

Name of work :- Operation and Comprehensive annual maintenance of Electro mechanical services at RMC DC, 3rd floor, TE Kellys, Chennai. (2018-2020)



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 annual maintenance of Electro mechanical services at RMC DC, 3rd floor, TE Kellys, Chennai. (2018-2020)

NIT No : 66 / EEE/ED-I/CH/2018-19

This tender document contains **49 (Forty Nine)** pages only.

For E Tender Help Desk of M/s ITI Limited.Tel.No.011 49424365;
Mail Id : twhelpdesk680@gmail.com, bsnlthelpdesk@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 annual maintenance of Electro mechanical services at RMC DC, 3rd floor, TE Kellys, Chennai. (2018-2020)"
2	Estimated cost put to tender (Rs.)	Rs.22,49,952/- (Excluding GST)
3	Earnest Money (Rs.)	Rs. 44,999/-
4	Period of completion	Twenty Four months
5	Last date & time for downloading of tender document by bidder	Up to 14:55 Hrs. on 03 -11 -2018
6	Last date & time for online submission of tender	Up to 15:00 Hrs. on 03 -11 -2018
7	Last date & time for submission of original Tender cost and EMD	Up to 15:00 Hrs. on 03 -11 -2018
8	Date and time for opening of tender	15:30 Hrs. on 03 -11 -2018
9	Tender cost (Non refundable)	Rs.500/- (+) GST 18%
10	E-tender Processing fee (Non refundable)	0.05% of estimate cost subject to the minimum of Rs.500 and Maximum of Rs. 5000 plus 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 either substation or air-conditioning service as part of scope of work during last 7 years ending last day of month previous to the one in which applications are invited, should be either of the following :

- Three similar successfully completed works costing not less than the amount equal to 40% of the estimated cost put to tender.

(OR)

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

(OR)

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

NOTE: The estimated cost of one year shall be considered to evaluate the eligibility criteria.

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, as applicable
 - 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, the original authorisation letter by the manufacturer (wherever applicable), (the scanned copies of which are uploaded) 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: IV, Chennai

Item rate tenders on single bid system are invited on behalf of CMD,BSNL for the work **“Operation and Comprehensive annual maintenance of Electro mechanical services at RMC DC, 3rd floor, TE Kellys, Chennai. (2018-2020).”** 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. 22, 49,952/- (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 TELPHONES payable at CHENNAI shall be scanned & uploaded in the e-tendering website within the period of tender submission. The validity of the tender cost in the form of DD shall be **60 days** from the date of opening.
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 TELPHONES payable at CHENNAI shall be scanned & uploaded in the e-tendering website within the period of tender submission. The validity of the EMD in the form of DD shall be **60 days** from the date of opening. If the EMD is in the form of CDR/FDR/BG, the validity shall be **180 days** from the date of opening. In case of L1 bidder, the validity of CDR/FDR/BG is to be extended up to the observation period as that of the Performance guarantee / Security deposit.

10. The Physical **TENDER COST** and **EMD** of which the scanned copy is uploaded shall be deposited by all the bidders before 3:00 PM 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.
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 **03 -11 -2018 up to 3:00 PM** and the bid submitted shall be opened at **03:30 PM on 03 -11 -2018**. 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.

FORM 'A'

Undertaking to abide by EW 6 & EW 8

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

(Seal of the firm)

(Signature of Bidder)

FORM 'B'

Undertaking regarding EPF provisions

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

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

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

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

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

* Strike out whichever is not applicable

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

(Seal of the firm)

(Signature of Bidder)

FORM 'C'

Performance report of works

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

Dated:

Executive Engineer or Equivalent /above

FORM 'D'

No Near relative working certificate

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

(Seal of the firm)

(Signature of Bidder)

ANNEXURE I

**MODEL FORM OF BANK GUARANTEE
(For 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

ANNEXURE II
PERFORMANCE SECURITY GUARANTEE BOND

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

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

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

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

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

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

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

Dated the _____ day of _____

for _____ (indicate the name of bank)

IMPORTANT INSTRUCTIONS TO THE TENDERERS

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

1 (i) INCREASE /DECREASE OF TENDERED QUANTITY

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

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

1 (ii) CURTAILMENT OF QUANTITY:-

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

2) COMPLETION OF WORK:-

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

3) EXTENSION OF TIME:-

If the contractor shall desire an extension of time for completion of work on the grounds of his having been unavoidably hindered in its execution or on any other grounds, he shall apply in writing to the

Engineer in charge within 30 days of the hindrance on the account on which he desires such extension as aforesaid, and the Engineer in charge shall if in his opinion reasonable grounds to be shown therefore, authorize such provisional extension of time, if any as in his opinion be necessary are proper.

4) COMPENSATION FOR DELAY :

If the contractor fails to maintain the required progress or complete the work and clear the site on or before the contract or extended date of completion, he has to pay the

compensation for delay which is limited to 0.5% per week of the tendered value for the first 10 weeks and 0.7% per week for next 10 weeks and thereafter subject to a maximum of 12% of the tendered value for the location where the work is delayed and the firm is found responsible for the same. The clause 2 of BSNL - 8 forms stands modified accordingly. Flow chart of the Procurement process/ contract shall be supplied by the contractor and approved by Executive Engineer concerned.

5) TERMS OF PAYMENT:

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

6) EPF PROVISIONS:-

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

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

7) PROGRAMME FOR EXECUTION

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

8) STORES AND SAFETY

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

9) CO-ORDINATION AT SITE

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

10) COMPLETION DRAWINGS

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

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

11) CHANGES IN SPECIFICATIONS

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

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

Or

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

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

12) I.S. Standards:

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

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NAME OF WORK:- Operation and Comprehensive annual maintenance of Electro mechanical services at RMC DC, 3 rd floor, TE Kellys, Chennai. (2018-2020)

S. N	Description of Items	Qty	Unit	Rate / excluding GST	CGST		SGST		IGST		Rate /unit including GST	Total Amount excluding GST	Total Amount including GST	HSN/ SAC Code
					% Rate	Rate per unit	% Rate	Rate per unit	% Rate	Rate per unit				
1	2	3	4	5	6	7=6 x5	8	9=8x5	10	11=10x5	12=5+(7+9)or 11	13=3x5	14=3x12	15
1)	<p>Operation of following electro mechanical services i/c monitoring at CMS / RMC by deploying the one Skilled Labour and three semiskilled Labour manpower for manning round the clock * 24/7 and by arranging required tool and plants etc to keep all services operational required including holidays and Sundays up to standards and coordinating other AMC service providers complete as per specification, conditions specified as required.</p> <p>a.EI & Fans & Earthing b.Panels c.Fire Extinguishers d.S/T AC units 1.5TR i/c stabilizers e.125KVA DG sets-2nos. f.Building Management System g. Fire detection and Extinguishing system h. Access control</p>	24	Months											

UNPRICED SCHEDULE

Contractor

Executive Engineer(E)

Name of work :- Operation and Comprehensive annual maintenance of Electro mechanical services at RMC DC, 3rd floor, TE Kellys, Chennai. (2018-2020)

	i. CCTV j. UPS with Battery sets k. Precision AC units												
2	Comprehensive Maintenance of following electromechanical services as per inventory attached i/c arranging specialised manpower, tools and materials for replacement of faulty components, attending to faults, and carrying out periodical checks as per maintenance schedule etc as required.												
a	EI & Fans & Earthing	24 Months	Month										
b	Panels	24 Months	Month										
c	Portable Fire Extinguishers	24 Months	Month										
d	S/T AC units 1.5TR i/c stabilizers	24 Months	Month										
e	2x125KVA DG sets (WITHOUT OIL SERVICING)	24 Months	Month										
f	Servicing of 2 x 125 KVA EA set i/c changing of engine oils, fuel filters , Oil filters and cleaning of air filters etc as reqd.	2 Jobs	Job										
Total													

UNPRICED SCHEDULE

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INVENTORY

EI&FANS (OPERATION & Comprehensive AMC to be done)									
Total Sq.ft of Term Cell Area- 3481Sq.ft (323 Sq.mtr)									
	ROOM	2x28 M/O FL TUBE	2x36W CFL	6W LED	WALL FAN	EXHAUST FAN	EXIT LAMP	4.5kg Co2	6 Kg DCP
1	RMC DC Area	2nos.	21 nos.	20 nos.	3 nos.	2 nos.	2 Nos	4 nos.	1 nos.

INVENTORY MAIN LT PANEL (OPERATION & Comprehensive AMC to be done)	
1	AUTO SELECTION PANEL
	250 A MCCB- 4NOS
	225A 4 POLE CONTACT 3 NOS
	AUTO SELECTION CIRCUIT- 1 SET
	TRANSFORMER SELECTOR -1NO
2	MAIN LT PANEL
	250A MCCB 1 NO
	100 A MCCB-5 NOS
	SPMCCB-12 NOS
3	PAC PANEL
	100A MCCB 1 NO
	63A TPN SWITCH -4NOS 10A DPMCB
4	UPS Paralleling Panel
	5 nos 100A switch
	2 set of Multifunction meter
5	Distribution DB
	12 way spn -ups -1no
	8way TPDB vertical-1 no
	4 way TPDB-1 no
	UPS TPDB 2 nos
6	EARTHING SYSTEM
	UPS NEUTRAL-2NOS
	DG NUETRAL -4 NOS
	DG BODY -2NOS
	RMCDC BODY -2NOS

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	DG SET	2015
1	2 X125KVA - 1 SET (Make : Kirloskar)	
2	1000 LTR TANK -2NOS	

INVENTORY (Only OPERATION TO BE DONE)

BMS SYSTEM.(Only Operation to be done)							
	ROOM	Speaker	MCP	Detector	RI	CAMERA	Hooter cum light
1	RMC DC Area	8	4	17	12	4	2

INVENTORY ITEMS (Only Operation to be Done)

<u>INVENTORY ITEMS (Only Operation to be Done)</u>		
Fire Detection and Fire Protection		
1	AFD Panel -1 no	
2	NOVAC activation panel Abort activate switch -1set	
3	NOVAC Gas cylinder electrical actuator release nozzles below and above false ceiling	
4	PA SYSTEM CONTROLLER , MIC , POWER AMPLIFIER , RACK -1SET	
ACCESS CONTROL SYSTEM		
1	CARD CUM BIOMETRIC READER -4 NOS	
2	EM DOOR LOCK -2 NIOS	
3	DOOR RELEASE SWITCH- 1 NOS . TOTAL BYPASS SWITCH 1 NO	
4	ACCESS PANEL -1NO	
5	EMERGENCY DOOR RELEASE SWITCH AT SERVER ROOM-1NO	
CCTV		
1	CAMERA -4 NOS	
2	22"LED MONITOR/TV -1NO	
BMS SYSTEM		
1	BMS PANEL -1NO	
2	REMOTE I/CO PANLE -1NO	
3	BMS SERVER -1NO	
4	LAN SWITCH -1NO	
5	RECEPTION PC -1NO	
6	RECEPTION PRINTER-1 NO	
UPS		DOI- 17.11.2014
1	2X40KVA -2 SET	
2	1X5KVA -1SET	
Package AC Unit		
1	Pr.PAC UNITS WITH ACCESSORIES- 3Nos.	DOI- 15.11.2014

No of staff required:

One Electrician (Skilled) (B license holder with knowledge to operate computer) / Shift for one shift per day

Three Electrician (Semi skilled) (B license holder) for 3 shifts per day (1st, 2nd & 3rd shifts)

GENERAL CONDITIONS

SCOPE OF MAINTENANCE GENERAL

Comprehensive Maintenance Technical building means that all items required for and forming part of the Installation included in the schedule of work are kept in healthy and clean condition and carrying out operation of the plant. Specific details of maintenance activities required are detailed under sections-II.

METHODOLOGY

It is presumed that contractor will provide at least minimum qualified staff at the site, which will be adequate to perform routine maintenance and operational functions. Also maintenance staff has to be available round the clock round the year even on holidays. Scheme for staff employed shall be got approved by the Engineer-in-charge.

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 faults in minimum reasonable time. The operation and Maintenance work shall be carried out in such a way that the essential services are not affected at any time by attending the faults reported within the time period as specified by Engineer-in-Charge.

QUALIFICATIONS

Electrician

Electrical wireman permit / workman's competency certificate / Electrical workman's license (certificate of competency class-II) or any other equivalent certificate with at least two years experience in the line

The following Tools & Plants and safety equipment shall be kept at site.

1. Torch
2. Clip on meter
3. Digital Multimeter
4. Hammer
5. Nose plier
6. Line tester
7. Combination Plier
8. Set of screw drivers
9. Set of fixed, ring and box spanner (6mm to 32mm)
10. Adjustable spanner
11. Ladder
12. Drilling Machine
13. Megger (earth & Insulation)
14. Earth Tester.
15. Suitable ladder for compound light and fitting
16. Sling Thermometer
17. Pressure gauge

Safety equipments/ gadgets

- a) Safety hand gloves – 2 Nos
- b) Fuse pullers – Nos
- c) Industrial boots – 1 pair each for all maintenance personal engaged by the firm

COMMERCIAL

- 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 improper, Executive Engineer's decision shall be final.
- Any damage to the Installation(s) / Building during the maintenance period due to the carelessness on the part of maintenance staff shall be the responsibility of firm & be replaced /rectified without any extra cost.
- The agency will provide the workers necessary T & P, Testing & safety equipments.
- Any accident of damage during maintenance / operation will be the responsibility of the agency & the Department will not entertain any claim. Compensation, Penalty etc. on this account of non observances of any other requirement of law relevant to his work.
- Agency has to observe all the labour rules & regulations in force.
- The agency has to supply details as per annexure I of all the workers likely to be engaged by him before start of the work and get it approved by Executive Engineer.
- Firm should also supply two pass port size photographed identity cards of the workers. One copy of the identity card should be submitted to SDE(E) in charge of the maintenance and original shall bear with the workers.
- Dismantled materials shall be returned to the BSNL except those items for which the replacement is supplied by the agency.
- The BSNL reserves the right to carry out any work at the risk and cost of the agency, if the agency fails to perform any duty as per the contract.
- The Tenderer must obtain himself at his own expenses all the information necessary for the purpose of tendering.
- Inspect the site & acquaint himself with all local conditions, means of access to work & nature of work etc. no claims shall be entertained on these accounts.
- The rates quoted must be full & final, [Inclusive of all charges like fixing / laying of department materials, making good the damages etc.]
- Nothing extra is payable other than the quoted rates unless specified.
- The contractor shall not sublet the work or part thereof. However, services of specialized agencies for specific work can be obtained.
- The firm shall maintain the Installation(s) in such a way as to provide uninterrupted working of AC plant the exchange / Bldg. In case of Ac plant failure of more than 1 hour in a day, the firm can be penalized if this is on account of carelessness on the part the Contractor. The decision of EE (E) shall be final.
- The firm at his own cost should arrange the sitting arrangement for the staff engaged by them. The space, water, Telephone & electricity shall be made available by the Department at free of cost.
- The BSNL reserves the right to terminate the contract by giving show cause notice of one month duration at any time during the currency of the contract.
- The BSNL reserves the right to extend the contract for a maximum period of **six** months at the same rate & conditions.

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- The contractor has to keep all the Electro mechanical equipment at site neat and clean to avoid any accident and fire hazard
- Since the firm will be doing the maintenance and operation of AC plant, responsible & trained person(s) should be placed round the clock at site who could take initial steps under emergency situation.
- Firm should have round the contract telephone number. In case of Emergency contractor and authorized engineer supervisor shall be available at site on short notice from engineer-in-charge and make efforts to make the situation normal at the earliest.
- A complaint book as per Annexure-III shall be kept up to date at site by the firm and the same shall be available for checking & verification.
- The staff engaged by the firm shall bear I-Card issued by the firm, while on duty.
- After the contract period is over the Installation has to be duly handed over to the BSNL. The contractor shall be responsible for any discrepancies vis-à-vis, the status of installation at the start of work plus any modification carried out during the currency of the contract.
- Any defects, and shortcomings brought to the notice of the department at the time of the taking over of the site by the contractor from the earlier agency or from the BSNL shall be the responsibility of the Dept.
- 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.
- Contractor has to observe all the labour rules and regulations in force & BSNL shall not be liable for any default.
- The firm shall also coordinate with the JTO (E) / SDE (E) for carrying out energy audit/capacity test at site with respect to all Electromechanical Services whenever required.
- BSNL is having right to pre close the agreement in special cases with one month notice without assigning any reason.
- BSNL is having the right to curtail the quantity according to the requirement

PENALTY CLAUSE

1. Any damage to the installation(s)/building due to the carelessness on part of firm's staff shall be the responsibility of firm and shall be replaced/rectified without any extra cost
2. Any accident or damage will be the responsibility of agency and the BSNL will not entertain any, claim, compensation, penalty etc on this account or on account of non observance of any other requirement of law relevant to his work.
3. If the agency fails to rectify any fault within reasonable time, the department reserves the right to carry out the work at the risk and cost of the agency. In case the fault is of emergency nature which may affect the normal functioning of the services and the firm fails to take immediate necessary action, the work shall be carried out the risk and cost of the firm without giving any notice. The decision of the EE(E) shall be final
4. In case of unsatisfactory performance during this period one Percent (1%) penalty of the bill amount shall be imposed.

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5. For repeated unsatisfactory performance during the contract period penalty up to 5% of bill amount shall be imposed. Decision of Executive Engineer (E) shall be final on this account.

PENALTY FOR DEFICIENCY IN SERVICE:

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

Note:-

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

A. Details to be supplied before starting the work

1.	Name of the Agency (with Office address & E-mail Address)		
2.	Name of the Proprietor		
3.	Telephone No.(s) of the firm		
4.	Name & Address of the Supervisor		
5.	24 Hours contract No.		
6.	Particulars of the License/		

B. Details of the Staff to be posted at site

	Name & Address	Qualification	Responsibility
1			

COMPLAINT REGISTER

Annexure - III

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

SPECIFICATION
EI & FANS

Part-I: Scope of Maintenance:

- Ensuring that EI installation is always kept in clean, healthy working condition.
- Attending day-to-day routine complaints in the prompt and satisfactory manner.
- 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.
- Maintaining the installation i.e. fans fittings and other components of the installation in clean condition including proper sign writing.
- Ensuring that there is no wastage of electrical energy. Details of steps to be taken in this regard to worked out in consultation with the maintenance in charge.
- Carrying out minor additions and alternations order by Engineer in charge
- Carrying out various maintenance routines and test as stated in part III.
- Maintaining Registers for complaints and test results.
- In case of staff quarters, scope of maintenance is limited to the wiring and accessories as per the standard yard stick of the department and shall not cover the additional / alterations carried out by the occupants.

Part II Tasks To be Performed within first 15 days.

Following items should be carried out within first 15 days.

- Establish an Enquiry office and organize a system with the approval of Engineer – in – charge so that complaints can be received and attended properly.
- Measurement of the resistance of Earth Stations of EI System and checking of the continuity of earth conductor. Results to be recorded.
- Preparing an inventory of materials to be kept at site for prompt maintenance in consultation with Engineer-in-Charge. Materials for all the services to be considered for preparation of inventory.
- Inspection of Main board & SDBs for (a) any loose./improper connection (No strand cutting for making connection to be allowed), (b) improper rating of switches /fuses/(c) Cleanliness.
- General inspection of EI system 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-in-charge
- Insulation Test.

Part III Maintenance Schedule to be followed

- i) Testing of Earthing state for earth resistance and continuity – After every six months of initial testing.
- ii) Inspection of MB & SDB-every month after initial testing.
- iii) Insulation test of MB & SDB-every month after initial testing.
- iv) Greasing and oiling of fans, fitting etc on regular basis so that installation is always clean.
- v) Broken/incomplete louvers of fittings, switch plates etc. to be attended at the earliest.

PART IV: MATERIALS.

- i. All the materials required for carrying out maintenance with the exception of following shall be arranged by the contractor at his own cost.
 - a. Replacement of complete Fans & Fittings.

LT PANELS

Part-I Scope of Maintenance:

- Ensuring that LT Panels as well as connecting cables/duets are maintained in healthy & clean condition.
- To perform maintenance tasks as per schedule given below.
- To disconnect total electric supply and or individual loads in case of emergent situation to avoid/limit damage.
- To ensure continuous power supply and in case of breakdowns take steps to ensure restoration at the earliest.
- Maintain the log book for note down monthly reading of Sub meter in Sub-station as per directions of the Engineer in charge.

Part II Tasks to be performed Within First 15 Days

1. Identify a person (s) with necessary competence to be responsible for LT panel maintenance.
 - The person(s) deputed for sub-Station job should
 - a) Know how to treat the persons suffering from electric shock / burn etc.
 - b) Be able to operate fire extinguisher.
 - c) Make himself familiar with the distribution scheme the switches controlling various loads and also importance.
 - d) Clearly understand what is to be done in case of an emergency. This should be done in consultation with Engineer – in – charge.
 - Carry out general inspection with a view to identify shortcoming if any in the LT panel installations.
 - Check all the switches & meters for proper operations.
 - Check availability and working of fire extinguishers at earmarked locations.
 - Check operation and calibration of all the safety device like relays and fuses.
 - Check the earthing system for the proper earth values & continuity of earthing system.
 - Check Insulation value of oil in all the equipments.
 - Carry out Megger test.
 - Check oil level in all the equipments to ensure proper levels.
 - Check All meters for proper functioning.
 - Check the tripping of the MCCB etc. for proper functioning.
 - Check all the Electrical connections for proper tightness.

All results of above inspection are to be recorded and brought to the notice of Engineer-in-charge .

Part III Maintenance schedule to be followed

Daily Checks:

Check all the equipments installed in the LT Panel for ;

- (i) any abnormal heating.
- (ii) for any abnormal noise
- (iii) any inflammable material like oil, broken furniture, packing etc are stored in the Sub-station. If fire hazardous material stored it has to be removed immediately. If required contact Engineer-in-charge for suitable action
- (iv) Proper working of the instruments.

Read the servicing schedule (to be finalized in consultation with the Engineer-in-charge) of LT Panels with a view to alert the authorities concerned in advance of the due dates of maintenance activity.

Maintain the log book for note down monthly reading of Sub meter in Sub-station as per directions of the Engineer in charge. (The Engineer in Charge should decide about the items to be recorded in the log book as well as their frequency. This should be decided so that the data is useful and maintenance of log book is not reduced to routine meaningless activity.

Six monthly

- Earthing system check – after six month of last test.
- Insulation measurement of the system – after six months of last test.
- Checking of the connections for tightness and cleanliness – after six months of last test.
- ON / OFF operation of all switches including cleaning and lubricating of operating mechanism wherever required.

PART IV: MATERIALS.

- i. All the materials required for carrying out maintenance arranged by the contractor at his own cost.

ENGINE ALTERNATOR SETS

Part- I Scope of maintenance

1. Ensuring that the DG set installation is kept in clean and healthy working condition.
2. Testing the system every day for operating fitness.
3. Carrying out various maintenance activities and test as stated in part-III.
4. The contractor shall arrange, inspection of installation by authorized service dealer and shall submit its health
5. check report to BSNL based on run hour and standard practice.
6. Ensuring proper functioning and operation of AMF panel .
7. Servicing of DG set on the basis of hour meter / log book reading shall be done by the contractor including material and DG set servicing through authorized service dealers as per manufacturer recommendation.
8. The EA set should be run every day about 15 minutes to ensure that it is in perfect working condition. Maintain the EA sets log book as per **Annexure - V**.

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 persons(s) should familiarize themselves with the installation, load distribution and working of DG set.
4. Need for watch to keep various parameters in permissible limits and responding to various alarms should be clearly understood.
5. Checking of AMF panel

Part III – Maintenance schedule to be followed.

Daily

- Check the availability of diesel.
- Check the level of water/coolant in the radiator.
- Check the state of battery, terminals for cleanliness & level of water.
- Check the Lubricating Oil level. The EA set should be run every day about 15 minutes to ensure that it is in perfect working condition.
- Ensure cleanliness of the EA room.
- Check air line connection and air breather for cleanliness.
- Cleaning of EA sets/canopy etc
- Proper working of safety devices and alarms should be ensured.
- Maintain the EA sets log book as per directions of the Engineer in charge

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)
3. Check for any abnormal noise. Shut down the DG set immediately and cause be examined.
4. Check frequency & output voltage.
5. Check the colour of Exhaust gas.
6. Check working of the Indication lamps.
7. Check working of Dynamo and Auto Cut off of the battery charger.
8. Check for any Exhaust gas restriction.
9. Check manual/ auto-changeover from commercial supply on connected load

Monthly

1. Check for tightness of connections in engine and control panel.
2. Check functioning of safety devices.
3. Check belt tensions.
4. Check battery charger.
5. Check for leakage of fuel line.
6. Check for leakage of exhaust pipes.

Half yearly

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1. Cleaning and tightening of nut bolts..... (Feb & Aug)
2. Checking of MCCB tripping mechanism (Feb & Aug)
3. Meggering of alternator..... (April & Oct)
4. Relays and other protection devices working properly (April & Oct)
5. Checking of Canopy.

Yearly.

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

Oil servicing of DG set on the basis of hour meter/log book reading shall be done by the contractor i/c material and DG set servicing shall be done through authorized dealer as per manufacturer's recommendation or Once in a year whichever is earlier. Oil Servicing of DG set shall be measured and paid separately as per Item No.3 of schedule of work.

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 Engine, Alternator, Canopy and AMF control panel.**

WINDOW / SPLIT AC UNITS MAINTENANCE

PART-I: SCOPE OF MAINTENANCE:

- a) Keep all the units in clean & healthy working condition.
- b) Attending day to day faults promptly.
- c) Carrying out maintenance tasks as mentioned in Part-III.
- d) A/C unit maintenance card as per Performa enclosed shall be maintained by the contractor and kept near ac units and it shall be available for checking and attesting by the competent authority or his duly authorized representative .A duplicate copy of the card shall be with the firm and shall be submitted to SDEE as and when required
- e) Service report as per proforma enclosed shall be submitted with every bill.
- f) The A/C units shall be handed over to BSNL in satisfactory working condition on the completion of the comprehensive maintenance.

PART II:TASKS TO BE PERFORMED WITHIN 15 DAYS

Following tasks should be carried out within 15 days.

- 1) Shall carry out tests as per test schedule before taking over the maintenance.
- 2) Shall collect information like the telephone numbers of the BTS in charge, JTO(E), SDE(E),EE(E),Fire service, Supply Company, Local Hospitals, Emergency Services etc. and preserve it in the maintenance office.

Part III – MAINTENANCE SCHEDULE TO BE FOLLOWED

Monthly

- a) Check of air filters & clean them
- b) Checking of Electrical Connections
- c) Check voltage stabilizer provided with A/C unit.
- d) Check for leakage of condition air.
- e) Check that fins are clean.
- f) Check the window AC control unit.
- g) Check for tripping of compressor by thermostat.
- h) Check any combing is required in the fins at the back of the unit and other items as per monthly service report

Quarterly

- a) Cleaning /water washing of window unit or condensing unit in case of split AC units/High sensible AC.

Part IV Materials.

- a) All the materials required for carrying out maintenance except the following shall be arranged by the firm at his own cost.
 - i. Replacement of complete AC unit.
 - ii. Replacement of complete voltage stabilizer.

The contract is for comprehensive maintenance of AC units and the firm shall arrange all materials including replacement of spares, fans, motors and compressors, Gas etc. at his own cost.

Rewinded/ Cut compressors, rewinded blower/condenser motor shall not be used. The faulty compressor, blower/ condenser motors shall be replaced with new one.

FIRE DETECTION (This system is under AMC by the Installer)

Part – I Scope of Maintenance (Scope of work is only operation of Fire Detection System)

To ensure that complete fire detection system is always clean and in healthy working condition.

Perform daily checks as per part III.

To perform tasks subsequent to a real alarm situation as per part III.

Part II – Tasks to be performed within 15 days.

Familiarize the maintenance personnel with the Fire Detection and Alarm system and their responsibility in consultation with Agency installed the system / maintenance in charge

Inspect the complete system for proper functioning. Any shortcoming noticed should be recorded and brought to the notice of Engineer-in-charge.

Finalize detector cleaning (Refer Section III below).

Part-III-Maintenance schedule to be followed.

Check working of F/D system from the control panel on daily basis.

Name of work :- Operation and Comprehensive annual maintenance of Electro mechanical services at RMC DC, 3rd floor, TE Kellys, Chennai. (2018-2020)

- Co-coordinating with AMC agency of this system, intimating to the AMC agency / engineer in charge when any fault/deficiencies noticed immediately.

In case of fire alarm it is expected that the maintenance person has to immediately rush to the trouble spot and also inform building in charge/fire Department. He should also take 'first aid' steps depending upon situation Specific details for first and steps to be worked out in consultation with maintenance in charge and kept on record.

- In case of persistent problem, inform to the Engineer-in-charge for immediate attention for early detection of defects and solutions.

AIR CONDITIONING PACKAGE SYSTEM (This system is under AMC by the Installer)

PART I: SCOPE OF WORK

- 1 Ensuring round the clock, without any holiday, operation of AC package unit during the period of contract as per the guidelines of BSNL/Engineer-in-charge.
- 2 Monitoring and recording on continuous basis inside temp. /humidity conditions and ensuring that they are maintained within limits.
- 3 Monitoring and recording on continuous basis important operational parameters.
- 4 Providing necessary man Power (skilled, semi-skilled) as required for the above activities.
- 5 The operation of system and maintenance activities are to be divided in such a manner that inside Temp. Conditions are maintained. The desired inside conditions are:
 - a) The temperature below the rack wherever bottom feed is provided of the switch room shall be 20+/-3 Deg.C.
 - b) Required design condition for Electronic exchanges i/c E-10-B shall be 23+/- 3 Deg. C
 - c) Relative humidity within the limit of 40% to 60%.
- 6 Maintaining Entries Daily Maintenance Card as per Annexure – IV and Maintain PAC unit log book as per Annexure- VI
- 7 Intimating to the AMC agency / engineer in charge when any fault/deficiencies noticed immediately.Co-ordinating with AMC Agency for earlier clearance of faults/deficiencies.

PART II: TASKS TO BE PERFORMED WITHIN 15 DAYS

Following tasks should be carried out within 15 days.

- 1 All registers shall be opened as per proforma.
- 2 The agency will familiarize with the installation and inspect the complete system and understand the requirements of installation. Any other relevant aspect which will come in the way of maintenance shall also be brought to the notice of Engineer in Charge.
- 3 Shall inspect and takeover the operation of the AC plant.
- 4 Shall collect information like the telephone numbers of the AMC agency of Pr. AC units, Exchange in charge, JTO(E), SDE(E),EE(E),Fire service, Supply Company, Local Hospitals, Emergency Services etc. and preserve it in the maintenance office.

Part III – MAINTENANCE SCHEDULE TO BE FOLLOWED

SECTION I: PACKAGED AC PLANTS.

DAILY

1. Check for general cleanliness of plant room and condenser area
2. Record various readings in the log-book.
3. Check for abnormal heating of Electrical contacts and Motor starter.
4. Check for any vibration in Package units (or in the floor)/suction/discharge pressure gauge.
5. Check discharge and suction pressure.
6. Check for any obstruction in the return air.
7. Check HP/LP cutouts.
8. Check V-belt tension of blower Motor/ condenser motor.
9. Check for any frosting at cooling coil.

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10. Check the fire protection appliance.(Check for interlocking with F/D system).
11. Check Mechanical interlocking keys in position.
12. Check working of fresh air fan.
13. In case of water cooled plant, check water supply, pumps, cooling tower operation and strainers/ nozzles.
14. Ensure working of fresh air fan in combination with blower in winter nights so as to utilize the outside lower ambient.

MONTHLY

1. Fresh air filter cleaning.
2. Check for leakage of conditioned air.

Quarterly.

- 1.Check opening closing of volume control Damper, and supply Air Dampers.(March, June, Sept, Dec)

HALF YEARLY

1. Earth testing..... (April, Oct)
2. Meggering..... (April, 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). 50% of capacity test of HPACs / PACs will be test checked by SDE(E) and 10% of capacity test of HPACs / PACs will be test checked by EE(E).

Operation of the following electro mechanical services is to be carried by agency. In case breakdown, inform to concerned AMC agency / SDE(E)/JTO(E) and monitor until AMC agency rectifies fault. Monitoring of all EMS equipment through Building Management system also scope of work. Agency has make necessary book of record for fault/repair details, rectification by AMC agency etc.	
a	Building Management System
b	Fire detection and Extinguishing system
c	Access control
d	CCTV
e	UPS with Battery sets
f	Precision AC units-3nos.

Name of work :- Operation and Comprehensive annual maintenance of Electro mechanical services at RMC DC, 3rd floor, TE Kellys, Chennai. (2018-2020)

MAINTENANCE SCHEDULE-CEILING FAN
FREQUENCY-YEARLY (FEB)

Location	Hanging Arrangement i/c hook Safety pins check nuts etc.	Check greasing (If reqd. apply)	Painting sign writing reqd. or not	Fans working ok/not ok	Sign of AWM/WM	Sign of occupant	Sign of JTO

FORM – 1 B

MAINTENANCE SCHEDULE-CEILING FAN
FREQUENCY-YEARLY (FEB)

Location	No. of Fans	Check Mounting arrangement for soundness	Fans working ok / not ok	Sign of AWM/WM	Sign of occupant	Sign of JTO

FORM -1 C

MAINTENANCE SCHEDULE – EXHAUST FAN
FREQUENCY – HALF YEARLY (FEB./AUGUST)

Location	No. of Exhaust Fans	Mounting Arrangement	Condition Of Louvers OK/not OK	Painting Is reqd. or not	Fans Working OK/not OK	Sign. of AWM/ WM	Sign. of Occupant	Sign. of JTO

FORM-2A

MAINTENANCE SCHEDULE – WALL/CEILING MOUNTD TYPE FITTINGS
FREQUENCY – HALF YEARLY (MAY/NOV.)

Location	No. of Fittings	Cleaning	Check whether Fixing Arrangement is sound or not	Painting Is reqd. or not	Remarks	Sign. of AWM/ WM	Sign. of Occupant	Sign. of JTO

FORM-3A

MAINTENANCE SCHEDULE – BUILDING AND COMPOUND LIGHT
FREQUENCY – HALF YEARLY (MAY/NOV.)

Location	No. of Fittings	Check Wiring	Any Defect/shortcoming noticed	Remarks	Sign. of AWM/ WM	Sign. of JTO

FORM-4A

**MAINTENANCE SCHEDULE – SWITCH BOARD
FREQUENCY – HALF YEARLY (FEB./AUGUST.)**

Location	Cleaning the switch board & ensure that all connections are tight i/c earth and also plate is properly fixed	Checked & attended all items	Items to be attended	Remarks	Checked by

FORM – 5 B

MAINTENANCE SCHEDULE-SDB'S

FREQUENCY- HALF YEARLY (APRIL/OCT)

Location	Cleaning and tightening connections	Replacement of faulty MCB's Fuse/ Fuse Base grip if any)	Painting & sign writing if reqd.	Remarks	Sign of AMW/ WM	Sign of occupant	Sign of JTO

FORM – 16A

MAINTENANCE SCHEDULE – DISPLAY BOARD/CHART & SIGN BOARD

FREQUENCY – QUARTERLY (JAN/APRIL/JULY/OCT.)

Location	Fixing arrangement	Cleaning & updating	Replacement of faulty tubes/lamps	Connections	Remarks	Sign. of AWM/WM	Sign. of JTO

FORM – 19A

MAINTENANCE SCHEDULE – SAFETY MATS & TOOLS

FREQUENCY – MONTHLY (I WEEK)

Location	Condition ok or not ok	Cleaning	All tools available not (repeat if reqd.)	Condition of tools & glove ok or not ok)	Remarks	Sign. of AWM/WM	Sign. of JTO

MAINTENANCE SCHEDULE – EMERGENCY LIGHT

FREQUENCY – MONTHLY

Location	Working OK or not OK	Check battery leakage/pitting	Check Electrolyte SP. Gravity acidity (take corrective measures if reqd.)	Remarks	Sign. of AWM/WM	Sign. of JTO

MAINTENANCE SCHEDULE – FIRE ALARM SYSTEM

FREQUENCY – DAILY

S. No	Description of Item	MONDAY TO SUNDAY	Remarks
1.	Check the power supply position of all the panels placed at various floors & buildings		
2	Check the LEDs or panels through lamp test switch		
3	Check the healthiness of battery from battery low indication on panel		
4	Check any fault if indicated on any or the panels and inform to AMC agency / SDE(E), JTO(E)		
5	Check Operational readiness of the system during mains failure		
6.	Cleaning the control panel and surrounding		

MAINTENANCE SCHEDULE – FIRE ALARM SYSTEM

FREQUENCY – MONTHLY

S. No	Description of Item	II Week	Remarks
1.	Co-Ordinating with AMC agency		
2.	Check battery water level and specific gravity		

MAINTENANCE SCHEDULE – FIRE EXTINGUISHERS

FREQUENCY – MONTHLY (IV WEEK)

Location	No. of Fire Extinguishers	Capacity	Condition/ weight Satisfactory or not	Refilling due on	Remarks

Note : Please look for any tampering or missing items like horns, hose etc and report for the same to the contractor and record in the remarks column before taking action for replacement.

WINDOW/SPLIT AC UNITS MAINTENANCE CARD/ SERVICE REPORT FORMAT

AC UNIT MAINTENANCE CHART TO BE PLACED NEAR EACH AC UNIT.

WINDOW/SPLIT AC UNITS MAINTENANCE CARD FORMAT (W-1)

FRONT SIDE OF CARD

SITE/LOCATION: -

AMC FIRM:-

EQUIPMENT: -

FIRM'S PH NO:-

CAPACITY: -

JTO (E)'S PH NO:-

MAKE & SL NO: -

SDE (E)'S PH NO:-

DATE	TYPE OF MAINTENANCE DONE	SIGN OF MECHANIC / ELECTRICIAN	REMARKS	Sign of BSNL officers

BACK SIDE OF CARD

DATE	NATURE OF COMPLAINT	ATTENDED ON	FAULT CLEARED/N OT	IF NOT, REASONS	SIGN OF MECHANIC	REMARKS

MONTHLY SERVICE REPORT FOR WINDOW/SPLIT/SLIMLINE/CASSETTE TYPE AC UNITS

Monthly service details for the month of _____

Floor		
Location		
Unit type		
Capacity		
Description		
<u>Electrical System</u>		
Plug & socket condition (OK/N ok)		
Current (amps)		
Condition of starting relay (OK)		
Condition of starting capacitor(Ok)		
Tightness of connections(OK)		
Earthing (Tight)		
Condition of starter & stabilizer (working/ Not)		
Condition of remote (Available/ Not Available)(Working/Not Working)		
<u>Control system</u>		
Thermostat(working		
temperature set(degrees)		
<u>Refrigeration System</u>		
Compressor (Working, Any noise)		
Condenser/cooling coil		
Capillary tube(OK/Not Ok)		
Gas leakage (observation)		
<u>Air Circulation System</u>		
Evaporator Fan (Ok/Not)		
Condenser fan(Ok/Not)		

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Ventilation & Exhaust		
Filter/condition(Cleaned)		
Drain pipe (any loose connection/ leakage)		
Damper Louvers condition(Firm)		
Overall Condition of the unit(satisfactory/ Not satisfactory)		

Sign of AC mechanic

FORM-13 B

Frequency:-Yearly

MAINTENANCE SCHEDULE OF WINDOW/SPLIT AC UNITS:-

Location	No of AC Units		Condition of mounting arrangement	Checking of controls and thermostat	Cleaning of condenser coil and fan	Checking of switch, MCB and controls	Checking of Compressor and blower	General working condition	Remarks	Sign of AC mechanic	Sign of JTO(E)	Sign of JTO / SDE of Exge.
	W/T	S/T										

Note: While checking for this item i.e. Window/split unit in a particular room/area please look around and see whether other electrical items like fittings, switch board, sockets etc are generally in proper working condition or not. If not initiate action.

DAILY MAINTENANCE CARD

(Original in red to be displayed at plant room; Duplicate copy in yellow with supervisor duly updated)

I. Service Details for the month of Location

Agency :

Sl. No	Description	Date																															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
1	Switch ON/OFF the PAC units priority wise																																
2	Maintain general cleanliness of plant room and condenser area																																
3	Maintain cleanliness of equipments (Clean with wet cloth)																																
4	Check for any abnormal noise and smell and take corrective action if any.																																
5	Check any loose nut bolts , Screws etc.																																
6	Check drain blockage																																
7	Check for any abnormal variations of refrigerant																																

Contractor

EE(E)

LOG BOOK FOR E/A SET AT _____

Name of work:

Name of contractor:

LOG BOOK FOR EA SET RUNNING OR THE MONTH OF

Date	E/A set No.	Start time Hrs	Stop time Hrs	Voltage			Load Current			Freq Hz	Speed RPM	Lub oil Temp p	Lub oil Pr. Kg/cm ²	Water Temp	Diesel level Ltrs		KWH	
				RY	YB	BR	R	Y	B						Start	Stop	Start	Stop

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ANNEXURE- VI

LOGBOOK FOR AIR COOLED PACKAGE AC PLANT																						
Month:		P.U. 1			P.U.2			P.U. 3			P.U. 4			Conditions of temp in deg C						Remark		
Date	Time	Volt	Total Amp	HP	LP	Amp	HP	LP	Amp	HP	LP	Amp	HP	LP	Amp	Plant room		Out Side		Switch room temp		
																	DB	WB	DB	WB	DB	WB
	8.00																					
	10.00																					
	12.00																					
	14.00																					
	16.00																					
	18.00																					
	20.00																					
	22.00																					
	00.00																					
	02.00																					
	04.00																					
	06.00																					

Contractor

EE(E)

LISTOFAPPROVED MAKES-BSNLELECTRICALWING

(AS ON 29.02.2016)

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

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

NOTE:

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

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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.

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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), BSNL Electrical Circle, Chennai

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

10% (TEN)

CLAUSE 5

Time allowed for execution

Twenty Four Months

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

SE (E), EC, Chennai

Competent Authority for deciding reduced rates:

SE (E), EC, Chennai

Clause 25

Competent authority for conciliation:

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

BSNL EW-8
Bharat Sanchar Nigam Limited
Electrical Wing

Electrical Division: I, Chennai

Sub Division: IV, Chennai

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

Name of work :- Operation and Comprehensive annual maintenance of Electro mechanical services at RMC DC, 3rd floor, TE Kellys, Chennai. (2018-2020)

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