Special Conditions Relevant to Particular Job/Particular Site.

1. In case an enquiry is set up in the building, the staff available in the building shall also be responsible for recording complaints of other exchanges and conveying the same to SDE (E)/JTO (E) and concerned agency. A list of such exchanges and agencies shall be provided by the SDE (E) concerned.
2. Contractor shall keep adequate stock of daily use items like fluorescent tubes, chokes, starters, switches, sockets etc. at site as per clause 4.1.3 as per IMPORTANT TERMS & CONDITIONS OF CONTRACT.

SECTION-2

PUMPS

Part 1: Scope

In case of water supply pumps, the scope covers not only the proper maintenance of the pumps but also ensuring that water supply is available in the building. The pumps have to be operated as and when required for ensuring water supply.

1. Keeping the system comprising suction line, pumps discharging line and electrical panel in healthy and clean condition.
2. Following maintenance schedule as given in part III.
3. Painting of Pumps/ pipelines/ M.B. once during the contract period.

Part- II: Tasks to be performed within 15 days:

1. The entire installation should be checked for efficient functioning and short coming if any pointed out.
2. The earth system should be checked for earth resistance and continuity.
3. The agency should discuss and finalize the working schedule of the pumps for operation.
4. Should familiarize with the location of under ground tanks overhead tanks and functioning of various valves.
5. Check electrical system for proper contacts and cleanliness.
6. Leakages in pumps, pipe line etc.
7. Necessary coordination with Civil side for cleaning of UG/OH tank should be ensured.

Part- III Maintenance/operation schedule.

Daily

1. Check the supply voltage for abnormal differences in phase voltage.
2. Check any leakage in the pump, if any tighten the gland or replace the gland dori.
3. Check working of gate valves.
4. Check that rubber is laid properly in front of Panel.
5. Check water availability in the underground & overhead tanks.
6. Start the pump and check for any abnormal noise/heating/smell.
7. Check the current drawn by the pump for any abnormality.
8. Check the water supply and operate the pump
9. For ensuring the water supply in the building.
10. Maintain the logbook as per the columns given in the form.

Weekly

1. Check operation of water level indicator with respect to actual water level in the tank.

Quarterly

- 1 Oiling of pumps, bearings & valves.....(Feb, May, August, Nov.)
- 2 Tightening of foundation bolts..... (Feb, May, August, Nov.)
- 3 Status of Earth connections..... (April, July, Oct, Jan)

Yearly

1. Repairing/Recasting of the foundation, if required..... (May)
2. Painting of the pump set / valves.

Testing

Detailed Testing of the installation shall be done once in a year to find out capacity and efficiency of various equipment with respect to their rating. The testing procedure shall be same as adopted at the time of original testing (but without involving the T&D persons.)

Notes

1. The attendants shall check respective items daily as per the checklist. This shall be

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100% test checked by JTO (E)/SDE (E) once in 15 days.

2. Quarterly & Yearly checks shall be performed directly under the supervision of JTO (E)/SDE (E) and monthly report on the same duly countersigned by EE (E) shall be sent to the SE (E) before 7th of next month.

3. The yearly testing report shall be sent to SE (E) with copy to CE (E) directly by EE (E) in charge.

Part-IV: Material

All the materials required for carrying out maintenance with the exception of following shall be arranged by the contractor at his own cost.

1. Replacement of Pump set.

2. Replacement of suction & delivery line i/c valves. Repairing including rewinding of motors/ Replacement of glands, Impellers shall be responsibility of the Firm.

NOTE:- The replacement of material shall be with the same rating and make as that of the original. However, in case of non-availability of a particular make, the Engineer-in-charge will approve the alternate make.

SECTION –3

SUB-STATION

Part I: Scope of Maintenance:

1.Ensuring that H.T. Panel, Transformer, LT panels, Capacitor panels and out door structure as well as connecting cables/ducts,constituting the substation are maintained in healthy & clean conditions

2.Monitoring on continuous basis power factor & peak load and ensuring that these are maintained within limits to avoid penalty.

3.To perform maintenance tasks as per schedule given in part III.

4.To disconnect total electric supply and or individual loads in case of emergent situation to avoid penalty.

5.To ensure continuous power supply and in case of break down take steps to ensure restoration at the earliest.

Part II – Tasks To Be Performed Within First 15 days.

1 Identify a person(s) with necessary competence to be responsible for sub- station maintenance. The person (s) deputed for sub-station job should. Know how to treat the persons suffering from electric shock/ burn etc. Be able to operate fire extinguisher. Make himself familiar with the distribution scheme the switches controlling various loads and also importance their of. Clearly understand what is to be done in case of an emergency. This should be done in consultation with Engineer In charge.

2. Carry out general inspection with a view to identity short coming if any in the sub-station installation.

3. Check all the switches & meters for proper operation.

4. Check availability and working of fire extinguishers at earmarked locations.

5 Check operation and calibration of all the safety devices like relays and fuses.

6. Check the earthing system for the proper earth values & continuity of earthing system.

7. Check insulation value of oil in all the equipments.

8. Carry out megger test.

9. Check oil level in all the equipments to ensure proper levels.

10. Check power factor meter, maximum demand meter for proper functioning.

11. Check all the Electrical connections for proper tightness. All result of above inspection to be recorded and brought to the notice of Engineer- in –charge. Specially highlighting short comings for necessary action.

Part- III Maintenance Schedule to be followed

Daily Checks

1. Check all the equipments installed in the Sub-station for any abnormal heating /smell /noise.

2. Check for any breakage/oil leakage in the equipment installed

3 Any inflammable materials like oil, broken furniture, packing etc. are stored in the sub- station. If fire hazardous material stored it has to be removed immediately.

4 In case of out door installation inspect for any abnormality.

5 Record various readings in the log-book (annexure – VI).

6 Ensure that the HT tripping circuit is in working condition.

7 Check power and maximum demand meters to ensure that the values are within permissible limit. Ensure that the capacitor panel is in working order. Any penalty on account of power factor/Maximum demand shall be made up by the firm.

8 D.C. voltage in case of indoor substation.

9 Ensure that only one transformer works at a time (in case 100% standby capacity is available) & is alternated monthly. The other transformer shall be kept off.

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Note: If anything adverse is noticed during the daily check the matter will be reported to the engineer- in- charge and wherever necessary corrective measures should be taken immediately.

Monthly

1. Check for tightness of connections in all the panels.
2. Check the tripping of the HT panel i/c batteries etc. for proper functioning.
3. Watering of earth pits and tightening of connections.
4. Check capacitor panel for proper functioning.
5. The colour of the breather attached to the transformer. Colour should be white.
6. Check for proper working of all the measuring instruments.
7. Check for electromechanical interlocking.
8. Check all relays, NO VOLT/ shunt Trip, IDMT Tripping for proper functioning.

Quarterly

1. Topping up of insulation oil in the equipment installed up to marked level(Jan, April, July, Oct)
2. Check HT tripping circuit for proper functioning..... (Feb, May, Aug, Nov)
- 3.0 In case of out door installation check operation of GOS..... (Jan, April, July, Oct)
- 3.1 Checking & cleaning of insulators..... (Jan, April, July, Oct)
- 3.2 Checking and cleaning of lighting arrestors. (Jan, April, July, Oct)
- 3.3 Checking & cleaning of drop out fuses. (Jan, April, July, Oct)

Half yearly:

- 1.1 Oil testing..... (April and October.)
- 1.2 Earthing systems check..... (April and October.)
- 1.3 Relays and other protection Devices working (April and October.)
- 1.4 Insulation measurement of the system..... (May and November)
- 1.5 ON/OFF operation of all switches including cleaning and lubricating of operating mechanism wherever required, particularly in case of outdoor installation..... (May and November)
- 1.6 Cleaning of HT/LT OCB/ACB/ other switchgears contacts & tightening of connections..... (May and November)

NOTE:- 1. If anything adverse is noticed during the daily check, the matter will be reported to the Engineer- in-charge and wherever necessary corrective measures should be taken immediately

Yearly:

- (1) Calibration of IDMT relays through M&T division.....(May)
- (2) Dehydration and filtration of insulating oil in all the equipment upto standard value.

Testing

Detailed Testing of the installation shall be done once in a year to find out capacity and efficiency of various equipment with respect to their rating. The testing procedure shall be same as adopted at the time of original testing (but without involving the T&D persons.)

Notes –

1. In case of any change in outgoing cables, sign writing to be updated accordingly.
2. The attendants shall check respective items daily as per the checklist. This shall be 100% test checked by JTO (E)/ SDE (E) once in 15 days.
3. Monthly, Quarterly, Half Yearly & Yearly checks shall be performed directly under the supervision of JTO (E)/ SDE (E) and monthly report on the same duly countersigned by EE (E) shall be sent to the SE (E) before 7th of next month.
4. The yearly testing report shall be sent to SE (E) with copy to CE (E) directly by EE (E) in charge.

Part-IV : Material

All the materials required for carrying out maintenance with the exception of following shall be arranged by the contractor at his own cost.

- 1 Replacement of complete transformers/H.T. panel/L.T. panel/Capacitor panel.
2. The replacement of the cable is not in the scope of the firm's scope of work, however any break down, burning in the end terminations of cable, or cable faults at joints, etc are to be attended by the form without any extra payment
3. Replacement of metering units, CT, PT, Relay and all other accessories under custody/ jurisdiction of Supply Company. However providing of DO fuse shall be the responsibility of the contractor.
4. Complete Replacement of Transformer oil. The contract is for the comprehensive maintenance as such the firm shall arrange all materials at his own cost including Rewinding of Transformers replacement of ACB'S & MCCB's.

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NOTE:-

1. Repair if possible/required in respect of items 2, 3, 4 in Part IV above shall be firm's responsibility.
2. The replacement of material shall be with the same rating and make as that of the original. However, in case of non-availability of a particular make, the Engineer-in-charge will approve the alternate make.

SECTION-4

ENGINE ALTERNATOR SETS

Part- I Scope of maintenance

Ensuring that the EA set installation is kept in clean and healthy working condition. Testing the system every day for operating fitness. Carrying out various maintenance activities and test as stated in part-III. The vendor shall arrange inspection of installation by authorized Engine service station and shall submit its health check report to BSNL. At the beginning of contract. The vendor shall replace the set of batteries as per schedule of work, once during the currency of contract. The engines have to be operated whenever required and staff should be available round the clock for the same.

Part –II Tasks to be performed within 15 days

1. Inspect the installation for any shortcoming which is to be recorded and brought to the notice of Engineer in charge.
2. Check the safety devices as well as operating switches for their proper functioning.
3. The system should be brought into working condition, if this is not the case, on priority.
4. The persons(s) should familiarize themselves with the installation, load distribution and working of E/A set. Need for watch to keep various parameters in permissible limits and responding to various alarms should be clearly understood.
5. Inspect the EA room for proper ventilation (normally 1 1/2 times the radiator area should be available for fresh air and the hot air during operation should have free passage to outside atmosphere. Steps for improvement to be discussed with maintenance in charge.
6. The Engine capacity vis-à-vis the load being supplied be checked to ensure that there is no mismatch.
7. Check the earthing system for proper values. The results of inspection as above should be recorded in register and brought to the notice of Engineer in charge.

Part III – Maintenance schedule to be followed.

Daily

1. Check Engine oil level & leakage if any.
2. Check Radiator/ Make up water tank water level & leakage if any.
3. Check fuel level.
4. Check state of batteries, terminals for cleanliness and level of water.
5. Check that the battery charger is in trickle charging position
6. Check whether insulation of the Exhaust pipe is proper.
7. Check that ventilation of the EA Room is proper.
8. Check oil pressure.
9. Check if lights and exhaust fan are working properly.
10. Check physically before start for loose connection/ nut bolt.
11. Check hydraulic governor of oil.

Weekly.

1. Check Air line connection and filter.
2. Check fan belt and its tension.
3. Check all Safety, indications, alarms, interlocking & Voltage Regulation

Fortnightly.

1. Check Battery voltage, Terminals, Electrolyte level (Top up if necessary).
2. Check Specific Gravity of Electrolyte. (After the above checks, start the engine for No load/ Connected Load and test for 10 minutes the following)
 1. Check for any abnormal noise. Shut down the E/A immediately and cause be examined.
 2. Check frequency & output voltage.
 3. Check the colour of Exhaust gas.
 4. Check working of the Indication lamps.
 5. Check working of Dynamo and Auto Cut off of the battery charger.
 6. Check for any Exhaust gas restriction.
 7. Check manual/ auto-changeover from commercial supply on connected load
 8. Record various readings in the logbook.

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Monthly

1. Check for tightness of connections in engine and control panel.
2. Watering of earth pits and tightening of connections.
3. Check functioning of safety devices.
4. Check belt tensions.
5. Check of battery charger.
6. Check for leakage of fuel line.
7. Check for leakage of exhaust pipes.
8. Inspect the manufacturer's chart for due date of maintenance. Servicing of the DEA set on the basis of hour meter/log book reading shall be done by the firm i/c material

Half yearly

1. Cleaning of bus bars & chambers and tightening of nut bolts.....(Feb & Aug)
2. Checking of ACB/ MCCB tripping mechanism(Feb & Aug)
3. Earth testing and Meggering(April & Oct)
4. Relays and other protection devices working properly (April & Oct)

Yearly.

1. Tighten all mounting, nut and bolt.....(March)
2. Check turbo charger bearing clearance. (if applicable).....(Oct)
3. Check crankshaft and float..... (Oct)
4. Check injector inlet screen.(Oct)
5. Clean and calibrate all injectors..... (Nov)
6. Check fuel pump calibration..... (Nov)
7. Replace fuel pump filter screen and magnet.....(Nov)
8. Complete health check of each set through Authorized service station.....(March)

Testing Detailed Testing of the installation shall be done once in a year to find out capacity and efficiency of various equipment with respect to their rating. The testing procedure shall be same as adopted at the time of original testing (but without involving the T&D persons.)

Notes

1. The attendants shall check respective items daily as per the checklist. This shall be 100% test checked by JTO (E)/SDE (E) once in 15 days.
2. Fortnightly, Monthly, Half Yearly & Yearly checks shall be performed directly under the supervision of JTO (E)/SDE (E) and monthly report on the same duly countersigned by EE (E) shall be sent to the SE (E) before 7th of next month.
3. The yearly testing report shall be sent to SE (E) with copy to CE (E) directly by EE (E) in charge.

Part-IV : Material

All the materials required for carrying out maintenance with the exception of following shall be arranged by the contractor at his own cost:-

Diesel for E/A sets.

Replacement of complete Engine, Alternator and control panel.

~~Battery of DEA Set only once. (at the beginning of contract as given in schedule of work)~~

Major overhauling of DEA Set which is due after some fixed running hours (top overhauling). The contract is for the comprehensive maintenance as such the firm shall arrange all materials at his own cost including rewinding of Alternators.

NOTE:- The replacement of material shall be with the same rating and make as that of the original. However, in case of non-availability of a particular make, the Engineer-in-charge will approve the alternate make..

Part-V Special conditions relevant to particular job/particular site.

1. Services as per manufacturer's recommendations shall be carried out by the firm including material without extra cost.
2. The department shall bear the cost of diesel & transportation but handling of diesel including filling etc. shall be arranged by the contractor.
3. The servicing and breakdown maintenance has to be got done from authorized service Centre/dealer of the Engine manufactures

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LIST OF APPROVED MAKES-BSNL ELECTRICALWING

| Sl. No. | Item | Makes |
|---------|--|---|
| 1 | Engine | Ashok Leyland/Cummins/ Caterpillar/ KOEL/ VolvoPenta/Mahindra&Mahindra(upto40KVA)/Escorts(upto30KVA) /Eicher(upto20KVA) |
| 2 | Alternator (Brushless) | CromptonGreaves(AL.series)/KEC/ Leroy Somer/Stamford/JyotiLtd |
| 3 | Battery(LeadAcid/ Maintenance Free) | AmaraRaja/AMCO/Farukawa/Hitachi / Exide/Prestolite/Standard |
| 4 | HVSwitchgear (VacuumCircuit Breaker/SF6) | BieccoLawrie/Crompton/Kirloskar/ MEI/ JyotiLtd |
| 5 | Transformer(Oilfilled /Drytype) | ABB/SchneiderElectric/AndrewYule/ BharatBijlee/Crompton/EMCO/ Kirloskar /Siemens |
| | a)Above400KVA | |
| | b) Upto400KVA | Inadditiontoabovemakes, Uttam/AutomaticElectric Gear(AEG)/Patson/Rajasthan Transformerand switchgear |
| 6 | AirCircuitBreaker | L&T/Schneider Electric/Siemens |
| 7 | MCCB(lcs=lcu) | L&T/SchneiderElectric/Siemens |
| 8 | SDFunits | L&T/Schneider Electric/Siemens/ HPL/Havells |
| 9 | PowerContactors | L&T/SchneiderElectric/Siemens/ Lakshmi (LECS) |
| 10 | ChangeOverSwitch | HPL/Havells/H-HELcon |
| 11 | IntelligentAPFCRelay | L&T/EPCOS(Siemens)/SchneiderElectric/ NeptuneDucati/Syntron/ABB |
| 12 | Bus BarTrunking/SandwichedBusDuct | Moeller/L&T/Schneiderelectric/ABB/Legran /Zeta |
| 13 | PowerCapacitors(MPP/APP) | L&T/EPCOS(Siemens)/ABB/Crompton/ Schneider Electric/NeptuneDucati |
| 14 | Digital/KWHrmeter | SchneiderElectric/AE/Digitron/IMP/Meco/Rishabh/ Universal/HPL/L&T/ABB |
| 15 | Cold shrinkHT/LT CableJoint | Denson /3M(M-Seal)/Raychem |
| 16 | RubberMatting | ISImark |
| 17 | MCB/ isolator/ELCB/RCCB/ DistributionBoard | Crompton/ Havells/Indokopp /MDS Legrand/L&T/SchneiderElectric/ Siemens/Standard/C&S/ABB/HPL |
| 18 | MS/ PVCCConduit | ISImark |
| 19 | Cable Tray | MEM/Bharti/Ratan/Slotco/Profab |
| 20 | HT/LTCables | ISImark |
| 21 | PVCinsulatedcopperconductorwire | ISImark |

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| | | |
|----|-----------------------------------|---|
| 22 | CentrifugalPump | Amrut/BE/Beacon/Batliboi/ Crompton/Jyoti/Kirloskar/KSB/ Mather &platt/WASP/Grundfos |
| 23 | SubmersiblePump | Crompton/Amrut/BE/Calama/ Kirloskar/KSB |
| 24 | Motors | ABB/BharatBijlee /CromptonGreaves/ SchneiderElectric/HBB/KEC/ Siemens/JyotiLtd |
| 25 | FreshAirFans | GE/Khaitan/Almonard/Crompton |
| 26 | Starter | ABB/BCH/SchneiderElectric/L&T/ Siemens/ |
| 27 | SinglePhase Preventer | L&T/Minilec/Siemens/Zerotrip |
| 28 | GI/MSPipe | ATC/ATL/BST/GSI/ITC/ITS/IIA/ JST/Jindal/TTA/Tata/Zenith |
| 29 | FootValve | ISImark |
| 30 | GateValve | Advance/Audco/Johnson Controls/Zoloto/Annapurna/Fountain/ Kirloskar /Leader/Sant/Trishul |
| 31 | Compressors | Carrier/Emersoncopeland/York/Danfoss(forchillersonly) |
| 32 | ResinBondedGlass wool | FibreGlass/Pilkingston/UPTwiga |
| 33 | ExpandedPolystyrene | BASF(India)Ltd. |
| 34 | Gauge | Feibig/H.Guru/Pricol |
| 35 | Controls | FLICA/Honeywell/Indfoss/Penn- Danfoss/Ranco/anutrol/Sporland |
| 36 | Fine Filters | AnfiltraEffluent/ARW/Athlete/Airtake/ Dyna/Kirloskar/Puromatic/Purafill/Purolator/Tenacity |
| 37 | GI Sheet | HSUJindal/National /NipponDenro/ Sail/Tata |
| 38 | Heat Detector | Appollo/Chemtron/Edward/Fenwal/ Hochiki /Nitton/SystemSensor/ Wormald/HoneywellEssar/Notifier |
| 39 | Ionization Detector | Appollo/Cerebrus/Edward//Fenwal/ Hochiki/Nitton/SystemSensor/ Wormald |
| 40 | PhotoElectricSmoke Detector | Appollo /Cerebrus/Edward/Fenwal/ Hochiki/Nitton/Wormald |
| 41 | Fire Panel (Microprocessor based) | AgniInstruments/AgniDevices/ArunaAgencies/CarmelSensor/Ravel Elect./Honeywell Essar/Notifier/NavinSystems |
| 42 | Sprinkler/HoseReel&HosePipe | ISImark |
| 43 | FireExtinguisher | ISImark |
| 44 | Lift | OTIS,Kone,Mitsubishi, Schindler,Johnson |

Contractor

Executive Engineer(E)

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.

Contractor

Executive Engineer(E)

Name of work: Operation and Comprehensive maintenance of Electromechanical services at Telephone Exchange, Flower Bazaar, Chennai (for the year 2021-23) (for 24 months)

PROFORMA OF SCHEDULES

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

SCHEDULE 'A'

Schedule of quantities : Attached

SCHEDULE 'B'

Schedule of materials to be issued to the bidder: Nil

SCHEDULE 'C'

Tools and plants to be hired to the bidder: Nil

SCHEDULE 'D'

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

SCHEDULE 'E'

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

SCHEDULE 'F'

Reference to General Conditions of contract :

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

General Rules & Directions: Officer inviting tender:

Executive Engineer (E)
Electrical Division-I
Chennai

Definitions:

| | |
|---|--|
| 2(v) Engineer-in-Charge | Executive Engineer (E), ED-I, Chennai |
| 2(vi) Accepting Authority | SE (E), Electrical Circle -II, Chennai |
| 2(x) Percentage on cost of materials and labour to cover all over heads and profits | 10% (TEN) |

CLAUSE 5

Time allowed for execution

24 Months

Authority to give fair and reasonable extension of time for completion of work:

SE (E), EC-II, Chennai

Competent Authority for deciding reduced rates:

SE (E), EC-II, Chennai

Clause 25

Competent authority for conciliation:

SE (E) not in-charge of the work.

BSNL EW-8
Bharat Sanchar Nigam Limited
Electrical Wing

Electrical Division: I, Chennai

Sub Division: VI, 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
8. \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: Operation and Comprehensive maintenance of Electromechanical services at Telephone Exchange, Flower Bazaar, Chennai (for the year 2021-23) (for 24 months)

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