

BHARAT SANCHAR NIGAM LIMITED

N.I.T. NO. : 139 / EEE / BSNL / PN / 2014-15

Name of Work	Operation & Comprehensive maintenance of Electromechanical Services at Telecom Compound City Exchange, Bajirao Road, Pune.
Name of Contractor	
Date of Application & receipt	
Tender Issued on	
Cost of Tender	Rs.525/-
Date of Opening	

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BHARAT SANCHAR NIGAM LIMITED
(Electrical Wing)

O/o Executive Engineer(E), BSNL Electrical Division, First Floor, Telephone Exchange Building, Model Colony, Lakaki Road, Pune- 411 016

NOTICE INVITING TENDER

The Executive Engineer (E), BSNL Electrical Division, Pune invites on behalf of the BHARAT SANCHAR NIGAM LIMITED sealed item rate tenders for the following work from specialized agencies satisfying the under mentioned eligibility conditions: -

SN	Name of Work	Estimated cost Rs.	EMD Rs.	PAYBLE AT	Time limit	Tender Cost
1	Operation & Comprehensive maintenance of Electromechanical Services at Telecom Compound City Exchange, Bajirao Road, Pune.	15, 96,744/-	31,935/-	Accounts Officer (Cash), BSNL, Pune	24 months	Rs.525/- (N.R.)

ELIGIBILITY CONDITION FOR COMPREHENSIVE MAINTENANCE AND OPERATION OF EMS

The Contractor satisfying the following conditions:

- i) Average annual turnover during the last 3 years, ending 31st March of the previous financial year, should be at least 30% of the estimated cost put to tender.
AND
- ii) The contractor shall have a valid Electrical License of appropriate voltage issued by State Govt.
AND
- iii-a) BSNL enlisted contractors in Electrical category of respective class as per their tendering limits.
OR
- iii-b) Experience of having successfully completed similar works in BSNL comprising of either substation or airconditioning 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 works costing not less than the amount equal to 80% of the estimated cost put to tender (**Similar work means Operation & Comprehensive maintenance of Electromechanical Services**).

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

- iv) Documentary proof of satisfying above conditions, and **Chartered Accountant's Certificates towards deposition of income tax and Valid Maharashtra / Goa Value Added Tax Registration, EPF registration & Service Tax Registration.** Agency should submit attested copy of **PAN Card**.

Conditions and tender forms can be had from BSNL Electrical Division, Kolhapur on payment of Rs.500/- + VAT as applicable. (Non- refundable) (i.e., Rs. 525/-).

Last date of receipt of application for tender forms	09/02/2015
Last date of issue of tender	11/02/2015
Last date of Submission of tender	13/02/2015 (Time 3.00P.M.)
Date of opening of tender	13/02/2015 (Time 3.30P.M.)

Validity of tender shall be for 90 days from the date of opening of tender.

The tenders of contractors who do not deposit earnest money in the prescribed manner (in separate cover) are liable to be rejected and will not be opened.

NOTE: - Tender document can also be downloaded from the website <http://www.maharashtra.bsnl.co.in>. The firm who quotes on the tender downloaded from web-site shall strictly follow the following procedure:-

The tender shall be submitted in two envelope system.

- i. First envelope shall contain tender application (If tender downloaded from Web), tender fee, attested documents (self attested and counter attested by any executive of BSNL/MTNL or Gazetted officer of GOI; otherwise all originals of eligibility criteria shall be produced for verification at the time of tender opening) proving fulfillment of eligibility criteria as per the tender notice & EMD in proper form. Separate D.D. should be attached for tender fee & EMD.
- ii. Second envelope shall contain duly filled tender document
The same shall be clearly written on the envelopes.

The 1st envelope containing Tender fee, attested documents proving fulfillment of eligibility Criteria & EMD in proper form shall be opened first..

In case: -

- (i) Tender fee is not submitted in proper form.
- (ii) EMD is not in proper form.
- (iii) Firm fails to fulfill eligibility criteria on the basis of document submitted in first envelop.
- (iv) The performance of tenderer is not found satisfactory.
The second envelope shall not be opened.

If the day of opening of the tender declared as a Holiday then the tender will be opened on the next working day. The tenders shall neither be issued or received through POST / COURIER. If any difference/ discrepancies found between down loaded Tender form, any hard copy issued from Division Office, the contents in Draft NIT issued from Circle Office will be final & binding.

EXECUTIVE ENGINEER (ELECT.)
BSNL ELECTRICAL DIVISION, PUNE

No. NIT /EEE/BSNL/ PN/45

Date: 16/01/ 2015

Copy for information and wide publicity to: -

- 1) **Web site www.maharashtra.bsnl.co.in.**
- 2) **The G M Pune**
- 3) **Vigilance Officer, O/o CGMT, Mumbai.**
- 4) **Tender clerk(account branch)**
- 5) **Notice Board then NIT File.**
- 6) **Contractors.**

FOLLOWING OFFICERS MAY BE CONTACTED FOR REDRESSAL OF COMPLAINTS

Srn	NAME OF OFFICE	POSTAL ADDRESS	Telephone Numbers	Fax Number
1	CGMT, MH Circle	CGMT, BSNL, 6th Floor 'A' Wing Admn. Bldg, Juhudanda, Santacruz(W), Mumbai – 400054	022-26616999	022-26616777
2	Chief Engineer(E), BSNL Electrical Zone, Mumbai	A wing, Gr floor, Admn. Bldg Juhu Danda, Santacruz (w), Mumbai – 400054.	022 26600500	022 26600103
3	DGM(Vig.), MH Circle	D.G.M. (Vig.) – O/o CGMT, BSNL, 6th Floor 'A' Wing, Admn. Bldg, Juhudanda, Santacruz(W), Mumbai – 400054	022-26616715	022-26615774

EXECUTIVE ENGINEER (ELECT.)

TENDER APPLICATION FORMAT (For Tender down loaded from Website)

To,
The Executive Engineer (E)
BSNL Electrical Division

ENVELOPE - I

Sub: Application for the tender of "-----

(Tender due on -----)

Dear Sir,

As per tender publication Advertised on----- (Date) in -----
(Name of Newspaper) by your office and display of Notice Inviting Tender on web site <http://www.maharashtra.bsnl.co.in>. We are hereby submitting the following documents: -

- 1) Tender Application fee: -
- 2) a) Name of firm / company -----
b) Name of Managing Director / Regional Manager -----
c) Address -----

Pin Code ----- Phone -----
e- mail address -----
- 3) Address of Branch / Head office Name -----
In BSNL Division H.Q -----
Pin Code ----- Phone -----
Mobile No -----
E-Mail Address -----
- 4) Chartered Accountant Certificate towards deposition of Income Tax
- 5) Works Contract Registration No.
- 6) Earnest Money Deposit: -

All above documents at Sl. No. 1 to 6 are duly attested.

I ----- proprietor/ duly authorized representative of M/s. -----
hereby certify that the information given above is true to the best of my knowledge and belief I have
been duly authorized to sign and certify the documents. I understand that any wrong
information/suppression of facts will disqualify us from being considered for the tender participation.

Place -----

Yours sincerely

(Signature)

Date -----

(Name in block letter)
Seal of firm

BHARAT SANCHAR NIGAM LIMITED.
(A GOVERNMENT OF INDIA ENTERPRISE)
Electrical Wing

Electrical Division : Pune

Sub Division : Pune-II

NOTICE INVITING TENDER
(As per Tendering Procedure in BSNL revised upto date)

NIT No. 139 / EEE / BSNL / PN / 2014-15

1) The Executive Engineer (E), BSNL Electrical Division, Pune invites on behalf of Bharat Sanchar Nigam Limited sealed item rate tenders for the following works from the contractor(s) satisfying the under mentioned eligibility conditions.

a)	Name of Work:- Operation & Comprehensive maintenance of Electromechanical Services at Telecom Compound City Exchange, Bajirao Road, Pune.
b)	Division:- BSNL Electrical Division, Pune
c)	Estimated cost:- Rs. 15,96,744/-
d)	E.M.D.:- Rs. 31,935/-
e)	Performance Guarantee:- Firm has to submit within 15 days of award of work Performance guarantee for 10% of the 12 Months Tendered Cost subjected to maximum 5 Lakh.
f)	Time:- 24 Months
g)	COST OF TENDER DOCUMENT :- Rs. 500 /- +VAT as applicable. (i.e., Rs. 525/-)
Tenders will be issued to eligible contractors satisfying eligibility condition	

02).(a) Printed forms of tenders consisting of the detailed plans, complete specifications, the schedule of quantities of the various classes of works to be done and the set of conditions to be complied and with by the persons whose tender may be accepted, can be purchased, at the Divisional office between the hours of 11:00 hrs and 16:00 hrs. every day except on Sundays and public holidays on payment of Rs. 525/- (NR.) in cash/ Demand draft.

(b) The site for the work is available /-or the site for the works shall be made available in parts-

(c) The tender forms can also be downloaded from the web site.

(d) Before tendering, the contractor shall inspect site and fully acquaint himself about the condition with regard to accessibility of site and site nature and the extend of grounds, working conditions, including stocking of materials, installation of T & P etc., and conditions affecting accommodation and movement of labour etc., required for satisfactory execution of contract. No claim whatsoever on such account shall be entertained by BSNL in any circumstances.

03). Tenders which should always be placed in sealed covers with the name of work written on the

envelope will be received by **the Executive Engineer(E), BSNL Electrical Division, First Floor, Telephone Exchange Building, Model Colony, Lakaki Road, Pune- 411 016** up to 1500 hours on [13/02/2015](#) and will be opened by him in his office on the same day at 15:30 hours.

04). The time allowed for carrying out the work will be 24(Twenty Four) Months from the 10TH day after the date of written order to commence the work.

05). Issue of tender form will be stopped on dated [11/02/2015](#) i.e. two days before the date fixed for opening of tenders. Tenders will be sold on working days; no tender will be sold after **1600 hours**.

06).(a) Earnest Money amounting to **Rupees 31,935/-** in the form of demand draft/ FDR / BG/ CDR of nationalized scheduled bank guaranteed by the Reserved Bank of India, drawn in favour of **Accounts Officer (Cash), BSNL, Pune** must accompany each tender and each tender should be in two sealed covers, one cover containing the EMD in proper form and other cover containing tender, superscribed as “ **Tender for the work : Operation & Comprehensive maintenance of Electromechanical Services at Telecom Compound City Exchange, Bajirao Road, Pune.**”.

The Validity period of EMD is **120 days**, from the date of opening of tender.

In case of e-tendering, each tender should be in two sealed covers, first containing credentials for meeting the eligibility condition along with the cost of tenders and EMD in proper form, second cover containing tender documents. The credentials shall be self attested and certified by any BSNL Executive. If not certified by BSNL Executive then original documents shall be produced at the time of tender opening. After verification of contents of this envelop then second envelope containing the bid document shall be opened.

(b) The EMD of all the unsuccessful tenders shall be released on issue of award letter to the successful tenderers. This shall be done within one week of award letter.

(c) Exemption from payment of earnest money and security deposit by any other unit/ department shall not hold good for BSNL.

07).(a) The contractor should submit and confirm Chartered Accountant Certificate in respect of turnover and other registration certificate (enlistment in BSNL, Electrical license, Sales tax) with attested copies (self attested and counter attested by any executive of BSNL/MTNL or Gazetted officer of GOI; otherwise all originals of eligibility criteria shall be produced for verification at the time of tender opening) as applicable along with the application on printed letter head for purchase of tender.

(b) The contractor shall submit and confirm his permanent account No. (PAN) issued by the Income-tax department.

(c) The tenderer should submit the valid WCT/Sales tax/VAT registration certificate.

08).(i) **Performance Guarantee**:- The contractor is required to furnish performance guarantee **within 15 days of award of work** for 10% of the 12 Months Tendered Cost **subjected to maximum 5 Lakh.** in the form of Bank Guarantee/CDR/FDR/DD (of Nationalized /Scheduled Bank in a standard format) with in two weeks from the date of issue of award letter. This period can be further extended by the Engineer-in-Charge up to maximum period of two weeks on return request of contractor. The validity period of performance security in the form of performance Bank Guarantee shall be one year from the date of actual completion of work.

09).The acceptance of tender will rest with the **Superintending Engineer(E)**, who does not bind himself to accept the lowest tender or any other tender and reserve to himself the authority to reject lowest or all the tenders received without assigning any reason. All tenders in which any of

the prescribed conditions are not fulfilled or incomplete in any respect are liable to be rejected. Tenders with any condition including that of conditional rebate shall be rejected forthwith summarily.

10).Canvassing in connection with tender is strictly prohibited and the tenders submitted by the contractors who resort to canvassing will be liable for rejection.

11).The BSNL reserves itself the right of accepting the whole or any part of the tender and the tenderer shall be bound to perform the same at the rates quoted.

12).(i) The tenderer should give a certificate that none of his/her relative is employed in BSNL units. 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.

(ii) 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:

(a) Members of a Hindu Undivided family.

(b) They are husband & wife.

(c) The one is related to the other in the manner as father, mother, son(s), and son's wife (daughter-in-law), daughter(s) and daughter's husband (Son-in-law), brother(s) and brother's wife, sister(s) and sister's husband (Brother-in-law).

(iii) 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 Architect/Corporate office for non-executive employees and all SSA in a circle including Circle office/Chief Engineer/Chief Architect/Corporate office for executive employees (including those called as Gazetted officers as present). The tenderer 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 the 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.

The format of the certificate to be given is " I
..... Son of Sh..
..... 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 the contractor)

13). No employee in BSNL/Government 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 contractor 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 contractor's service.

14). The tender for works shall not be witnessed by the contractor who himself /themselves has /have tendered or who may and has/have tender for the same work. Failure to observe this condition would rendered tenders of the contractors tendering as witnessing the tender is/are liable for summarily rejection.

15).It will be obligatory on the part of the tenderer to sign each page of the schedule of work and the tender documents for all the component parts and after the work is awarded he will have to enter into a separate agreement for each component with the officer concerned.

16). Any tender not submitted in proper manner or if it contains too may corrections, overwriting of absurd rates, and absurd amount will be liable to be rejected and the BSNL will be at liberty to take such action as it may deem fit without any reference to the tenderer.

17).The tenders for the work shall remain open for acceptance for a period of 90 days from the date of opening of tenders.

If any tenderer withdraws his tender before the said period or makes any modification in the terms and conditions of the tender which is not acceptable to the BSNL shall, without prejudice or to any other right of remedy be at liberty to forfeit 50% (Fifty percent only) of the said earnest money absolutely. Further tenderer shall not be allowed to participate in the tendering process of the work.

18).Extension of validity: In case, where the letter of award of work cannot be placed within the validity of the period of the tender, the BSNL can request all tenderers 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 of extension, the tenderer is free to either extend the validity or refuse the request to extend the validity.

19).Unsealed tenders will be summarily rejected.

20).The contractor should read the tender documents carefully before submitting the tender.

21). Agreement shall be drawn with the successful tenderer on prescribed form. Tenderer shall quote his rates as per various terms and conditions of the said form, which will form part of agreement.

22).The tenderer shall furnish a declaration to this effect (In case downloaded tender) that no addition /deletion/correction have been made in the tender document submitted and is identical to the tender document appearing in website. Every page of downloaded tender shall be signed by the tenderer with stamp (Seal) of his firm /organization.

23).This Notice Inviting Tender shall form part of the contract document. The successful tenderer/contractor 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 the tender as issued at the time invitation of tender and acceptance thereof together with any correspondence leading thereto.

b) Standard form, BSNL EW-8.

24. Eligibility Criteria: -

AS PRESCRIBED EARLIER ON PAGE NO. 2.

Documentary proof of satisfying above conditions, and **Chartered Accountant's Certificates towards deposition of income tax and Valid Maharashtra / Goa Value Added Tax Registration, EPF registration & Service Tax Registration.** Agency should submit attested copy of **PAN Card.**

Signature of Divisional Officer/ Sub –Divisional Officer

.....
For and on behalf of BSNL.

BHARAT SANCHAR NIGAM LIMITED
GOVERNMENT OF INDIA UNDERTAKING

STATE : MAHARASHTRA CIRCLE : MUMBAI
BRACH : ELECTRICAL DIVISION : PUNE
ZONE : MUMBAI SUB-DIVISION : PUNE-II

Percentage Rate Tender / Item Rate Tender & Contract for Works

Tender for the work of: -

To be submitted by _____ hours on _____ to
(time) (date)

To be opened in presence of tenderers who may be present at _____ hours on
_____ in the office of _____.

Issued to _____
(contractor)

Signature of officer issuing the documents _____

Designation _____

Date of Issue _____.

TENDER

I/ We have read and examined the notice inviting tender, schedule, A, B, C, D, E F. Specifications applicable, Drawings & Designs, General Rules and Directions, Conditions of Contract, clauses of contract, Special conditions, Schedule of Rate & other documents and Rules referred to in the conditions of contract and all other contents in the tender document for the work.

I/We hereby tender for the execution of the work specified for the President of India within the time specified in Schedule 'F', viz., schedule of quantities and in accordance in all respects with the specifications, design, drawings and instructions in writing referred to in Rule-1 of General Rules and Directions and in Clause 11 of the Conditions of contract and with such materials as are provided for, by, and in respects in accordance with, such conditions so far as applicable.

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.

A sum of Rs. has been deposited in cash/receipt treasury challan/ deposit at call receipt of a scheduled bank/fixed deposit receipt of scheduled bank/demand draft of a scheduled bank, / **bank guarantee issued by a schedule bank** as earnest money. If I/ We, fail to furnish the prescribed performance guarantee within prescribed period, I/We, agree that the said President of India or his successors in office shall without prejudice to any other right or remedy, be at liberty to forfeit the said **earnest** money absolutely. Further, if I/We fail to commence work as specified, I/We agree that President of India or his successors in office shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the said earnest money and the performance guarantee absolutely, otherwise the said earnest money shall be retained by him towards security deposit to execute all the works **referred** to in the tender documents upon the terms and conditions contained or referred to therein and to carry out such deviations as may be ordered, upto maximum of the percentage mentioned in Schedule 'F' and those in excess of that limit at the rates to be determined in accordance with the provision contained in Clause 12.2 and 12.3 of the tender form.

Further, I/We agree that in case of forfeiture of earnest money or both Earnest Money & Performance Guarantee as aforesaid, I/We shall be debarred for participation in the re-tendering process of the work.

I/We hereby declare that I/We hereby declare that I/We shall treat the tender documents drawings and other records connected with the work as secret/confidential documents and shall not communicate information derived there from to any person other than a person to whom I/We am/are authorized to communicate the same or use the information in any manner prejudicial to the safety of the State.

Dated

Signature of Contractor
Postal Address

Witness:
Address:
Occupation:

A C C E P T A N C E

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

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

- a)
- b)

For and on behalf of BSNL

Dated

Signature _____
Designation _____

PROFORMA OF SCHEDULES

SCHEDULE (A):- Schedule of quantities: Appended from page 14.

SCHEDULE (B):- Schedule of materials to be issued to the contractor.

Sr. No.	Description of item	Quantity	Rates in figures and words at which the material will be charged to the contractor	Place of Issue
1	2	3	4	5
NIL				

SCHEDULE (D):- Schedule Appended from page 19 to 21

SCHEDULE (F):-Reference to General Conditions of contract.

Name of work:	Operation & Comprehensive maintenance of Electromechanical Services at Telecom Compound City Exchange, Bajirao Road, Pune.
Estimated cost of work:	Rs. 15,96,744/
i) Earnest money :	Rs. 31,935/-
ii) Performance Guarantee :	Performance guarantee for 10% of the 12 Months Tendered Cost subjected to maximum 5 Lakh.
iii) Security Deposit :	NIL
GENERAL RULES and DIRECTIONS:	Officer inviting tender EE (E), BSNL Electrical Division, Pune
Definitions:	See below
2(v) Engineer-in-Charge	Executive Engineer (E), BSNL Electrical Division, Pune
2(viii) Accepting Authority	SE (E), BSNL Electrical Circle, Mumbai
2(x) Percentage on cost of materials and labour to cover all overheads and profits.	10%
Standard contract Form	BSNL EW Form 8, Latest.
Clause 1 Time allowed for submission of Performance Guarantee from the date of issue of letter of acceptance, in days	15 Days
Clause 2 Authority for fixing compensation under Clause 2.	SE (E)
Clause 5 Number of days from the date of issue of letter of acceptance for reckoning date of start	10 days

Time allowed for execution of work. Authority to give fair and reasonable extension of time for completion of work.	24 (Twenty Four) months . SE (E)
Clause 10CC Clause 10CC to be applicable in contracts with stipulated period of completion exceeding the period shown in next column.	30 months.
Clause 11 Specifications to be followed for execution of work	Specifications as per Section I – Contract document for O & C M of E.M.S with Schedule of work.
Clause 12 12.2(iii) Schedule of rates for determining the rates for additional, altered or substituted items that can not be determined under 12.2.(i) & (ii)	NIL
Clause 12 12.2(iii), plus/minus \pm the % over the rate entered in the schedule of rates	NA
Clause 12 Deviation Limit beyond which clauses 12.3 shall apply	25%
Clause 25 Competent Authority for Conciliation	SE (E)
Clause 30.2 Minimum Qualifications and experience required for Principal Technical Representative.	
i For works with estimated cost put to tender more than (Rs. 2 lakh but less than Rs.5 Lakhs for Elect/ Mech. Works)	} Recognized diploma holder
ii For works with estimated cost put to tender more than Rs. 5 lakh for Elect/ Mech. Works	
Clause 30.5 Recovery to be effected from the contractor in the event of not fulfilling provision of clause 30.2	Rs.4,000/- p.m. for works costing above 5 lakhs Rs.2,000/- p.m. for works costing between 2 lakhs and 5 lakhs

SCHEDULE "A"

SCHEDULE OF QUANTITIES

Name of Work :- Operation & Comprehensive maintenance of Electromechanical Services at Telecom Compound City Exchange, Bajirao Road, Pune.

Sr. No.	Description of Item	Qty	Rate	Unit	Amount	
1	<p>Comprehensive Maintenance and round the clock operation of various electromechanical services as per details given in relevant sections by deploying the required staff including specialized manpower and by arranging required tools and plant etc to keep all the services operational upto the required standards.</p> <p>A) Services included are</p> <p>1) EI & Fans</p> <p>2) Compound Lighting</p> <p>3) Lightning Conductor</p> <p>4) Pumps</p> <p>5) 2 x 500 KVA, 11 KV, I/D Substation</p> <p>6) 2 x 380 KVA E/A Sets</p> <p>7) Fire Detection and Alarm system</p> <p>8) Package A/C Plants</p> <p>9) Window, Split A/C units / Water coolers</p> <p>10) Cooling & Heating appliances</p> <p>11) Fire Extinguishers</p> <p>Contractors to take all steps to undertake preventive / special maintenance and testing to keep the system at optimum working condition.</p> <p>Size of various services is given in Section – I</p> <p>B) Minimum Staff Required</p> <p>Wireman (Semiskilled): 1 No. per shift in 3 shifts. (Wiremen shall have under gone A/C Training)</p> <p>Note: If more persons are required for satisfactory operation, the same shall be arranged by the firm at no extra cost.</p>	24		Month		
TOTAL TENDERED AMOUNT FOR 24 MONTHS					Rs.	

**Executive Engineer(E),
BSNL Electrical Division,
Pune**

Note:-In case of ambiguity, between schedule and specifications, schedule shall prevail. If there is ambiguity between "schedule and specification" verses IS / BS standards, "schedule and specification" shall prevail.

SCHEDULE "D"
SIZE OF VARIOUS SERVICES

(The details in this section are approximate to give an idea of services to be maintained)

I) Telecom Compound, City Exchange Bajirao road

A	EI & Fans:							
	(i) Size of Building – Admn & Tech							
	Tech Bldg.		786 sq mtr, G+3 Floors					
	Admin Bldg.		692 sq mtr, G+4 Floors					
	Floor height		4.75 mtr (Tech)			3.90 mtr (Admn)		
	(ii)	TE Building:						
		Light Points		545 points				
		Fan Points		235 points				
		Plug Points		840 points - 5A 55 points -15A				
		DB's and SDBs		22 Nos				
		For CSC (Ground floor) – 4 x 14 Watt, T-5 recess type Mirror optic Fittings – 20 Nos						
	(iii)	Year of Commissioning		1972				
		Staff Quarters:						
			No of quarter	Light points [l/c related Tube fittings]	Call Bell points	Fan & Ex. Fan points	5 &15A Plug points	No. of Fan & Ex. Fan
		Type IV	4	52	4	16	24	16
		Type V	3	51	3	15	27	15
		Inspection Quarters	2 suites)	Fourth Floor in Admin Bldg		This inventory is covered in EI and Fans of the Building		
		Inspection Quarters	1 (5 suites)	Staff Qtr (Terrace)				
		Union Office and Stores		Staff Qtr (Ground floor)				
		Year of Commissioning			1972			
		(iv)	Cooling & Heating Appliances:					
	Geysers		3 nos					
	(v)	Lightning Conductor:						
Size of building :		1301 sq.mtr						
No. of down conductors		04 nos.						
No. of finials		06 nos.						
No. of earth stations		04 nos.						
Year of Commissioning		1972						
(vi)	Compound Lighting:							
	No. of Poles		No. of Fittings (Year of Commissioning - 1995)					
	15 Nos.		HPMV	HPSV	Halogen lamp	Fluorescent		
			15 Nos x 125W	03 Nos x 70W 04 Nos x 150 W	04 Nos	20 Nos. x 40W		
	a) Neon Sign Board of BSNL (on Terrace of T.E. Bldg) – 1No (Yr 2009)							
b) Tuberoles for BSNL Advt. Hoardings (on compound of T.E. Bldg) – 8 Nos (4 nos x 40 watt Fluorescent lamps) each (Yr 2010)								
B	Pumps:							

	Water Supply Pump:			
	No. Of Pumps	2 Nos.	2 Nos.	
	Capacity of Pumps	5 HP	2 HP	
	Type of Pumps	Monoblock (Centrifugal)	Monoblock (Centrifugal)	
	Sump Pump / Drainage Pump			
	No. Of Pumps	1 No.		
	Capacity of Pumps	5 HP		
	Type of Pumps	Monoblock (Centrifugal)		
	Year of Commissioning	1988		
C	AC Package Units:			
	Name and location	No. of units	Size of Package unit	Make
	Ground floor – PCM S/W room (Yr - 2000)	3	5TR each	M/s Bluestar [Model-DPA601[I]]
	First floor – OFC room (Yr - 2000)	1	5TR	M/s Voltas [Model-CAC511N]
	First floor – OCB S/W room. Work in progress	6	7 TR each	M/s Sidwal (double circuit) [Model-2DDI-7.5]
	Note: Date of 1] Initial A/T of A.C. Plant : 09 and 10 th June 2011. 2] Seasonal A/T-9/8/12 & 10/8/12			
D	A/C Appliances			
	No. of :			
	Water cooler		03 nos. (> 5 years)	
	Window A/C Units		36 nos. x 1.5TR (> 5 years)	
	Split A/C Units		15 nos. x 2TR (> 5 years)	
E	Fire Detection System:			
	Size of Building – Admn & Tech		G + 4 Floors (Admin) and G +3 Floors (Tech)	
	Tech Bldg.		786 sq mtr / flr	
	Admin Bldg.		692 sq mtr / flr	
	Floor height		4.75 mtr (Tech)	3.90 mtr (Admn)
	Details of Main Control Panel :		01 No., 13 Zone, M/s Safeway make.	
	Details of Local Control Panel:		03 nos., 12 zone, M/s Safeway make. 01 no., 10 zone, M/s Safeway make. 01 no., 08 zone, M/s Safeway make.	
	Year Of Commissioning		1996	
	No. Of Detectors:			
	(i) Ionization type		284 Nos.	
	(ii) Photoelectric type		67 Nos.	
	(iii) Heat		22 Nos.	
F	Fire Fighting System:		NA	
	Fire Extinguishers:		Type	Capacity
				Numbers

		CO ₂	4.5 kg	46 Nos	
		Foam	9 Ltrs	8 Nos	
		Soda Acid	9 Ltrs	4 Nos	
G	EA Sets:				
	Total No. of EA Sets -		02 Sets.		
	Details:				
	Engine -				
	Make		M/s Volvo Penta	M/s Cummins	
	Model		TAD 1230D	KTA 1150G	
	BHP		448 BHP	450 BHP	
	Water / Air Cooled		Water-cooled	Water-cooled	
	Sr.No.		2120232716	25225489	
	Alternator-				
	Capacity (KVA)		380	380	
	Make		Stamford	Stamford	
	Type		Brushless	Brushless	
	Model		HC444F2	HC444F2	
	M/c No.		96070082	96064185	
	No. of LT Panels -		2 Nos.		
	No. of Earth Stations -		6 Nos.		
Interconnection with cables / bus-trunking –		Cables			
	Year of Commissioning		1997		
H	Sub-Station:				
	Capacity – (KVA):		2 X 500 KVA		
	HT Voltage – (KV):		11 KV		
	Indoor / Outdoor -		Indoor		
	Single Line Diagram of Sub-Station including HT-TR-LT panel with sizes of switches –		Available at site		
	Transformers – 2 Nos		Year of mfg – 2002 (TR-I)/ 1987 (TR-II)		
	Quantity		Capacity (KVA)		Make
	01		500		M/s Kirloskar Elect.
	01		500		M/s Kirloskar Elect.
	Sr No : YE/BSNL/Bajirao/2001/1J/358 (TR-I) , 87 ID-201/1 (TR-II)				
	HT Panel –		1 No		
	OCB – 2 Nos				
	Incoming - 1 No		Year of mfg - 1985		
	Make : Biecco Lawrie		Type TOS, 400 Amps, 11KV		
	Outgoing – 2 Nos		Year of mfg - 1985		
	Make : Biecco Lawrie		Type PDB/A, 400 Amps, 11KV, Breaking Capacity – 250 MVA		
	LT Panel – (Including LT Panels installed elsewhere in the building)				
Quantity		2 Nos. (M.V. Panel Room), 1 No (Substn Room), 1 no (Power room), 1 No A.V. Panel (Power room),3 Nos. (Each floor Admin bldg).			
Change-Over Switches		2 Nos. Make- L&T Capacity- 125A & 400A each on ground floor PCM & Power room			

No. of Earth Stations	8 Nos.
Capacitor Panel No. & Salient Details	1No x 125 KVAR with APFCR 1No x 105 KVAR with APFCR
Interconnection with cables / bus trunking - 1) Overhead 800 A AI Bus-trunking for Transformer II, 2) Cables (185 Sq mm, 95 Sq mm Aluminum Conductor armoured cables)	
Year of Commissioning	2002 (TR-I)/ 1987 (TR-II)

SCHEDULE "D"
(A) "IMPORTANT NOTE FOR CONTRACTORS"

The firm shall read carefully the following conditions and shall quote accordingly confirming all the points in their offer.

1. TAXES AND DUTIES:

The firm shall quote rates for all items inclusive of all duties, octroi, taxes & VAT etc. except service tax. No concessional form in any shape shall be issued by the **BSNL**.

2. SERVICE TAX: -

The firm shall claim service tax with the bill clearly furnishing the complete details of service tax so included. BSNL, under no circumstances, will consider any claim of service tax not included in the bill. It will be the firm's responsibility to settle service tax with service tax authorities.

3. COMPLIANCE OF EPF ACT: - The firm has to fulfill / compliance of the provisions of EPF & Misc. Provisions Act 1952 & Employees' Provident Fund Scheme 1952. The each claim bill of contractors must accompany the 1) List showing the details of labourers / employees engaged. 2) Duration of their engagement. 3) The amount of wages paid to such labourers / employees for the duration in question. 4) Amount of EPF contributions (both employer's and employee's contribution) for the duration of engagement in question, paid to the EPF authorities. 5) Copies of authenticated documents of payments of such contribution to EPF authorities and 6) A declaration from the contractors regarding compliance of the conditions of EPF Act, 1952.

4. Operation & comprehensive maintenance of EMS works shall be governed as under:

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

b. The ordering quantity can be increased up to the extend of **25 %** (deviation limit) without the consent of the firm. The firm shall execute such quantities at the rate quoted in the tender without any change in terms and conditions of the contract.

c. The agreement shall be signed between the firm and Executive Engineer (E) BSNL Electrical Division, **Pune** within a fortnight from the date of approval.

d. Operation & Comprehensive maintenance contract shall remain in force for a period of **24 Months** from date of award.

e. Executive Engineer (E) shall supply a schedule of work indicating quantities of various items of quantity in respect of each contract.

5. a) Tendered rates are inclusive of taxes and levies **except Service Tax** payable under the respective statutes. However, pursuant to the Constitution (Forty Sixth amendment) Act 1982, if any further tax or levy is imposed by statute after the date of receipt of tenders and the contractor(s) thereupon necessarily and properly pays taxes or levies the contractor(s) shall be reimbursed the amount so paid provided such payment if any is not in the opinion of SE (E) whose decision shall be final and binding) attributable to delay in execution of work within the control of the contractor(s).

b) The contractor(s) shall keep necessary books of accounts and other documents for the purpose of this condition as may be necessary and shall allow inspection of the same by a duly authorized representative of Government and shall furnish such other information's /documents as the Engineer-in-Charge may require.

c) The contractor(s) shall within a period of 30 days of imposition of any further tax or levy pursuant to the Constitution (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.

NOTE: No additional condition whatsoever will be accepted for turnover tax/sales tax on works contract. In case of additional conditions for the payment of such taxes by the contractor the tender may be liable to be summarily rejected by the accepting authority. No conditional offer shall be entertained and rejected.

6. Firm has option to Deposit Earnest money in form of Bank Guarantee for Operation & Comprehensive Maintenance contract works in BSNL's attached format and manner (Annexure – I).

7. PERFORMANCE GUARANTEE:

The firm has to submit **within 15 days of award of work** performance guarantee for **10% of the 12 Months** Tendered Cost **subjected to maximum 5 Lakhs**. This amount is to be given either in the form of Bank Guarantee or any other acceptable form. No Security Deposit shall be deducted from the running bills. This amount shall be refunded after successful completion of maintenance period. The EMD deposited along with tender shall be adjusted against this.

SCHEDULE "D"

(B) Copy of Memorandum No.5-1-12/EW/94 dated 26th Sept.1996

Subject: - Option for Deposit of Earnest Money in the form of Bank Guarantee for Air- conditioning, Engine Alternator sets, AMC E/A Sets, Lifts and Sub-Station Works.

(Bank Guarantee should be in a Stamp Paper of Rs.100/-)

1. In modification of the existing procedure of Deposit of Earnest Money with each Tender in the shape of Cash/Demand Draft/Pay Order, it has been decided by the BSNL Commission to provide for an option to the Contractor(s) for depositing Bank Guarantee along with the Tenders for Air-conditioning, Diesel Engine Alternator, AMC E/A sets, **Operation and Comprehensive Maintenance of EMS**, Lifts and Sub-station works wherever the amount of EMD is more than Rs.20, 000/-.
2. The Bank Guarantee shall be from a Scheduled Bank or from a Nationalized Bank/State Bank guaranteed by Reserve Bank of India.
3. The Bank Guarantee shall remain in force for 30 days after the period for which the tenders are valid.
4. The value of the Bank Guarantee to be deposited along with each Tender shall be at the rates of Earnest Money prescribed by the BSNL from time to time. The Bank Guarantee Bond for EMD Deposit shall be as per the Model form at Annexure-1.
5. The Bank Guarantee Deposit by the Contractors shall be entered in a register to be maintained by the Divisional Officer/Accounts Officer of the concerned Electrical Division and the register shall be reviewed periodically and appropriate action to be taken for extending/ encashing or release of these Bank Guarantee.
6. This is issued with the concurrence of BSNL Finance vide their U.O.No.274/FA-V dated 26th Sept.1996 and shall come into force with immediate effect.

Encl.: **Annexure-I**

Annexure-I
MODEL FORM OF BANK GUARANTEE (ON STAMP PAPER OF Rs. 100/-)

BANK GUARANTEE BOND FOR EMD FOR AIR CONDITIONING, DIESEL ENGINE ALTERNATOR, AMC E/A Sets, **Operation and Comprehensive Maintenance of EMS**, LIFTS AND SUB STATION WORKS WHEREVER THE AMOUNT OF EMD IS MORE THAN RS. 20,000/-

Whereas _____ (hereinafter called "The Contractor(s)") has submitted its Tender dated _____ for _____ (Name of 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

GENERAL CONDITIONS

Scope of Maintenance

The operation and maintenance of Electro-mechanical services included in the schedule of work is to be carried out round the clock including holidays on comprehensive basis. No material and consumables will be supplied by BSNL except those consumables specifically mentioned against a particular service. The firm has to adhere to maintenance schedule of each service.

Methodology

Before starting the work the new agency will depute his supervisor who in consultation with the authorized representative of BSNL as well as with the supervisor of old agency, if any, will prepare the defect list whatsoever within 15 days from the award of the work. The testing of E/A set, F/D & F/A system and Earthing stations will also be carried out during this period. The responsibility of rectification / removal of the defects will rest with BSNL.

- a) After the completion period is over the Agency will handover the installation in healthy and free from defects condition. **In case of dispute, decision of Engineer in charge shall be final and binding.**
- b) A complaint book as per Annexure II shall be kept up to date at site by the firm and the same shall be available for checking and verification.
- c) At the start of each month, the firm in consultation with S.D.E.(E) concerned shall prepare a programme for preventive maintenance to be carried out during the month as per Annexure-III. The actual maintenance carried out shall be recorded in Annexure-IV at the end of each month.
- d) If any service is added during the currency of contract, operation of the same shall be done by the firm at no Extra Cost.
- e) Wherever HT Sub-station is included in the scope of work, Operation & Maintenance of HT equipments shall have to be carried out under strict supervision of supervisor with valid permit / HT license issued by Maharashtra/ Goa (as applicable) licensing authority.

QUALIFICATIONS OF STAFF

1. Wireman:- He/she shall have a wireman's certificate and valid permit for wireman issued by Maharashtra/ Goa (as applicable) licensing authority and shall have at least two years experience in the line.
2. A.C. operator:- ITI in Refrigeration and Air Conditioning trade or equivalent from recognized institute with at least two years experience in the line.

TOOLS & PLANTS

All tools and plants required for carrying out various tasks relevant to operation and maintenance have to be arranged by agency at his-own cost.

COMMERCIAL

1. The tenderer must obtain himself at its own expenses, all the information necessary for the purpose of tendering. Inspect the site and acquaint himself with all the local conditions, means of access to work and nature of work etc. No claim shall be entertained on this account.
2. For category-I buildings, monthly payment shall be made. For other, categories Bi-monthly payment shall be made. Month wise certificate as per Annexure III & IV shall be attached with each bill.
3. **The rates quoted must be including of all taxes, duties etc. but excluding service tax.**

SERVICE TAX

The firm shall claim service tax with the bill clearly furnishing the complete details of service tax so included. BSNL, under no circumstances, will consider any claim of service tax not included in the bill. It will be the firm's responsibility to settle service tax with service tax authorities.

COMPENSATION FOR DEFAULTS

1. Any damage to the installation(s)/building due to the carelessness on the 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 Department will not entertain any claim, compensation, penalty etc on this account or on account of non-observance of any other requirement of law relevant to his work.
3. All breakdown calls/ complaints has to be attended by the firm with utmost promptness. 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 at the risk and cost of the firm without giving any notice. The decision of the E.E (E) shall be final.
4. The defects of any nature shall be rectified by the agency promptly. With every running bill, certificate regarding "No defects pending" or the "list of the defects, if any" during the bill period shall be submitted by the agency which shall be duly verified by the JTO(E) & SDE(E).
5. Compensation for delay in removal of defects:

Sr. No.	Grounds of compensation	Quantum
1	Non functioning of equipments but overall performance parameters i.e. temp, availability of mains/ generator supply, fire protection and so on are	0.5% (half percent) per week subject to maximum of 10% of tendered value (one year).
	a) Within Limits	
	b) Beyond Limits	
Note: 1. This is without prejudice to BSNL's right to take action under clause 3 above. 2. The period after which compensation shall be applicable will be governed as follows. i) 1(a) shall be applicable after period of two weeks or immediately if the ground changes from 1(a) to 1(b). ii) 1 (b) shall be applicable immediately. 3. The period of two weeks shall be suitably extended, if required, in case of major defects (replacement/ repair) by the Superintending Engineer (E). 4. If the defects are unattended for more than two months, the same shall be got done at the risk and cost of the agency. No claim whatsoever from agency shall be entertained on this account.		

CURRENCY OF CONTRACT

1. The currency of contract shall be 24 months.
2. The Department reserves the right to terminate whole or part of the contract by giving prior notice of one-month duration at any time during the currency of the contract.
3. The Department reserves the right to extend the contract for a maximum period of **Six** months (three months at a time) at the same rates & conditions, without the consent of the firm.

MISCELLANEOUS

1. The workers engaged by firm should maintain proper discipline and good behavior with occupants. The firm shall remove such workers from the site whose behavior is found improper, Executive Engineer's decision shall be final.
2. The agency will provide the workers with, Testing and safety equipments.
3. Agency has to observe all the labour rules and regulations in force and indemnify BSNL against any claims whatsoever, either from this clause or any other clause in the contract.
4. Firm shall issue ID card to their workforce whenever they enter premises for bonafied work. Nobody shall be allowed entry without work and nobody will be allowed overnight stay without work. The workers should wear proper uniform with detachable badge indicating the name of person & firm.
5. Dismantled materials shall be returned to the BSNL except those items for which the replacement is supplied by the agency.
6. The firm can utilize the services of specialized agencies for specific work.
7. While working inside the premises, the agency shall be responsible to provide necessities to them as per labour law. However existing facilities like water, toilet and power for bonafied use shall be provided by BSNL. Any workforce not required for carrying out task shall not be permitted to stay in the premises.
8. The contractor has to keep all the electro-mechanical equipment's and site neat and clean to avoid any accident or fire hazards.
9. Since the services are of critical nature, the firm will ensure that the persons engaged are well trained to take responsibility and initial steps under emergency situation.
10. In case of Emergency, contractor or his authorized supervisor shall be available at site on short notice from engineer-in-charge and make all efforts to make the situation normal at the earliest.
11. Firm is responsible to keep workable spares and consumables for due performance of the contract. For critical spare parts, firm shall have arrangement with dealers for prompt supply.
12. Any material used/replaced by the Firm for the work shall have same specification. Alternate Make shall be allowed only after prior approval of the Engineer - in - charge.

13. The Firm shall be responsible to maintain Power Factor near to Unity for obtaining maximum rebate in Electricity Bill, while maintaining Sub Station. Any penalty levied by the Electricity Board on a/c of low power factor shall be fully recovered from the firm.
14. The Firm shall ensure energy conservation by switching - on the services only when required.
15. Dates of fire drill and earth test shall be displayed at site as per Annexure X attached.

List of Tools & Plant (To Be Kept At Site)

Common for all services

1. Torch
2. Clip on meter
3. Digital Multimeter
4. Hammer
5. Soldering gun
6. Hygrometer
7. Blower
8. Nose plier
9. Line tester
10. Combination plier
11. Set of screw drivers
12. Set of fixed, ring and box spanner (6mm to 32mm)
13. Adjustable spanner
14. Set of Allen keys

Special requirement of each service

(A) Package A/C SYSTEM

1. Sling Psychrometer
2. Flaring tool

(B) Substation

1. 11/22 KV Rubber hand gloves & earthing rod

(C) EI & Fans and Fire detection

1. Ladder

List of Tools & Plant (To Be Kept In office)

Common for all services

1. Drilling Machine
2. Megger (Insulation tester – 500V)
3. Earth Tester

Special requirement for each service

(A) Package A/C system

1. Halide leak detector
2. Anemometer
3. Gas charging kit
4. Empty cylinder with cap & valve
5. Vacuum cleaner
6. Vacuum Pump (1/4HP) – Two stage rotary pump
7. Oxy Acetylene torch & welding set
8. Swaging tools
9. Gas charging manifolds with discharge & suction gauge
10. Vacuum gauge

(B) Substation work

1. 2500/5000V Megger

(C) Engine Alternator work

1. Torque Wrench

A. Details to be supplied before starting the work

1	Name of the Agency (with Office address)	:	
2	Name of Proprietor/partners	:	
3	Telephone No.(s)of the firm	:	
4	Name & address of the Supervisor	:	
5	24 Hours contact No.	:	
6	Particulars of the License/ Registration	:	

B. Detail of staff to be posted at site.

S. No.	Name and Address	No. & date of Valid Permit for wiremen

COMPLAINT REGISTER

Sr. No.	Date & Time of complaint	Nature of complaint	Location	Time & Date of attending complaint	Cause of fault	Material used	Dated Signature of complainant	Dated Signature of Firm Representative

ANNEXURE – III

Programme for Periodical Maintenance for the month of _____

Name of Contractor: _____

Agreement No.: _____

Name of Sub Division: _____

Location: _____

S. No.	Name of Service	Maintenance requirements of materials	Activity with	Remark

(Contractor)

Engineer – in – Charge

ANNEXURE – IV

Actual Periodical Maintenance carried out in the month of _____

Name of Contractor: _____

Agreement No.: _____

Name of Sub Division: _____

Location: _____

S.N.	Name of Service	Periodical Maintenance Actually carried out	Results Satisfactory/ Unsatisfactory	Remarks

(Contractor)

Engineer – in – Charge

MAINTENANCE SCHEDULE

EI & FANS, Compound Lighting, Lightning Conductor, Desert Coolers, Geyser and Room Heater

DAILY CHECK

1. Ensure installation is always kept clean and in healthy and working condition.
2. Attend complaints promptly and in a satisfactory manner.
3. Ensure no breakdown in power supply. In case of breakdown, take prompt steps including contacting supply company for early restoration.
4. Carrying out minor alterations & additions as per directions of Engineer – in – charge (Material will be supplied by dept.)
5. Switch OFF lights / fans & other appliances, when not in use / not reqd.
6. Ensure adequate water in desert cooler during summer season. (Water by BSNL)

MONTHLY

1. Work out material requirements for prompt maintenance.
2. Inspect and tighten MB, SDB, rising mains for loose connections.
3. Watering of earthing pits (water by BSNL).
4. Check & attend for deterioration of lightning spike prongs, supports and ensure proper bonding.
5. Cleaning of desert coolers during summer season.

HALF YEARLY

1. Measure the earth resistance of all earthing stations and ensure that all equipment are properly earthed i.e., there are no loose joints.
2. Measure and record insulation resistance of installation including MB's, SDB's & Rising mains.

YEARLY

1. Painting and sign writing of poles and feeder pillars.
2. Painting and servicing including changing of pads of desert coolers before summer season.

MAINTENANCE SCHEDULE

WATER PUMPS

DAILY

1. Keep the installation in clean and healthy condition.
2. Check and attend gland leakages in pumps, suction, discharge pipelines (within pump room) and foot valve leakage.
3. Check and attend for abnormal noise, abnormal heating and priming arrangements.
4. Record logbook detailing operation of pumps.

MONTHLY

1. Inspect electrical system like panel etc and ensure its proper functioning.
2. Ensure proper alignment of pump and motor.
3. Watering of earthing pits (water by BSNL).

QUARTERLY

1. Greasing and oiling of pumps, bearings and valves.
2. Check and attend NRV, foot valve, suction pipe coupling.
3. Tightening of foundation bolts.
4. Replace gland packing if leakage is there.

HALF YEARLY

1. Measure the earth resistance of all earthing stations and ensure that all equipment are properly earthed i.e., there are no loose joints.
2. Measure and record insulation resistance of panel.

YEARLY

1. Painting and sign writing of pumps and motors.

MAINTENANCE SCHEDULE

WINDOW/SPLIT A.C. UNITS/WATER COOLERS

DAILY

1. Checking for any abnormal noise/ vibration and take corrective action.

MONTHLY

1. Cleaning of filters
2. Checking and tightening all electrical connections.
3. Checking for condensate drain in particular, from indoor unit of split A/C and remove the blockage and repair leakages, if any.

QUARTERLY

1. Cleaning of condenser including chemical cleaning, if required.

ANNUAL

1. Complete servicing of the units.
2. Check for any rust spots. Dry, emery such spots, patch up with red oxide and paint.
3. Cleaning of storage tank of water cooler.

SPECIAL CONDITIONS:

1. Complete upkeep of voltage stabilizer used for A.C. unit shall be the responsibility of the firm.
2. All breakdown calls / complaints have to be attended by the firm with utmost promptness.
3. Burnt out motors shall not be repaired but replaced with higher efficiency motors of reputed make.

MAINTENANCE SCHEDULE

PACKAGE A/C UNITS

DAILY

1. Keep a log of various parameters in the logbook.
2. Check main supply on the unit.
3. Check operation of crankcase heaters (if provided).
4. Check the water level in cooling tower & suction strainer for water-cooled system.
5. Check for abnormal noise / heating.

WEEKLY

1. Clean all package unit filters.
2. Tighten any loose nut, bolts & screws etc.

QUARTERLY

1. Check compressor mounts for any undue vibrations or cracks, replace mounts, if necessary.
2. Examine condition of starter contacts. Replace, if required.
3. Check operation of H.P/ L.P cutouts & thermostats. Take corrective action, wherever required.
4. Open fan section cover. Check belts for wear & tear. Replace, if necessary. Check bearings & alignment of belt drive and take corrective action.
5. Clean the finned surface of condensers and do chemical Cleaning, if required.
6. Cleaning of cooling tower & nozzles (for water cooled system).
7. Ensure proper operation of motorized dampers.
8. Check all electric cables for possible looseness at motor junction box & M.V panel.
9. Check for any rust spots on steel panels, bottom & intermediate trays. Dry, Emery such spots, patch up with red oxide & paint.
10. Check operating pressures of compressors. Take corrective action for deviations.
11. Do cleaning of Microwave filters & fresh air filters (frequency of cleaning may be enhanced, if required).

YEARLY

1. Carry out leak test for refrigeration circuit and plug the leaks, if any.
2. Carry out electrical Megger test.
3. Check current of all motors and take corrective action for major deviations.
4. Carry out chemical cleaning of Evaporator & Condenser coils.
5. Painting of condenser & condenser structure.
6. Descaling of water-cooled condensers.
7. Greasing of all motors.
8. Ensure that all equipments are properly earthed i.e., there are no loose joints.

SPECIAL CONDITION

1. All breakdown calls / complaints has to be attended by the firm with utmost promptness.
2. Tests are to be carried out as per proforma enclosed to determine the capacity of each Package A.C Unit. These tests shall be performed from 1st April to 30th Sept in consultation with Engineer-in-charge. The firm without any additional cost shall arrange all instruments for this testing.
3. The replacement of Microvee filters will be the responsibility of BSNL. (Replacement of Microvee filter shall be done with the prior written approval of Superintending Engineer (E).
4. Burnt out motors shall not be repaired but replaced with higher efficiency motors of reputed make.
- 5. Rubber matting will be BSNL responsibility.**

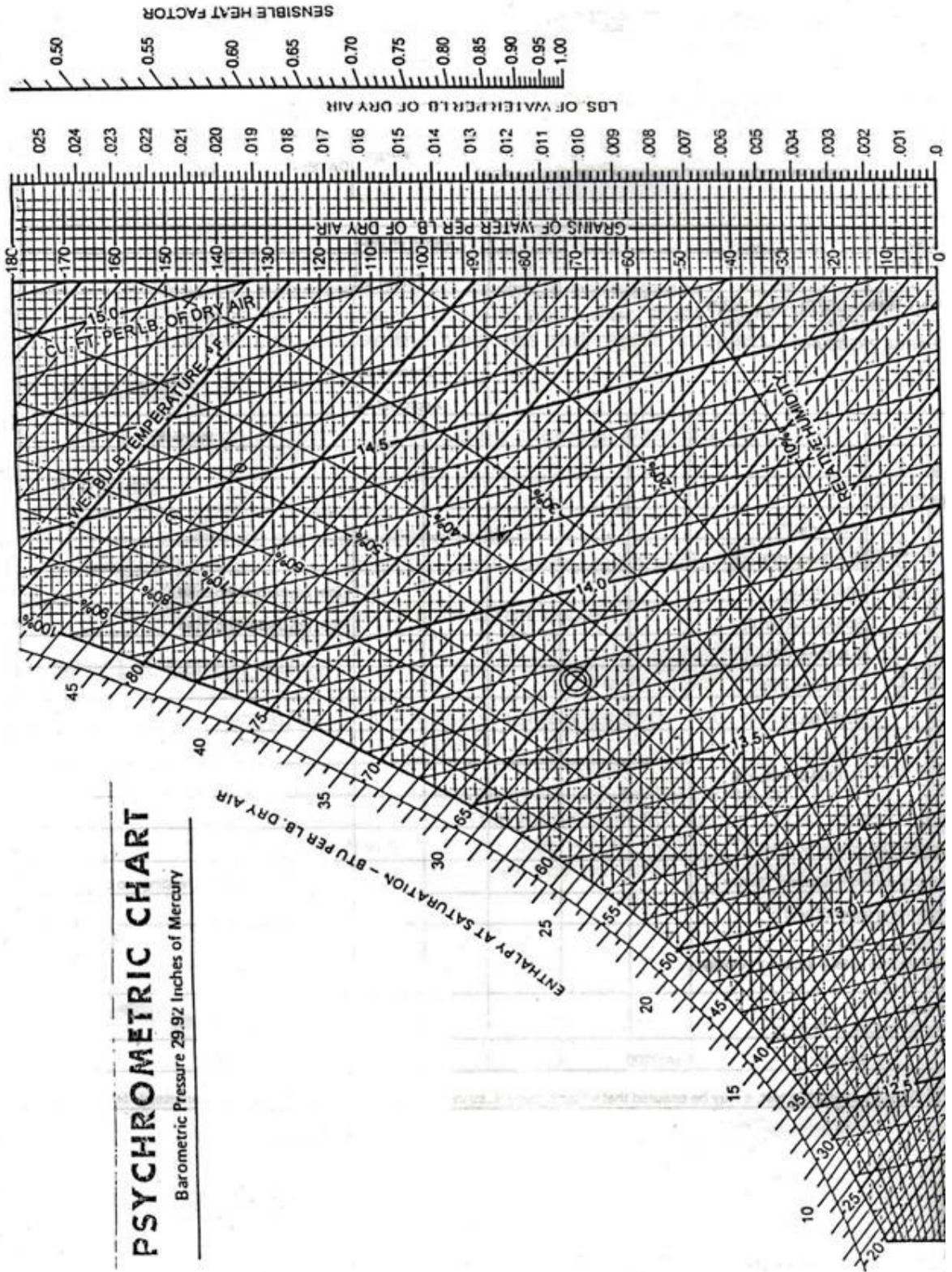
Note : In case of any fault, the operator has to promptly inform the department /AMC Agency, nominated by department, if any.

ANNEXURE V

LOGBOOK FOR AIR COOLED PACKAGE AC PLANT																					
Month:				P.U. 1			P.U.2			P.U. 3			P.U. 4			Conditions				Remark	
Date	Time	Volt	Total Amp	HP	LP	Amp	HP	LP	Amp	HP	LP	Amp	HP	LP	Amp	Plant room		Out Side			
																	DB/	%	DB/	%	
	8.00																WB	RH	WB	RH	
	11.00																				
	14.00																				
	17.00																				
	20.00																				
	23.00																				
	2.00																				
	5.00																				
	8.00																				
	11.00																				
	14.00																				
	17.00																				
	20.00																				
	23.00																				
	2.00																				
	5.00																				

5/7/10 TR PACKAGE AIR CONDITIONER CAPACITY TEST BY ENTHALPY METHOD OBSERVATION SHEET (TOP / BOTTOM DISCHARGED)					DATE :-	
Model						
Unit Sr. No.					Venue of test	
Comp. type & No.					Tested by	
AMBIENT TEMP.- DB (° F)					Checked by	
SCUTION PRESSURE----- (PSI)					Approved by	
DISCHARGE PRESSURE----- (PSI)						
Time					Remark	
Voltage (v)						
Frequency (hz)						
EVAPORATOR	RETURN	D.B. TEMP (° F)				
		W.B. TEMP (° F)				
		H1 (BTU/Lb)				From Psychometric chart
		Sp. Vol. (CFU/LB)				From Psychometric chart
	SUPPLY	D.B. TEMP (° F)				
		W.B. TEMP (° F)				
		H2 (BTU/Lb)				
	$\Delta H (BTU/LB) = H1-H2$					
	Evaporator coil area in Sq. feet=					
Air velocity across evaporator (fpm) =					(Average of six to eight readings to be taken)	
Vel. multiplying factor (if any)						
Total air flow in CFM= evaporator coil area in sq. mm. x velocity in ft/m						
Total heat= (flow of air in CFM x ΔH)					(A)	
CAPACITY =		(A) / 200				
Note :- (i) Before taking this test , it may be ensured that voltage, current, suction, & discharged pressures are within permissible limits.						

ANNETURE-VII



PSYCHROMETRIC CHART

Barometric Pressure 29.92 Inches of Mercury

MAINTENANCE SCHEDULE

FIRE DETECTION AND FIRE ALARM SYSTEM

DAILY

- i. Check proper D.C voltage on the MCP.
- ii. Check LED's of Panel through Lamp test and replace the fused ones.
- iii. Check any fault displayed on the panel and take corrective action.

QUARTERLY

- i. Ensure that all equipments are properly earthed i.e there are no loose joints.
- ii. Ensure that A.C. package system trips, on operation of Fire detection system.
- iii. Examine battery for electrolyte, tightness of terminals etc. Top up electrolyte, if required.
- iv. To carry out Fire drill in order to know the healthiness of the entire system including P.A. system.
- v. Cleaning of detectors to remove dust or dirt by vacuum.
- vi. Check and attend EXIT signboards including battery.

FIRE EXTINGUISHERS

The maintenance of the same shall be carried out as per the recommendations of manufacturers & refilling, if any, shall be the responsibility of the firm. Pressure testing of extinguisher is to be done as per manufacturer's recommendations.

SPECIAL CONDITIONS

All breakdown calls / complaints has to be attended by the firm with utmost promptness.

FORMAT OF TEST REPORT FOR FIRE DETECTION SYSTEM

Test report of Automatic Fire- Detection and Fire Alarm System for _____ at _____

- (1) Supplied and installed by: -
- (2) Maintained by:- (a) AMC: -
(b) Operation & Maintenance: -
- (3) Agreement Nos.: - (a) AMC: -
(b) Operation & Maintenance: -
- (4) Name of Test: - Testing of Fire Detection & Alarm System
- (5) Date of Testing: -
- (6) In presence of following: -

	NAME	DESIGNATION
1.		
2.		
3.		
4.		
5.		
6.		

The testing of the above installation has been carried out and the results are stated below. The inventory of the installation has been attached as per Annexure - A: -

- (A) **Whether the MCP and LCP have the following Supervisory Facilities and are healthy and good working condition: -**

	M.C.P,	L.C.P.
i) Open Circuits		
ii) Short Circuits		
iii) Reset Push Button		
iv) Alarm Acknowledge		
v) Lamp Test Push Button		

- (B) **Whether each control Panel has the following facilities and are healthy and good working condition: -**

- i) Fire Test
- ii) Normal / Zone Isolation
- iii) Alarm Test
- iv) Fault Trouble test.

- (C) **Check of Earthing**

- 1) Main Control Panel
- 2) Local Control Panel

- (D) **Check of Main Power Supply**

- i) Check of fuses

(E) Check of Battery

M.C.P, L.C.P.

- i) Location of Battery
- ii) Condition of Battery
- iii) Check of Fuses
- iv) Voltage
- v) Specific Gravity
- vi) Automatic Change over of the System on Battery, in case of Mains Failure.
- vii) Remarks

(F) Check of Open, Short, and Isolation of Detectors.

(G) Check of Operation / Activation of Detectors.

(H) Check of Manual Call Points (Pill Box)

(I) Functional Test of Control Panel & P. A. System

(J) Check of Alarms

	AUDIO	VISUAL
i) Mains Failure		
ii) Open Circuit		
iii) Short Circuit		
iv) Close Circuit		
v) Fuse Blown		
vi) Low Voltage		
vii) Reverse Polarity		
viii) Remarks: -		

(K) DEFECTS / DISCREPANCIES:

(L) CONCLUSION:-

Signature of Officers Present.

	NAME	DESIGNATION	SIGNATURE
1.			
2.			
3.			
4.			
5.			
6.			

MAINTENANCE SCHEDULE
E/A SETS

DAILY

1. **(a) Before starting:-**

- (i) Check water level - Top up to recommended level.
- (ii) Check Engine oil level in sump - Top up to H Mark
- (iii) Check fuel level in tank
- (iv) Check battery terminals & V-belt for proper tightness. Apply Vaseline on battery terminals.
- (v) Clean engine and surrounding.

(b) After starting:-

- (i) Check Lub oil pressure: Not less than 2.5 Kg/cm² at rated speed and operating temp.
- (ii) Check coolant water temp: - 75 °C to 85 °C (Recommended)
- (iii) Check leakage from fuel piping, injector high-pressure lines, exhaust manifold flange, engine oil filter & coolant hoses.
- (iv) Check battery charging.

(c) AT SHUT DOWN

- (i) Do not shut down the engine immediately after unloading. Run at no load for 1 minute and then stop it.

2. **MAINTAIN LOG BOOK CORRECTLY**

EVERY 50 HOURS

- (i) Check & top up oil in the air cleaner.
- (ii) Check hose connections in cooling system.
- (iii) Fuel piping connections.
- (iv) Exhaust piping connections.
- (v) Engine mountings.
- (vi) Engine to drive unit coupling.
- (vii) Electrical connections.
- (viii) Lubricate throttle linkages.
- (ix) Clean air cleaner.
- (x) Clean fuel feed pump strainer.
- (xi) Electrolyte in battery.

EVERY 200 HOURS

- (i) Check & top up lube oil in fuel injection pump (FIP).
- (ii) Radiator cowl stay and gap between fan & cowl.
- (iii) Check for proper alignment of engine to drive unit.
- (iv) Replace oil in air cleaner.
- (v) Replace fuel filters & sealing ring.
- (vi) Clean strainer in fuel tank.

EVERY 400 HOURS i.e. B CHECK:

B Check is to be carried out every 400 hours or six months whichever is earlier. In a contract period of 24 months minimum four B checks are to be carried out. If it exceeds more than four the cost of engine oil and oil filter shall be paid extra by BSNL.

- (i) Replace engine oil
- (ii) Replace engine oil filter
- (iii) Check & reset injector pressure.
- (iv) Check & reset injector pump timing.
- (v) Retighten cylinder head nuts.
- (vi) Adjust engine valve clearance.

- Note:
1. For engines with turbocharger, lub oil & lub oil filter shall be changed at 200 hours.
 2. The above maintenance schedule is of general nature and may vary among various engine manufacturers. The firm will ensure that maintenance of Engine, in particular, of air cleaner, change of lub oil & fuel filters are being done strictly as per the manufacturer's recommendation.

SPECIAL CONDITIONS:

1. The servicing and breakdown maintenance has to be got done from authorised service Center/ Dealer of the Engine manufactures.
2. Diesel will be arranged by the BSNL. However, transportation of Diesel from Diesel Pump Station to site shall be firm's responsibility, if required.
3. Measure the earth resistance of all earthing stations and ensure that all equipment are properly earthed i.e., there are no loose joints. ----- Half yearly. Watering of earth pits - -- Monthly (water by BSNL).
4. All breakdown calls/ complaints has to be attended by the firm with utmost promptness.
5. Batteries to be replaced once in a contract period (2 years).
6. **Rubber matting will be BSNL responsibility.**

**TEST SHEET FOR ENGINE ALTERNATOR
PHYSICAL VERIFICATION**

Item

Remarks

- (a) Verify level of bed
- (b) Check firmness of mounting.
- (c) Check for verticality
- (d) Verify tightness of bolts and nuts and other fitting.
- (e) Check whether hot air pipe (if provided is properly led out)
- (f) Check whether exhaust pipe is properly lead out and lapping of asbestos rope provided for part of the run.

2. LOAD TEST

The Engine shall be given a test run continuously for at least 4 hrs with the alternator on **de-rated capacity**. During the load test, record the following observations:

ITEM DESCRIPTION	AFTER			
	1 ST hr.	2 ND hr.	3 RD hr.	4 TH hr.
Lubricating oil pressure				
Colour of exhaust gas (by visual inspection)				
Speed in RPM (as on panel meter)				
Output current (as on panel meter)				
Output voltage (as on panel meter)				
Wattage(as calculated)				

3. Temperature rise test for Alternator

Run the alternator at full rated load. Record the reading of the stationary coil/half hour till three consecutive readings in the following tables.

TIME	AMBIENT TEMPERATURE	TEMPERATURE OF STATION

NOTE: Temperature rise will be taken by the thermometer from alternator body and will be recorded.

4. CHECK OF FUEL CONSUMPTION

After steady conditions have been obtained, the fuel consumption at full load for half-hour shall be checked. During this test, the load shall be maintained as early as possible at the test figure.

5. INSULATION TEST

Immediately after the over-load test, take insulation test. The insulation resistance between the starter coil and the frame when tested with 500 V insulation tester shall not be less than one Mega-Ohm.

E.A LOG BOOK FORMAT

DATE & TIME	R P M	FREQUENCY (Hz)	LOAD								LUB OIL PRESSURE	WATER TEMP	Fuel Level in Ltrs.	REMARKS LUB OIL TOP UP, MAINTENANCE CARRIED OUT, REPAIRS ATTENDED ETC.
			AMPS			VOLTS			KW	PF				
			R	Y	B	R	Y	B						
														READINGS SHALL BE RECORDED ON HOURLY BASIS. ENGINE RUN TODAY HRS ENGINE RUN TILL LAST DAY HRS TOTAL ENGINE RUN HRS OPERATORS NAME AND SIGN.

MAINTENANCE SCHEDULE

SUB-STATION

DAILY

- i. Maintain Logbook properly.
- ii. Any abnormal heating/ noise.
- iii. Any leakage of oil from any equipment.
- iv. Replace blown out H.R.C. fuses indication lamps and lightning arrestors (of outdoor sub-station).
- v. Keep sub-station neat and clean.

MONTHLY

- i. Ensure tightness of all connection including cables at the termination point.
- ii. Healthiness of D.C. Trip system.
- iii. Replace the defective meters if any.
- iv. Removal of moisture from silica gel of breather and replace the same if required.
- v. Ensure that all fire buckets are filled with sand and fire extinguishers are properly charged.
- vi. Checking of contacts of contactors of capacitor panel and replace the defective ones.
- vii. Ensure that the handle of Air break switch and fencing of outdoor sub-station are earthed.
- viii. Replacement of defective and worn out capacitors.
- ix. Oil level of Transformers and top up if required.
- x. Proper operation of Air break switch of outdoor substation.
- xi. Watering of earthing pits (water by BSNL).

HALF YEARLY

- i. Measure the earth resistance of all earthing stations and ensure that all equipment are properly earthed i.e., there are no loose joints.
- ii. ON/OFF operation of all switches including cleaning and lubricating of operating mechanisms.
- iii. Ensure that the space around outdoor sub-station is free from weeds, grass etc.

YEARLY

- i. Dehydration of oil of all equipment i.e. Transformer, H.T. Panel & Potential Transformer etc.
- ii. Testing of protective Relays and their settings.
- iii. Servicing of L.T. ACB's.
- iv. Meggering of all equipments and recording the results.
- v. Proper functioning of Mechanical/Electrical interlock wherever provided.
- vi. Proper functioning of P.F. correction Relay.
- vii. Replace the rusted and lost Danger Plates (in particular of outdoor substation).
- viii. Outdoor structure to be painted every year in the months of November/ December.**

SPECIAL CONDITION

- 1. Rubber matting will be BSNL responsibility.**

LOG BOOK OF SUBSTATION (INDOOR)

DATE: _____

TIME	H. T. Voltage In KV			H. T. Current In Amp. Incoming			Transformer – I						Transformer – II						Total Power				Remarks		
	Voltage			Current			Temp in °C			Voltage			Current			Temp in °C			MD in KVA	Kwh (a)	Kvah (b)	P.F. (a/b)			
	R	Y	B	R	Y	B	R	Y	B	R	Y	B	R	Y	B	R	Y	B						R	Y
0800																									i) Record no. & duration of Mains failure on each day.
1100																									
1400																									ii) Details of maintenance like, heating of silica gel, dehydration of transformer oil, servicing of LT. ACBs, replacement of HRC fuses, indication lamps & contacts of contactors, etc.
1700																									
2000																									
2300																									
0200																									
0500																									
																									iii) Record of earth resistance.

FOLLOWING ITEMS TO BE CLEARLY DISPLAYED

FIRE DRILL

CONDUCTED ON

NEXT DUE ON

EARTH RESISTANCE OF ALL EARTH STATIONS

CHECKED ON

NEXT DUE ON