

**N.I.T. NO.** : **87 /09-10/Kolhapur/KPR Div**

**DRAFT N.I.T. NO.:** **13 /EEE/BSNL/KPR/09-10**

**TENDER DOCUMENT**

**NAME OF WORK:** Installation of Window AC units & associated works for various BTS STATIONS under subdivision II in Kolhapur SSA

Issued to: M/s \_\_\_\_\_.

( Not to be filled if tender is downloaded from the internet/website)

Date : \_\_\_\_\_

( Not to be filled if tender is downloaded from the internet/website)

Certified that this tender document contains 26 (One to Twenty six) pages only excluding the standard BSNL EW-8 form booklet.

**Executive Engineer (E)**

**UNDERTAKING BY CONTRACTOR ONLY IF THE TENDER DOCUMENT IS  
DOWNLOADED FROM WEBSITE**

I / we wish to state that the tender document has been downloaded by me / us from the website and the same tender document is sealed and submitted. In case if there is any change between the document submitted by me / us and the Draft NIT, then the Draft NIT which is seen by me/ us shall prevail.

Signature of Contractor with SEAL

**NAME OF WORK** : Installation of Window AC units & associated works for various BTS STATIONS under subdivision II in Kolhapur SSA

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

**Electrical Division: Kolhapur**

**Sub Division: Kolhapur - I**

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

01. Tenders in the prescribed form are hereby invited on the behalf of the BSNL for the work of :

a)	<b><u>NAME OF WORK: -</u></b>	Installation of Window AC units & associated works for various BTS STATIONS under subdivision II in Kolhapur SSA
b)	<b><u>DIVISION: -</u></b>	BSNL Electrical Division, Kolhapur.
c)	<b><u>ESTIMATED COST : -</u></b>	<b>Rs.419490/-</b>
d)	<b><u>EMD</u></b>	<b>Rs.8390/-</b>
e)	<b><u>TIME: -</u></b>	<b>One month from the date of issue of LOI.</b>
f)	<b><u>PERFORMANCE SECURITY</u></b>	5% of the agreement value.
g)	<b><u>SECURITY DEPOSIT</u></b>	As applicable
h)	<b><u>COST OF TENDER DOCUMENT:</u></b>	<b>Rs. 569/-</b>
i)	Tenders will be issued to eligible contractors satisfying eligibility condition	

1.2 The work is estimated to cost **Rs.419490/-**This estimate, however, is given merely as rough guide.

1.3 Tenders will be issued to eligible contractors satisfying under mentioned eligibility condition.

**Criteria of eligibility for issue of tender documents**

1. **Registered Electrical Contractors of BSNL,**
- 2.

Documentary proof of satisfying above conditions, Chartered accountant certificates and Valid Maharashtra / Goa Sales Tax Registration for execution of Works Contract Tax to be furnished along with application.

1. Agreement shall be drawn with the successful tenderer on prescribed Form No. BSNL EW8. Tenderer shall quote his rates as per various terms and conditions of the said form which will form part of the agreement.
2. The time allowed for carrying out the work will be **One month from the date of issue of LOI** from the 10<sup>th</sup> day from date of award of work indicated in the tender documents.
3. The site for the work shall be made available.
4. Receipt of applications for issue of forms will be **stopped by 1600 Hrs. on \_10/08/2009.** Issue of tender forms will be **stopped on 11/08/2009.** Tenders shall be opened on **\_12/08/2009.**

Tender documents consisting of specifications, the schedule of quantities of the various classes of works to be done and the set of terms and conditions of contract to be complied with by the contractor whose tender may be accepted and other necessary documents can be seen in the office of the **Executive Engineer (E), BSNL Electrical Division, City Telephone Exchange, 3<sup>rd</sup> Floor, Bhausingji Road, Kolhapur-416002** between hours of 11.00 AM and 04.00 P.M.

everyday except on Sundays and Public Holidays. Tender documents, excluding standard form, will be issued from his office, during the hours specified above, on payment of Rs. **569/- (Non Refundable)**.

5. The tenderer must produce a Chartered Accountants Certificate showing details of Income-tax returns duly filed and no dues are outstanding towards Income-tax, certificate before tender papers can be sold to him.
6. Tenders, which should always be placed in sealed envelope, with the name of work and due date written on the envelopes, will be received by the **Executive Engineer (E), BSNL Electrical Division, City Telephone Exchange, 3<sup>rd</sup> Floor, Bhausingji Road, Kolhapur-416002**, upto 03.00 P.M. on **12/08/2009** and will be opened by EE (E) or his authorized representative in his office on the same day at 03.30 P.M.
- 8.1 The tender shall be accompanied by earnest money (unless exempted), of **Rs.8390/-** in Cash/Receipt Treasury Challan/Deposit at Call receipt of a Scheduled Bank/Fixed Deposit Receipt of a Scheduled Bank/Demand Draft of a Scheduled Bank issued in favour of **AO(Civil), BSNL, Kolhapur**. The Fixed Deposit Receipt shall be accepted only if it is valid for six months or more after the last date of receipt of tenders and is pledged in favour of **BSNL, Kolhapur**.

A contractor exempted from depositing earnest money in individual cases, shall enclose with the tender an attested copy of the letter exempting him from depositing earnest money, in a manner described for earnest money in condition No. 8.2 below, and shall produce the original when called upon to do so.

- 8.2 The tender and the earnest money shall be placed in separate sealed envelopes each marked 'Tender' and 'Earnest Money' respectively. In cases where earnest money in cash is acceptable, the same shall be deposited with the Cashier of the Division and the receipt placed in the envelope meant for earnest money. Both the envelopes shall be submitted together in another sealed envelope. The envelope marked "Tender" of only those tenderer shall be opened; whose earnest money placed in the other envelope is found to be in order.

**BHARAT SANCHAR NIGAM LIMITED**  
(A GOVT OF INDIA ENTERPRISE)  
ELECTRICAL WING

ELECTRICAL DIVISION

SUB DIVISION

Certified that this tender schedule  
contain \_\_\_\_\_ pages only

NIT No.: 1. DIVISION  
2. SUB DIVISION

**Notice Inviting Tenders**

(As per Tendering procedure in BSNL revised up to date)

01. Tenders in the prescribed form are hereby invited on behalf of the BSNL for the work of

Name of work:	Installation of Window AC units & associated works for various BTS STATIONS under subdivision II in Kolhapur SSA.
Estimated Cost	Rs.419490/-

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 of contract to be complied and with by the persons whose tender may be accepted, can be purchased, at the Divisional / Sub divisional office between the hours of 1100 hrs and 1600 hrs. every day except on Sundays and public holidays on payment of Rs. **569/-** in cash.

(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 the 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( Elect. )BSNL Electrical Division, Kolhapur up to 1500 hours on ----- 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 **One month from the date of issue of LOI** as indicated in the tender documents.

05. Issue of tender form will be stopped two days before the date -----fixed for opening of tenders. Tenders will be sold on working days, no tender will be sold after **16:00 hours**.

06. a) Earnest Money amounting to Rupees **Rs . 8390 /-**in the form of demand draft/ FDR / BG/ CDR of nationalized scheduled bank guaranteed by the Reserve Bank of India, drawn in favour of Accounts Office, BSNL Civil Division, Kolhapur 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 ----- and addressed to Executive Engineer (E), BSNL, Electrical Division, Kolhapur. **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 alongwith 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 envelope 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 tenderer. 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 turn over 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) as applicable alongwith 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:** 5% of the agreement value 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.

ii) **Security Deposit :** In addition to the performance guarantee stated above, a sum @ 5% 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 tender value of the work.

09. The acceptance of tender will rest with the **Executive 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 non 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 contractors 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 render 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 many 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 to any other right of remedy be at liberty to forfeit 50% ( Fifty percent only) of the said earnest money absolutely.

20. **Extension of validity:** In case, where the letter of award of work cannot be placed within the validity 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.

21. Unsealed tenders will be summarily rejected.

22. The contractor should read the tender documents carefully before submitting the tender.

23. 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.

24. 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 on website. Every page of downloaded tender shall be signed by the tenderer with stamp (Seal) of his firm /organization.

25. 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.

**ELIGIBILITY CRITERIA:**

**Registered Electrical Contractors of BSNL.**

Documentary proof of satisfying the above conditions, Chartered Accountant s Certificate showing details of income tax returns duly filed, to be furnished along with application.

Executive Engineer (E)



**BHARAT SANCHAR NIGAM LIMITED**  
**(A GOVT.OF INDIA ENTERPRISE)**

CIRCLE - \_\_\_\_\_ TELECOM CIRCLE

**DIVISION –**

**BRANCH - EW**

**SUB DIVISION**

**(A) Tender for the work of: Installation of Window AC units & associated works for various BTS STATIONS under subdivision II in Kolhapur SSA**

Issued to (contractor)

(I) Tender Cost \_\_\_\_\_ (III) Receipt no. \_\_\_\_\_

(IV) Date of Application \_\_\_\_\_ (V) Date of Issue \_\_\_\_\_

(VI) Signature of officer issuing the Documents \_\_\_\_\_

(VII) Designation \_\_\_\_\_

(B) (i) **To be submitted by** (time) \_\_\_\_\_ hours on (date) \_\_\_\_\_

To -----

(ii) To be opened in presence of tenderers who may be present at \_\_\_\_\_ hours

On \_\_\_\_\_ in the office of \_\_\_\_\_

**TENDER**

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 Rate & 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 the 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. A sum of Rs. \_\_\_\_\_ is hereby forwarded in the form of deposit at call receipt/FDR/Bank guarantee of a Nationalized/Scheduled bank as earnest money 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 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 for one year from date of actual completion of work.
7. I/We hereby declare that I/We shall treat the tender documents drawings and other records connected with the work as secret/confidential documents and shall not communicate information/derived there from to any person other than to whom I/We am/are authorized to communicate the same or use the information in any manner prejudicial to the safety or interest of BSNL.

Signature of Witness  
 (required in the case of  
 Contractor's thumb impression  
 Is given by the contractor in place of signature)  
 (Name & Postal address)

(Signature of Contractor)  
 Seal of Contractor

Occupation of witness

Date

### ACCEPTANCE

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

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

- a)
- b)
- c)

For & on behalf of the BSNL

Signature \_\_\_\_\_

Dated \_\_\_\_\_

Designation \_\_\_\_\_

## **PROFORMA OF SCHEDULES**

### **SCHEDULE 'A'**

Schedule of quantities: Appended on page 15.

### **SCHEDULE 'B'**

Schedule of materials to be issued to the contractor.

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

### **SCHEDULE 'C'**

Tools and plants to be hired to the contractor

<b>Sr. No.</b>	<b>Description of item</b>	<b>Hire charges per day</b>	<b>Place of Issue</b>
1	2	3	4
<b>NIL</b>			

### **SCHEDULE 'D'**

Extra schedule for specific requirements / document for the work, if any.

- I. Size of services :
- II. General conditions – Appended from page 23-26
- III. Maintenance schedule for various services-
- IV. Approved makes –

### **SCHEDULE 'E'**

Schedule of component of Cement, Steel, other materials, Labour etc. for price escalation. --- **NIL**

<b><u>SCHEDULE 'F'</u></b>	
Reference to General Conditions of contract.	
Name of work:	Installation of Window AC units & associated works for various BTS STATIONS under subdivision II in Kolhapur SSA
Estimated cost of work:	<b>Rs.419490/-</b>
i) Earnest money:	<b>Rs.8390/-</b>
ii) Performance Guarantee:	

GENERAL RULES and DIRECTIONS:		Officer inviting tender EE (E), BSNL Electrical Division, Kolhapur. Maximum percentage for quantity of items of work to be executed beyond which rates are to be determined in accordance with clauses 12.2 and 12.3.	
<b>Definitions:</b>		See below	
2(v) Engineer-in-Charge		Executive Engineer (E), BSNL Electrical Division, Kolhapur.	
2(viii) Accepting Authority		Executive Engineer (E), BSNL Electrical Division, Kolhapur.	
2(x) Percentage on cost of materials and labour to cover all overheads and profits.		10%	
2(xi) Standard Schedule of Rates		NA	
2(xii) Department		BSNL	
9(ii) Standard contract Form		BSNL EW-8	
<b>Clause 1</b> i) Time allowed for submission of Performance Guarantee from the date of issue of letter of acceptance, in days ii) Maximum allowable extension beyond the period provided in I) above in days		-----	
<b>Clause 2</b> Authority for fixing compensation under Clause 2.		SE (E)	
<b>Clause 2A</b> Whether Clause 2 shall be applicable.		No	
<b>Clause 5</b> Number of days from the date of issue of letter of acceptance for reckoning date of start Milestone(s) as per table given below: -		From the date of award	
<b>Table of Mile Stone(s)</b>			
Sl. No.	Description of Milestone (Physical)	Time allowed in days (from date of start)	Amount to be with-held in case of non achievement of milestone
1	NA		
2			
<b>OR</b>			
Sl. No.	Financial Progress	Time allowed (from date of start)	Amount to be with-held in case of non achievement of milestone
1	1/8 <sup>th</sup> (of whole work)	1/8 <sup>th</sup> (of whole work)	NA
2	3/8 <sup>th</sup> (of whole work)	1/2 (of whole work)	

3	3/4 <sup>th</sup> (of whole work)	3/4 <sup>th</sup> (of whole work)	
4	Full	Full	
Time allowed for execution of work.			<b>One month from the date of issue of LOI.</b>
Authority to give fair and reasonable extension of time for completion of work.			SE (E)
<b>Clause 7</b> Gross work to be done together with net payment/ adjustment of advances for material collected, if any, since the last such payment for being eligible to interim payment.			As Applicable.
<b>Clause 10CC</b> Clause 10CC to be applicable in contracts with stipulated period of completion exceeding the period shown in next column.			18 months.
<b>Clause 11</b> Specifications to be followed for execution of work			Specifications as per Section I to V appended with Schedule of work.
<b>Clause 12</b> <b>12. 2 &amp; 12.3</b> Deviation Limit beyond which Clauses 12.2 and 12.3 shall apply			25%
<b>12.5</b> Deviation Limit beyond which Clauses 12.2 and 12.3 shall apply for foundation work			NA
<b>Clause 16</b> Competent Authority for deciding reduced rates.			Superintending Engineer (E), BSNL, Electrical Circle, Pune

Requirement of Technical Representative(s) and recovery Rate

Sl No.	Minimum Qualification of Technical Representative	Discipline	Designation (Principal Technical / Technical representative)	Minimum Experience	Number	Rate at which recovery shall be made from the contractor in the event of not fulfilling provision of clause 36(i)	
						Figures	Words
1.	Graduate Engineer	Electrical / Mechanical	Principal Technical Representative	3 Years	1	8000	Eight Thousand
2.	Recognised Diploma Holder		Technical Representative	3 Years	0	6000	Six Thousand

Assistant Engineers retired from Government services that are holding Diploma will be treated at par with Graduate Engineers.

**Clause 42**

i) (a) Schedule / statement for determining theoretical quantity of cement and bitumen on the basis of Delhi Schedule of Rates _____ printed by <b>C.P.W.D.</b>	NA	
ii) Variations permissible on theoretical quantities		
a) Cement for works with estimated cost put to tender not more than Rs.5 lakhs for works with estimated cost put to tender more than Rs.5 lakhs.	3% ±	} NA
b) Bitumen All works.	2% ± 2.5% ± only and nil on minus side	
c) Steel Reinforcement and structural steel sections for each diameter, section and category.	2% ±	
d) All other materials	NIL	

**SCHEDULE OF QUANTITIES**

**Name of Work:- Installation of Window AC units & associated works for various BTS STATIONS under subdivision II in Kolhapur SSA**

<b>Sr.No.</b>	<b>Description of Item</b>	<b>Qty</b>	<b>Rate</b>	<b>Unit</b>	<b>Amount</b>
1	Installation of 1.5 TR capacity WAC unit in the existing frame work in a approved manner including transporting of AC unit from M/s. ITI stores in Kolhapur to site, connections and filling gap, Testing, commissioning etc. complete as reqd.	2		Each	
2	Providing & fixing of anodised Al frame work for window A/C units etc.made out of extruded hollow section of reqd. size of Jindal or equivalent make including cost of all joinaryworks at corner to be done with anodised Al clit 5mm.thick fixed in position with necessary screws,nuts or other fixing accesaries to be fixed properlyto the wall etc.The rate shall also includes necessary cost of cutting of extg. Windowbars/removing of window for fixing of WAC frame as reqd.	8		Kg	
3	SITC of 4 KVA automatic voltage stabilizer suitablefor 150 V to 290 V with output voltage 200 - 245 Vfrom input 175 to 280 V controlled by the IC basedelectronic circuit protection and relays comprising ofhigh & low Voltage cut-off, overload protective timeof 3.5 minutes & accuracy +/- 2.5 % etc i/c suitablemounting arraangement for stabilizer etc,complete as reqd.(M/s.V Guard - SMARTEK/S.S.)	2		Each	
4	SITC of twin AC cyclic controller suitable for operation on 230 V, 50 Hz, AC supply for controlling of 2 No.s of 1.5TR AC units units having built in protection against overvoltage, Under voltage, Over Current, Low tempcutoff. Make: - M/s. Minilec/SS	1		Each	
5	S/F of following way SPN sheet steel MCB DB 240 V on surface/recess complete with tined Cu bus bar,neutral link, earth bar, detachable gland plate, interconnections including painting, earthing etc. as reqd a) 08 Way	1		Each	
6	S/F two way sheet steel enclosure including interconnection earthing as reqd.	1		Each	

7	S/F following ratings, double pole 240 v isolator in the existing MCB DB with connections, testing & commissioning etc. as reqd.				
	a) 63 amps	1		Each	
8	S/F 5A to 32A rating, 240 V 'G' series MCB of following poles in the existing MCB DB with connections, testing & commissioning etc. as reqd. ( Cat. B )				
	a) Single pole	6		Each	
	b) Single Pole & Neutral	1		Each	
9	Providing & fixing following sizes of PVC casing & capping on surface as reqd.				
	a) 25 mm x 10 mm	20		Meter	
10	Supplying and drawing following sizes of PVC insulated copper conductor, single core cable in the existing surface/recessed PVC/steel conduit /PVC casing and capping as required.				
	a) 1 x 2.5 sq.mm	20		Meter	
	b) 2 x 4.0 sq.mm	20		Meter	
11	Providing MS wiremesh at condensor coil side for protection of WAC unit of the required size including cutting, finishing the same as required.	1		Job	
12	Testing of 2 No.s 1.5 TR Window AC UNITS to check the healthiness of different componets like compressor,wiring etc at ITI store in Kolhapur	1		job	

TOTAL FOR 01 JOB --

TOTAL FOR 15 NOS JOBS



## SCHEDULE "D"

### ( I ) "IMPORTANT NOTE FOR CONTRACTORS"

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

Operation of Master and Individual agreements shall be governed as follows:

- i) EE (E) shall draw the Master agreement which shall be signed by the firm within 7 days of award of work. The firm shall extend the validity of EMD up to 9 (nine) months, without waiting for any formal letter from the department. The rate contract shall remain in force for a period of six months for issue of LOI from the date of award.
- ii) Individual Letter of Intent (LOI) shall be issued by EE (E) to the firm giving details of site, number of units required, name of concern SDE (E) and other details.
- iii) Concerned SDE shall draw individual agreement based on above letter of intent and firm has to sign the agreement within 7 days of issue of award letter by SDE based on LOI.
- iv) Date of start of individual agreement shall be the date of issue of LOI and time allowed to carry out the work shall be One month.
- v) Separate EMD for individual agreement shall not be required.
- vi) Individual agreement shall be operated independently without co-relation with the other individual agreement for the purpose of payment, S. D., extension of time, closing of contract etc. as per terms and conditions of individual agreement.
- vii) After issue of LOIs covered under master agreement including permissible deviation if any as per terms and conditions of master agreement, individual agreement as described above shall be operated. After finalization of all individual agreements then the concerned division shall refund EMD available with the Master Agreement after last material under this contract is supplied and paid.
- viii) If the firm fails to start or withdraws from individual agreement then as per relevant clause of contract, EMD corresponding to the individual agreement shall be adjusted from EMD available with Master Agreement.
- ix) S. D. and other deposits as per terms and conditions of individual agreement shall be kept with the concern EE (E) and refunded / adjusted as per relevant clause of individual agreement.

**A) GENERAL TERMS AND CONDITIONS:-**

**1. EVALUATION OF TENDERS:-**

**2. CURRENCY OF CONTRACT: -**

The ordering quantity can be increased up to the extent 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.

3. BSNL does not bind himself to accept the lowest or any tender and reserves to himself the right of accepting the whole or any part of the tender and the tenderer shall be bound to perform the same at the quoted rates. BSNL also reserves the right to split up the work/quantities of items of works (schedule of work).

4. BSNL does not bind himself to accept the lowest or any tender and reserves to himself the right of accepting the whole or any part of the tender and the tenderer shall be bound to perform the same at the quoted rates.

**5. 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 employees 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.

**6. 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 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 department engaged in erection as well to the normal routine work.

**7. Certificate to be furnished by contractor about relative(s) working in BSNL.**

The format of the certificate is: -

“ I \_\_\_\_\_ S/o \_\_\_\_\_ r/o \_\_\_\_\_ 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 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.”

**Note:** The relatives for this purpose are defined as: -

- a) Members of Hindu Undivided family,
- b) They are husband and 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).

**1. TAX AND DUTIES: -**

In the schedule the firm shall quote composite price inclusive of all taxes as applicable, **except service tax.**

**2. OCTROI: -**

No octroi exemption certificate shall be issued. The same shall be paid by the contractor for which no reimbursement shall be entertained.

**3. PERFORMANCE GUARANTEE:-**

The Contractor shall be required to deposit an amount equal to 5% of the tendered value of the contract as Performance guarantee as per clause 1 of BSNL EW-8 amended up-to-date in the form of Bank guarantee on a Nationalized / Scheduled bank in standard format / CDR/ FDR/ DD within two weeks from the date of issue of individual award letter. This shall be refunded to the contractor on completion of the work as per 12 of B Schedule D Section I and recording of the completion certificate as per clause 8 of BSNL EW 8.

**4. SECURITY DEPOSIT:-**

Recovery of security deposit at the rate of 10% in accordance with clause 1A of BSNL EW-8 amended up to date shall be deducted by BSNL from progressive payments made to the firm from all the running bills till the sum will amount to security deposit of 5% of the tendered value of the work. This shall be refunded to the contractor as per Clause 17 of BSNL EW-8 amended up to date.

**5. PAYMENT TERM: -**

No advance payment will be made. The payment terms for all items shall be governed as under. Stipulations like levy of interest if payment is not made in specified time are not acceptable to the BSNL.

**6. STORES AND SAFETY: -**

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

**7. GUARANTEE AND DEFECT LIABILITY: -**

- a) The guarantee shall be valid for a period of 12 months from the date of completion. The contractor shall guarantee that all equipments shall be free from any defect due to the defective materials and bad workmanship and that the equipment shall work satisfactorily and that the performance and efficiencies of the equipments shall be not less than the guaranteed values. Any parts found defective during the guarantee period shall be replaced by the contractor without any charge whatsoever.
- b) The contractor shall depute his representative within 24 hours of notification of the defect by the department.
- c) A joint report shall be prepared by the representative of department and firm regarding nature of defects and remedial action required. Time schedule for such action shall be also finalized.
- d) In case the contractor fails to depute his representative within 36 hours of notification of the defect or fails to cause remedial measure within reasonable time as decided during joint inspection, the department may proceed to do so at the contractor's risk and expenses and with out prejudice to any other right.

**8. DATE OF COMPLETION: -**

- a) The date of completion of the last station/site shall be deemed as date of actual completion of the agreement.

### **1. 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.

### **2. COMPENSATION FOR DEFAULTS**

- i. 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.
- ii. 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.
- iii. 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 EE (E) shall be final.

### **3. MISCELLANEOUS**

- a. The workers engaged by firm should maintain proper discipline and good behavior with occupants. The firm shall not depute such workers at the site, whose behavior is found improper. Executive Engineer's decision shall be final.
- b. The agency will provide the workers with necessary Tools & Plant, Testing and safety equipments.
- c. 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.
- d. Firm shall issue ID card to their workforce whenever they enter premises for bonafide 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.
- e. Dismantled materials shall be returned to the BSNL except those items for which the replacement is supplied by the agency.
- f. The contractor has to keep all the units, neat and clean to avoid any accident and / or fire hazards.
- g. Firm should have round the clock contact 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 all efforts to make the situation normal at the earliest.
- h. 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.
- i. 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.

### **GENERAL REQUIREMENTS:**

- a. All materials shall be of the best quality conforming to specifications and subject to the approval of the Engineer-in-charge.
- b. All the cables and wires shall be tagged or labeled with ferrules for proper identification at the termination end.
- c. All conduit pipes/cables shall be fixed truly vertical, horizontal or in slopes as required in a neat workman like manner.
- d. All conduits, cables, junction boxes etc. shall be securely fixed to brick/RCC walls and ceilings by suitable clamps at regular intervals. Only approved type of anchor fasteners shall be used. CPWD specifications shall be followed for executing this work.
- e. Control panels and junction boxes shall be so located that they are easily accessible for operations, repairs and maintenance.
- f. The exposed conduits shall be painted with one coat of red oxide primer followed by two coats of approved/matching colour synthetic enamel paint with identification of red colour bands at appropriate intervals say 3 meters.
- g. The spacing of detectors shall also be in conformity with the drawings and properly coordinated with electrical fixtures, air-conditioning ducts/grills beams and other ceiling services. Contractor shall submit detailed layout drawings to Engineer-in-charge for approval before commencement of work.
- h. Provision of suitable tripod or any other such stand of 300mm height for fixing of detectors in false floor is included in the scope of work. The design of tripod/stand shall be got approved from the Engineer-in-charge.
- i. Any damage or breakage which might be caused during the execution of work shall be made good by the contractor at his own risk and cost.
- j. The contractor shall be responsible for the removal of debris and waste material arising out of work done by him from the site.
- k. Necessary tools and plants shall be arranged by the firm. Modern tools and equipments shall be used for handling of cables, drilling, chiseling, cutting etc so that speed and accuracy is maintained and noise, vibration and disturbance can be minimized.
- l. The firm shall submit all the records such as excise duty gate pass, test certificates, guarantee cards, operation and maintenance manuals and spares and tools of the original supplier to the department.
- m. The concealed items like earthing, cabling and conduiting shall be carried out in the presence of representative of the Engineer-in-charge.
- n. The offer shall include all charges for packing, handling, freight, insurance, loading, unloading, stacking etc. for the material.
- o. All fittings, unit assemblies, accessories, hardware foundation bolts, terminal blocks for connection, cable glands and miscellaneous materials and accessories of item of works which are useful and necessary for efficient assembly and working of the equipment shall be deemed to have been included within the scope of work in the tender and within the overall details for complete item whether they have been specifically mentioned or not.

## SCHEDULE "D"

### ( III ) SECTION - VI

#### 1 Compensation for Delay

In lieu of the prescribed percentages for compensation for delay stipulated under clause 2 of BSNL EW-8, the following changes shall apply:

#### 2 Change in Specifications

- I. BSNL reserves the right to make changes in the specifications of the work if in its opinion the same is found necessary. However such alterations shall be made after mutual discussion and agreement between BSNL and the contractor. Any price implication in this regard shall be mutually discussed and agreed upon, in terms of clause 12 of BSNL EW-8.
- II. Modifications or alterations by the contractor in the design / specifications of any equipment/material will not be permitted by BSNL as a matter of principle. However the same can be agreed by BSNL under the exceptional circumstances where
  - a) The same is necessitated due to non-availability of material/component of certain specification or make
  - OR
  - b) Such alterations constitute an improvement in the opinion of the contractor and BSNL.
- III. Prior written approval of BSNL is necessary before undertaking any alteration/modification in the specifications of the equipments.

#### 3 Packing, Forwarding and Storage at site

Before dispatch to site, the equipment / component / materials shall be properly packed so as to afford protection against transit damages and damages against storage in open areas either at transporter's premises or at work site. Special care shall be taken in respect of sensitive items like heat transfer surface of cooling coils, air-cooled condenser etc. When storage in open area is inevitable proper waterproof covering shall be provided to protect damages on account of rain water etc. However, damaged items shall be replaced as per the direction of Engineer-in-Charge.

#### 4 Bye-laws Indemnity against Liabilities

- i. The contractor shall comply with all bye-laws and regulations of local and statutory authorities having jurisdiction over the works and shall be responsible for payment of all fee and other charges and giving/receiving all necessary notices and keep the Engineer-in-Charge informed about the notices issued and received.
- ii. The contractor shall indemnify BSNL against all claims in respect of patent rights, design, trade mark 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 thereon. The contractor shall defend all actions arising from such claims and shall him self pay all royalties.
- iii. License fees, damages, cost and charges of all and every sort that may be legally incurred in respect thereof shall be borne by the contractor.
- iv. All liabilities / penal recoveries on matters arising out of tax/excise/levies such as incorrect deductions, discrepancies in the filling up returns, revised assessments by the concerned authorities etc. shall be borne by the contractor.
- v. It is contractor's liability to follow all safety procedures in accordance with relevant I.S. amended up to date during execution of work at site.

## **GENERAL CONDITIONS FOR THE WORK**

1. **INSPECTION OF SITE:**  
For the purpose of inspection of site and relevant documents the contractor is required to contact E.E. (Elect) concerned and shall give reasonable facilities for inspection of the same. The contractor shall inspect and examine the site and its surroundings and shall satisfy himself, before commencement of work, to the form and nature of the site, the nature of work, and the quantities of materials necessary for completion of the work, the means of access to the site etc. and in general shall obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect his work. No extra charges consequent on any misunderstanding or otherwise will be allowed.
  
2. **INSPECTION AT CONTRACTOR'S PREMISES:**  
The Department's authorized representative shall have full powers to inspect (if it seems necessary in view of Engineer-in-charge to do so, drawings of any portion of the work or examine materials and workmanship of the equipments at the contractor's works or at any other place from where the material or equipment is obtained. Acceptance of any material or equipment shall in no way relieve the contractor of his responsibility for meeting the requirement of the specifications. In case the equipment (s)/material is found defective or of inferior quality, the same shall be replaced free of cost by the contractor.
  
3. **APPROVAL OF MATERIAL:**  
All the materials not mentioned in the list of approved makes shall be got approved from engineer-in-charge before bringing them to site. Unapproved materials if brought to site of work shall have to be removed immediately by contractor at his risk & cost.
  
4. **GUARANTEE AND DEFECTS LIABILITY:**  
The guarantee shall be valid for a period of 1 year after provisional taking over. The contractor shall guarantee that all equipment shall be free from any defect due to the defective materials and bad workmanship and that the equipment shall work satisfactorily and that the performance and efficiencies of the equipment shall not be less than the guaranteed values. Any party found defective during the guarantee period shall be replaced by the contractor without any charge whatsoever. The services of the contractor's personnel if requisitioned during this period for such work, shall be made available free of any cost to the Department.
  
5. **PAYMENT TERMS:**  
No advance payment will be made. The payment terms shall be governed as under. Stipulations like levy of interest if payment is not made in specified time are not acceptable to the BSNL. All payments shall be subject to adjustments/deductions as under:-
  - a) Income Tax.
  - b) Works Contract Tax.
  - c) Any amount recoverable on account of price variation clause.
  - d) Any amount recoverable on account of damage of services, pending defects, defects rectified on Risk & Cost, poor workmanship etc.
  - e) Any amount recoverable on non-compliance of provisions of the contract.
  - f) Security deposit.

Certificate of deduction of WCT will be issued by Accounts Officer.
  
6. **EXCISE DUTY & TAXES (EXCEPT SERVICE TAX):**  
The firm shall quote the rates for all items inclusive of all taxes (except service tax), duties, levies i/c work contract tax at the prevailing rate(s) for all the equipments and material used for the work. Also the Department will not issue any C/D form or octroi exemption certificate(s). Nothing extra will be paid on account of octroi.

7. **SERVICE TAX:**

The rates offered by the firm shall be exclusive of the service tax as applicable. The contractor shall pay the service tax as required and the same shall be reimbursed, if the contractor necessarily and properly pays the tax, on submission of necessary books of accounts and other documents as may be necessary for verifying the payment.

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

The rates offered by the firm shall be exclusive of the Service tax as applicable. 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.

a) Tendered rates are inclusive of taxes 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).

a) 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 duly authorized representative of Government and shall furnish such other information's /documents as the Engineer-in-Charge may require.

b) The contractor(s) shall within a period of 30 days of imposition of any further tax or levy pursuant to the Constitution (Forty Sixth amendments) 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.**

(Standing order No.258)

8. **DATE OF COMPLETION: -**

Actual date of completion of work shall be taken as completion date of the work..

9. **COMPLETION DRAWINGS: -**

The firm shall supply three sets of drawings/documents after physical completion of the work and before initial A/T as detailed below:

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

10. **GUARANTEE AND DEFECT LIABILITY: -**

The guarantee shall be valid for twelve months after successful installation. The contractor shall guarantee that all equipments shall be free from any defect due to the defective material and/or bad workmanship and also the equipments shall work satisfactorily with performance and efficiencies not less than the guaranteed values.



- a) Any part found defective during this period shall be replaced free of cost by the contractor. The service of the contractor's personnel if required during this period shall be made available free of cost to the department.
- b) The contractor shall depute his representative within 36 hours of notification of the defect by the department.
- c) A joint report shall be prepared by the representative of department and firm regarding nature of defects and remedial action required. Time schedule for such action shall be also finalised.
- d) In case the contractor fails to depute his representative within 36 hours of notification of the defect or fails to cause remedial measure within reasonable time as decided during joint inspection, the department may proceed to do so at the contractor's risk and expenses and with out prejudice to any other right.

#### **11. TESTING AT SITE: -**

- a) Testing of Installation shall be done in presence of Engineer in charge ore his representative.

#### **QUALIFICATIONS OF STAFF**

1. Wireman:- He/she shall have a wireman's certificate and valid permit for wireman issued by Maharashtra (as applicable) licensing authority and shall have 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**

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.

The rates quoted must be full and final. Nothing extra shall be payable other than the quoted rates.

#### **PENALTY CLAUSE**

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.

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.

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 EE (E) shall be final.

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 Superintending Engineer shall be final and binding on the contractor.

## **SPECIFICATION FOR ELECTRICAL WORKS**

### **A. GENERAL:**

1. The work shall be done as per current CPWD Specifications for Electrical Works as amended from time to time and Indian Electricity Rules as amended up-to-date. Particular care shall be taken to ensure compliance to IE rules 41, 45, 51 and 61.
2. Unless otherwise specified, the all equipments shall be suitable for operation on 240 V single phase / 415 V three phase alternating current system with earthed neutral.
3. All components, accessories and raw materials used in manufacture and assembly of switch boards, power and control circuit wiring and earthing system shall comply with Relevant Indian Standards amended up-to-date. Where Indian standards do not exist British Standards shall apply.
4. The layout of the work will be given by Engineer-in-charge or his duly authorized representative.
5. The contractor has to get the layout and panel drawings (with dimension) along with the control panel wiring drawing approved before start of the work.
6. The following wiring shall be done in separate circuits:
  - (a) Power Plug wiring.
  - (b) Light and fan point wiring.
  - (c) Emergency light point.
7. If any conduit is laid before the award of this work, the recovery for the same will be made from the contractor's bills at DSR 1994 rates plus the abatement of all SR items in the tender.
8. **EARTHING:**

The earthing sets shall be provided in the presence of Engineer-in-charge or his authorized site representative. Earth electrodes shall have an ohmic resistance not more than 5 ohms. In rocky soils the resistance may be up-to 8 ohms.
9. **TESTING:**

Before commissioning, the installation shall be subjected to the following tests.

  - (a) Insulation resistance test with a 500 volts megger.
  - (a) Earth electrode resistance test ( if provided by the contractor).
  - (b) Earth continuity test.
  - (c) Cables continuity test.

All results of such tests shall be furnished to the Engineer-in-Charge.