

**TENDER DOCUMENT**NIT NO. :- **60/EEE/BSNL/DMP/2020-21**NAME OF WORK :- **SITC of 2 x 1.5 TR Split Ac units at NFS Site Riga Under ARP SSA.****INDEX**

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Certified that this NIT contains pages **59 (Fifty Nine Only)** pages excluding Standard Form BSNL EW 8 (General Conditions of Contract for BSNL Works).



**भारत संचार निगम लिमिटेड**  
( भारत सरकार का उपक्रम )  
**BHARAT SANCHAR NIGAM LIMITED**  
(A Govt. of India Enterprise)

1. NAME OF WORK :- **SITC of 2 x 1.5 TR Split Ac units at NFS Site Riga Under ARP SSA.**
2. NIT AMOUNT :- **Rs 89748/-**
3. EMD :- **Rs. 1795/--**
4. Last date of sale of Tender :- **20/02/2021**
5. Last Date & time of receipt of Tenders :- **22/02/2021 up to 15=00 Hrs**
6. Date & time of Opening of Tenders:- :- **22/02/2021 at 15=30 Hrs.**
7. To whom issued :-

Signature of the Tender issuing officer.

Designation.....

(For & On behalf of BSNL)

**UNDERTAKING**

(To be furnished by the firm before quoting)

1. I/We do hereby undertake to have gone through the terms & conditions/Clauses of the Form EW8 being adopted by the BHARAT SANCHAR NIGAM LIMITED (Electrical Wing) & agree to abide by the same.

(Signature of the contractor with seal)

**BHARAT SANCHAR NIGAM LIMITED**  
**O/o the Executive Engineer (E)**  
**BSNL, Electrical Division, 2<sup>nd</sup> Floor, OC'05, GMTD Building,**  
**Dimapur -797112. Tel. No. 03862-235500**

**WEB NOTIFICATION**

**The Executive Engineer, BSNL Electrical Division, Dimapur on behalf of Bharat Sanchar Nigam Limited (A Govt. of India Enterprise) invites sealed item rate tenders for the following work from the contractors satisfying the under mentioned eligibility conditions:**

SR. No.	NAME OF WORK	Estimated Cost.	EMD	TIME FOR Completion	Tender Cost To be deposited to A.O.(Cash) BSNL, Itanagar. Rs
1	<b>NIT No. 60/EEE/BSNL/DMP/2020-21 SITC of 2 x 1.5 TR Split Ac units at NFS Site Riga Under ARP SSA.</b>	<b>Rs 89748/-</b>	<b>Rs 1795/-</b>	<b>2 Months</b>	<b>Rs. 150.00 + 18% GST</b>

**1. Eligibility Criteria:** -The Firms who fulfill the following requirements shall be eligible to e- tender.

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

**AND**

**II.A)** BSNL enlisted contractors in Electrical category of respective class as per their tendering limits.

**OR**

**II.B)** Original Manufacturer of 1.5 TR capacity inverter type Split type AC units.

**OR**

**II.C)** The dealer authorized by the original manufacturer of inverter type 1.5 TR Split type AC units. The letter of Authorization in Original from the manufacturer has to be produced by the dealer.

**OR**

**II.D)** Experience of having successfully completed similar works in Central Government /State Government /Central Autonomous Body/Central Public sector Undertaking 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 of equipment Module of the 1.5TR capacity inverter type Split A/C unit work proposed in the NIT.
- OR**
- Two similar successfully completed works costing not less than the amount equal to 60% of the estimated cost of equipment Module of the 1.5TR capacity inverter type Split A/C unit work proposed in the NIT.
- OR**
- One similar successfully completed works costing not less than the amount equal to 80% of the estimated cost of equipment Module of the 1.5TR capacity inverter type Split A/C unit work proposed in the NIT.

**NOTE:-1) Work completion certificate issuing authority in respect of II.D above shall not be below the rank of Executive Engineer (E) or equivalent.**

**2) Similar Work means work of S.I.T.C. of inverter type Split A/C units.**

**B] General Conditions for all Works:**

- i) Documentary proof of satisfying the above conditions, **CA certificate for turnover ,Valid GST Registration, EPF registration, valid ESI registration, PAN card, Valid Electrical License, Self declaration by Contractor that he is not blacklisted by GST authorities** to be furnished at the time of submission of Tender.
- 1 **PERFORMANCE GUARANTEE:** The contractor is required to furnish performance guarantee for an amount equal to 5% of the contract value in the form of bank guarantee of a Nationalized / Scheduled bank (in a standard format) / CDR / FDR / DD within two weeks from the date of issue of acceptance letter. This period can be further extended by the Engineer – in – Charge up to maximum period of two weeks on written 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. The award letter shall be issued by Executive Engineer only after submission of Performance Guarantee. In case the contractor fails to deposit the said performance guarantee within the period, including the extended period if any, the Earnest Money deposited by the contractor shall be forfeited automatically without any notice to the contractor.
  - 2 **Security Deposit:** In addition to performance guarantee stated above, a sum @ 10% of the gross amount of the bill shall be deducted from each running bill of the contractor till the sum will amount to security deposit of 5% of the contract value of the work.
  - 3 Conditions and tender forms can be obtained from the office of Executive Engineer [E]. Cost of tender document is **as given above (non refundable)** and should be in form of D.D. in favour of **AO (Cash), BSNL, Itanagar**, payable at Itanagar from schedule Bank as applicable. The Earnest Money should be in the form of demand draft/ FDR / BG/ CDR of Nationalized / Scheduled Bank, drawn in favour of **Accounts Officer (Cash), BSNL, Itanagar** and the Validity period of EMD is 120 days, from the date of opening of tender.
  - 4 Tender document can also be downloaded from the website. [www.ne2.bsnl.co.in](http://www.ne2.bsnl.co.in) → Tender Notice → Electrical Wing.
  - 5 Validity of tenders shall be 90 days from the date of opening of tender.
  - 6 The tenderer should give undertaking regarding that the tenderer abides by the original standard BSNL EW Form 6/8.
  - 7 The tenderer shall submit the tenders in two sealed covers marked as 1st and 2nd with name of work. Both should be separate and they should not be enclosed in a common 3rd cover.
  - 8
    - a. If the tenderer quotes on the tender issued by the BSNL:
      - (i) 1<sup>st</sup> cover shall contain Earnest Money Deposit in the prescribed form.
      - (ii) 2<sup>nd</sup> envelope shall contain duly filled tender document.  
The first envelope shall be opened first. The second envelope shall not be opened at all in case:-
        - (i) EMD is not in proper form.  
If during the process of tender finalization, if it is detected that the tenderer has submitted tender documents after making any change /additions/deletions in the tender documents issued by the department, the offer shall summarily rejected and the EMD deposited by the tenderer shall be forfeited in addition to any other action as per prevalent rules.
    - b. If the tenderer quotes on the tender downloaded from the website:
      - (i) 1st cover shall contain tender cost in prescribed form, the attested credentials of the firm fulfilling eligibility criteria and the Earnest Money Deposit in the prescribed form. EMD and tender cost should be separate. The credentials shall be self attested and counter attested by any executive of BSNL/MTNL or Gazetted officer of GOI as applicable along with the application

on printed letter head for purchase of tender. If not counter attested then original documents shall be produced at the time of tender opening.

- (ii) 2nd envelope shall contain duly filled tender document.

The tenderer shall submit only the downloaded original computer print out of the document from Web site. The photo copy shall not be accepted.

The first envelope shall be opened first. The second envelope shall not be opened at all 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 the first envelope.

If during the process of tender finalization, if it is detected that the tenderer has submitted tender documents after making any change /additions/deletions in the tender documents downloaded from the website, the offer shall summarily rejected and the EMD deposited by the tenderer shall be forfeited in addition to any other action as per prevalent rules.

- 9 If any difference / discrepancies found between the tender form issued by the Division office and the DNIT, the contents in Draft NIT issued from S.E. (E)'s office will be final & binding.
- 10 If the credentials are found fake or forged even during the process of scrutiny the offer shall not be considered at all and EMD shall be forfeited in addition to any other action as per prevalent rules.

Note:

- i) The Company or the firm or any other person is not permitted to tender for works in which his near relative(s) (directly recruited or on deputation in BSNL (Civil/Electrical) is/are posted in any capacity either non-executive or executive employee.
- ii) If a holiday is declared on the tender opening day, the tender will be opened on the next working day.

Last date of receipt of application	:	<b>19/02/2021</b>
Last date of issue of tender	:	<b>20/02/2021</b>
Last Date of Submission of tender	:	<b>22/02/2021 (Up to 15:00 Hrs.)</b>
Date of opening of tender	:	<b>22/02/2021 (At 15:30 Hrs.)</b>

Executive Engineer (Elect),  
BSNL Electrical Division, Dimapur.

**No. 14/ EEE/BSNL/DMP/NIT/2021/22**

**Date: 29/01/2021**

Copy to: - For Information Please

1. The Chief Engineer (E), BSNL Electrical Assam/NE Zone, Guwahati.
2. The General Manager, Arunachal Pradesh SSA. For publishing on Notice Board.
3. The Superintending Engineer, BSNL Electrical Circle, Shillong.
4. The VO, O/o the CGMT, NE-II Circle, Dimapur.
5. The EE (E) (Elect.), BSNL Electrical Division, Guwahati/Jorhat/Agartala/Shillong
6. The Accounts Officer (E), BSNL Electrical Division, Dimapur
7. The AGM (IT), O/o The CGMT, NE-II Circle, Dimapur along with soft copy containing details of NIT for uploading in the website [www.ne2.bsnl.co.in](http://www.ne2.bsnl.co.in) for wider publication.
8. The Sub Divisional Engineer (E), BSNL Electrical Sub Division-I/II Dimapur/Imphal/Itanagar.
9. Notice Board.
10. Concerned Eligible contractor through email.

Executive Engineer (E)

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

Electrical Division :- Dimapur

Sub Division: Itanagar

**NIT No. 60/EEE/BSNL/DMP/2020-21**

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

Note: -

- i) For corrections on the Form BSNL EW - 6, kindly refer English version only.
- ii) In case of ambiguity in Hindi and English version, English version will prevail.

01. Tenders in the prescribed form are hereby invited on the behalf of Bharat Sanchar Nigam Limited, Dimapur Nagaland :

a)	<u>Name Of Work</u> : - <b>SITC of 2 x 1.5 TR Split Ac units at NFS Site Riga Under ARP SSA.</b> <u>Division</u> : - BSNL ELECTRICAL DIVISION, DIMAPUR. <u>Estimated Cost</u> :- <b>Rs. 89748/-</b>
b)	<u>EMD</u> :- <b>Rs. 1795/-</b>
c)	<u>Time</u> : - Two Months.
d)	<u>PERFORMANCE GUARANTEE</u> : - 5 % of the Contract Value of the work.
e)	<u>Security Deposit</u> : - 5 % of the Contract Value of the work.
f)	<u>COST OF TENDER DOCUMENT</u> : - <b>Rs. 150 + 18% GST/- (non refundable)</b>
g)	Tenders will only be issued to eligible contractors satisfying eligibility condition.
h)	

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

Electrical Division :- Dimapur

Sub Division :Itanagar

**NIT No. 60/EEE/BSNL/DMP/2020-21**

Certified that this tender schedule contain **59 pages** only

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

Tenders in the prescribed form are hereby invited on behalf of Bharat Sanchar Nigam Limited (A Govt. of India Enterprise) for the work of **SITC of 2 x 1.5 TR Split Ac units at NFS Site Riga Under ARP SSA.**

**ESTIMATED COST: - Rs. 89748/-**

2. a) Printed forms of tender s consisting of the detailed plans, complete specifications, the schedule of quantities of the various classes of work's 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.150/- + 18% GST** by D.D In favour of **AO (Cash), BSNL, Itanagar.**

- 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.

3. 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, Dimapur up to 1500 hours on dtd.**22/02/2021** and will be opened by him in his office on the same day at 1530 hours.

4. The time allowed for carrying out the work will be **"Two Months"**.

5. Issue of tender form will be stopped two days before the dtd. **20/02/2021** fixed for opening of tenders. Tenders will be sold on working days. No tender will be sold after 1600 hours.

a) Earnest Money amounting to **Rs 1795/-** in the form of demand draft/ FDR / BG/ CDR of Nationalized / Scheduled Bank, drawn in favour of **Accounts Officer (Cash), BSNL, Itanagar** 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, super-scribed as "Tender for the work :- **SITC of 2 x 1.5 TR Split Ac units at NFS Site Riga Under ARP SSA.** and addressed to Executive Engineer (E), BSNL, Electrical Division, Dimapur.

- b) 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 counter attested by any BSNL /MTNL Executive or Gazetted Officer of GOI. If not counter attested as above 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.
- c) 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 issue of award letter.
- d) Exemption from payment of earnest money and security deposit by any other unit/ department shall not hold good for BSNL.

a) The contractor should submit **CA certificate for turnover ,Valid GST Registration, EPF registration, valid ESI registration, PAN card, Valid Electrical License, Self declaration by Contractor that he is not blacklisted by GST authorities** (self attested and counter attested by any Executive of BSNL/MTNL or Gazetted Officer of GOI) 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.

6. **(a) Performance Guarantee:-** The contractor is required to furnish performance guarantee for an amount equal to 5% of contract value in the form of bank guarantee (of a Nationalized / Scheduled Bank in a standard format)/ CDR/FDR/DD within two weeks from the date of issue of award letter. The validity period of the performance security in the form of performance bank guarantee shall be one year from the date of actual completion of work.

**(b)Security deposit:** In addition to performance guarantee stated above, a sum @ 10% of the gross amount of the bill shall be deducted from each running bill of the contractor till the sum along, will amount to security deposit of 5% of contract value

**(c)** Incase the Firm wish to submit combine guarantee (Performance Guarantee & Security Deposit) the same shall be accepted by the BSNL. No SD shall be deducted from the running bills. This amount shall be refunded after successful completion of maintenance period. The EMD deposited along with the tender shall be returned after submission of PG.

8. 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.**
- 9) Canvassing in connection with tender is strictly prohibited and the tenders submitted by the contractors who resort to canvassing will be liable for rejection.
- 10) 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.
- 11) i) The tenderer should give a certificate that none of his/her relative is employed in BSNL. 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 retendering 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)

- 12. No employee in BSNL 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.
- 13. 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.
- 14. 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.
- 15. 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.
- 16. 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.

17. 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.
18. Unsealed tenders will be summarily rejected.
19. The contractor should read the tender documents carefully before submitting the tender.
20. Agreement shall be drawn with the successful tenderer on prescribed form. Tender shall quote his rates as per various terms and conditions of the said form, which will form part of agreement.
21. 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.
22. 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 10 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.

**23. Eligibility Criteria: -**

**AS PER NIT**

Signature of Divisional Officer/Sub –Divisional Officer

.....

For and on behalf of BSNL

Executive Engineer [E]  
BSNL, Electrical Division, Dimapur

## TENDER APPLICATION FORMAT (For Tender down loaded from Website)

To,  
The Executive Engineer (E),  
BSNL Electrical Division,  
Dimapur.

Subject:- **SITC of 2 x 1.5 TR Split Ac units at NFS Site Riga Under ARP SSA.**

NIT NO. :- **60/EEE/BSNL/DMP/2020-21**

As per tender publication advertised by your office and display of Notice Inviting Tender on web site <http://www.ne2.bsnl.co.in>. We are hereby submitting the following documents duly attested.

## ENVELOPE – I

S.N.	DOCUMENTS	DETAILS
1.	Tender Publication advertised on	
2	Name of Newspaper	
3	Tender due on	
4	Tender Application fee	
a.	Demand Draft No.	
b.	Date	
c.	Amount (Rs.)	
d.	Name of Bank and Branch	
e.	In favour of	<b>AO (Cash), BSNL, Itanagar</b>
5.	Earnest Money Deposit	
a.	DD / BG / PO No.	
b.	Date	
c.	Amount (Rs.)	
d.	Name of Bank and Branch	
e.	In favour of	<b>AO (Cash), BSNL, Itanagar</b>
6.	Details of firm / Company	

a.	Name of firm / Company	
b.	Name of Proprietor / Partner / Managing Director	
c.	Address	
	Pin Code	
	Telephone	
	e- mail address	
d.	Electrical Contractor's License No.	
	Issuing authority	
	Class of Registration	
	Limit	
e.	Electrical Supervisor license No.	
	In the Name of	
	Qualification	
f.	Address of Branch / Head Office Name	
	In BSNL Division H.Q.	
	Pin Code	
	Phone	
	Mobile No	
	E-Mail Address	
7.	Income Tax Clearance Certificate/Chartered Accountant Certificate Date	
8.	GST registration No. & Date	
9	EPF Registration No.	
10.	ESI Registration No.	
11	Bank details of agency for RTGS/online payment	
	Bank Account No	

	Bank Name & Branch	
	IFSC code	

(Note:- Kindly fill the data whichever is applicable. Utmost care should be taken while filling the information)

12. Lists of 3 works carried out satisfactorily (Certified Officer not below the rank of Executive Engineer). (To be issued by the user on his printed letterhead to the tenderer)

This is to certify that the work has been completed satisfactorily as per details given in tender document / P.O.

Sl. No	Name of Work	Date of start	Date of Completion	Amount of work Done	Department and P.O. / Agreement No.

13. Annual Turn over ( to be issued by Chartered accountant on his letter head indicating following)

Sl. No	Financial Year	Annual turn over
1	<b>2019 – 2020</b>	
2	<b>2018 – 2019</b>	
3	<b>2017 – 2018</b>	

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

**DECLARATION BY CONTRACTOR**

**(To be given by Tenderers downloading the tender document from the web)**

This is to certify that:

- 1) I / We have submitted the tenders in the Performa as downloaded directly from the web sites which are same as available in the web site and there is no change in the format, no. of pages, etc.
- 2) I / We have not made any modifications / corrections / additions etc., in the tender documents downloaded from web by me / us.
- 3) I / We have checked that no page is missing and all pages as per the index are available and that all pages of tender document submitted by us are clear and legible.
- 4) I / We have signed (with stamp) **all the pages of tender** document before submitting the same.
- 5) I / We have stitched and wax sealed the tender documents properly before submitting the same.
- 6) I / We have submitted the cost of the tender along with EMD in the first cover as prescribed.
- 7) I / We have read carefully and understood the 'Conditions of Contract' and entire standard BSNL EW 6 / EW8 clauses and Performa form displayed in web site.
- 8) In case at later stage, if it is noticed that there is any difference in my / our tender documents with the original documents, BSNL shall have the right to cancel the tender / work, forfeit the Earnest Money / Security Deposit, take appropriate action as per the prevailing rules in force and BSNL shall not be bound to pay any damages to me / us on this account.

Dated.....

(CONTRACTOR)

(SIGN WITH SEAL)

**UNDERTAKING - A**

"I ..... Son of ..... Resident of..... hereby give an undertaking 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)**

**(Dated Signature of Contractor)**

**UNDERTAKING REGARDING PROVISIONS - B**

"I,.....Son of..... Resident of ..... hereby give an undertaking that  
\* I/ We have registered as per the EPF and Miscellaneous provisions Act, 1952 and our registration no is ..... We undertake to keep it valid during the currency of contract.

Any consequence arising due to non-complying of **EPF Act provision** shall be sole liability of the undersigned contractor. In case at any stage, it is found that the information given by me is false / incorrect, BSNL shall have the absolute right to take any action as deemed fit/without any prior intimation to me".

\* Strike out whichever is not applicable

**(Seal of the firm)**

**(Dated Signature of Contractor)**

**UNDERTAKING 'C'**

I/we hereby declare that I/We are not blacklisted by GST authority as on Date. I/We undertake to intimate change of status during the currency of contract.

PAN No:.....

**GST Registration No:.....**

TIN Number:

**The Agency shall fill up the above data**

**(Seal of the firm)**

**(Dated Signature of Contractor)**

NIT No. 60/EEE/BSNL/DMP/2020-21

**BHARAT SANCHAR NIGAM LIMITED**

STATE :-	Nagaland	CIRCLE:-	NE-II
BRANCH:-	Electrical	DIVISION:-	Dimapur
ZONE:-	NE	Sub-Division:-	Itanagar

Item Rate Tender & Contract for Works

Tender for the work of :- **SITC of 2 x 1.5 TR Split Ac units at NFS Site Riga Under ARP SSA.**

(A) To be submitted by **22/02/2021** 15=00 hours on **22/02/2021** to  
O/o EE(E) , BSNL Electrical Division Dimapur.

(i) To be opened in presence of tenderers who may be present at 15=30 hours

On **22/02/2021** in the office of O/o EE (E), BSNL Electrical Division Dimapur.

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 BSNL within the time specified in Schedule 'F' viz., schedule of quantities and in accordance in all respects with the specifications, designs, drawings and instructions in writing referred to in Rule -1 of General Rules & 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. 1795/-** has been deposited in cash/ receipt treasury Challan /deposit at call receipt of scheduled bank / fixed deposit receipt of scheduled bank/ demand draft of a scheduled bank / Bank guarantee in the Department's attached format as earnest money. If I/We, fail to furnish the prescribed performance guarantee within prescribed period, 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

Contractor

16

EE [E]



absolutely. Further, if I/we fail to commence work as specified, I/we agree that BSNL 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, up to 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.

I/We hereby declare that I/we shall treat the tender documents drawing 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:

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 \_\_\_\_\_

Designation \_\_\_\_\_

Dated \_\_\_\_\_

**INSTRUCTIONS FOR IMPLEMENTATION OF GST:**

1. The rates quoted must be full & final. Nothing extra is payable other than the quoted rates.  
 GST shall be paid extra as applicable as indicated in the 'Schedule of Work'  
 The Evaluation & Comparison of bids shall be done on the basis of **NET COST TO BSNL** on the prices of the Goods / Services offered alongwith all applicable Taxes, Packing, Forwarding, Freight & Insurance charges etc as arrived in "Schedule of Work" of the Bid document but excluding GST which is creditable to BSNL. If GST is not quoted separately same shall be treated as NIL and no payment shall be done on account of GST. The tender will be decided on the basis of quoted Basic Cost.
2. Necessary declaration, statutory forms (if any) shall be provided by BSNL to avail concessional rate of tax wherever applicable on the request of the bidder as & when asked for.
3. BSNL shall deduct statutory taxes and duties like income tax, etc. from payments due to the firm as per rules of the State/Central Govt. The Accounts Officer of the concerned SSA shall issue certificates for such deductions to the firm.
4. For claiming the payment following documents shall be submitted:
  - a) Invoice clearly indicating breakup details of composite price ie Basic, GST any other duties & Taxes, Freight /Packing Charges etc
  - b) E-way bill as prescribed in the GST Law in case of movement of Goods
  - c) Proof of Payment of GST if applicable
  - d) Timely uploading of correct & necessary information on GSTN Portal is mandatory as prescribed in GST Compliances.
  - e) Declaration by the Authorized signatory duly authorized by the company management alongwith a certificate from an independent CA/CMA that the benefits of tax credits are transferred to BSNL

Note:1) If the bidder fails to furnish necessary supporting documents ie GST invoice/Customs invoices etc & also fails to upload the information on GSTN in respect of the Duties.Taxes for which input tax credit is available,the amount pertaining to such duties/Taxes will be deducted from the payment due to the bidder.  
 2) Tax amount will be paid to the bidder only after bidder declares the details of the invoices in its return in GSTR 1& GSTR 3 uploaded by the bidder& the same is reflected in GSTR-2A of BSNL on GSTN Portal.
5. In case the contractor is blacklisted during the currency of contract, BSNL will not bear any loss of Input Tax Credit arising due to default/blacklisting of Contractor.
6. Bidder should furnish the correct HSN/SAC classification in the price schedule. If the credit for the Duties, Taxes & Ceases under provision /rules under GST law is found to be not admissible at any stage subsequently owing to wrong furnishing of Tarriff Head, then the bidder will be liable to

refund such non-admissible amount, if already paid along with penalty & interest if charged by the concerned authority.

7. In case the Duties, taxes & ceases which are not eligible for Input Tax Credit as per the quotes indicated in the Price Schedule by the bidder & subsequently at any stage it is found that Credit for such Duties, Taxes & Ceases is admissible as per provision of GST law, then the bidder will be liable to refund the amount equivalent of such duties, Taxes & ceases if already paid to them provided the credit can be claimed within the time prescribed under the applicable legislation & BSNL has all the documents to claim such credit. The refund is also subject to the bidder performing necessary act for enabling BSNL to claim the credit. viz upload the information on GSTIN. However, the BSNL may allow the bidder to submit necessary documents in this regard which may enable the purchaser to avail the input tax credit provided such credit is still available for the amount so paid as per provision of GST Law.

8. BSNL reserves the right to ask the bidders to submit documentary proof confirming the correct HSN or SAC classification/Customs Tariff Head from the CGST/SGST/IGST officer or Customs authority where the HSN or SAC classification /Customs Tariff Head furnished against the particular tendered item by different bidders differs from each other or the same is found apparently not furnished in accordance with GST ACT/Customs Tariff notifications.

9. If the bidder fails to furnish necessary supporting documents i.e. Tax Invoices/Customs invoices etc in respect of Duties, Taxes & Ceases which are eligible for input tax credit, the amount pertaining to such Duties, Taxes, Ceases will be deducted from the payment due to the firm.

10. If the bidder fails to perform the necessary compliances which would in any manner restrict BSNL to claim input tax credit then the amount pertaining to such duties, Taxes & Ceases will be deducted from the payment due to the bidder.

11. If the bidder does not disclose the correct details on the invoice or on the GSTN viz GSTIN, Place of supply etc which restricts BSNL to claim input tax credit then the amount pertaining to such duties, Taxes & ceases will be deducted from the payment due to the bidder.

12. BSNL can adjust/ forfeit Bank Guarantee obtained from the bidder against any loss of input tax credit to BSNL on account of bidder's default. In case BSNL has to pay GST on reverse charge basis the bidder would not charge GST on its invoices. Further the bidder undertakes to comply with the provisions of GST law as may be applicable.

13. The balance payment shall be made within a period of 6 months from the invoice date to ensure availability of input tax credit & subject to condition that there are no damage/shortages. In those cases where such shortages/damages are intimated to the bidder in writing, the balance payment shall be released only after the cases are settled in accordance with the provision of contract. Further in case of any dispute on the payment to be made to the bidder, the same shall be settled on or before the month of September following the end of financial year to which the invoice pertains. Additionally, in case the dispute is not settled due to any act of the bidder & input credit on the said invoice is lost by BSNL, the same shall be recovered from the bidder.

14. BSNL has the right to recover input Tax credit loss suffered by it due to any mis-declaration on invoice by the bidder.

15. Any sum of money due and payable to the bidder (including security deposit refundable to him) under this contract may be appropriated by the purchaser or the BSNL or any other person(s) contracting through the BSNL and set off the same against any claim of the purchaser or BSNL or such other person or person(s) for payment of a sum of money arising out of this contract or under any other contract made by the bidder with the Purchaser or BSNL or such other person(s) contracting through the BSNL. In case of set off the security deposit against any claim of the purchaser or BSNL or such other person or person(s) for payment of a sum of money arising out of this contract or under any other contract made by the bidder with the Purchaser or BSNL or such other person(s) contracting through the BSNL, the GST on such set off will be borne by the bidder. GST would not be liable on security deposit. But if bidder set off the security deposit against any claim of the purchaser or BSNL or such other person or person(s) for payment of a sum of money arising out of this contract or under any other contract made by the bidder with the Purchaser or BSNL or such other person(s) contracting through the BSNL, then GST would be levied.

16. The bidder should furnish the name of its collaborator (if applicable), brand name, model number, type of the products and HSN classification under GST and customs law offered in this tender. The technical literatures of the products should also be submitted. No change in either technology or product shall be permitted after opening of bids.

**17. GST Invoice:**

17.1 All the details of bidder (name, address, GSTN / unregistered bidder, place of supply, SAC/HSN code etc.) and other mandatory details shall be mentioned on the invoice.

17.2 Invoice/Supplementary invoice/Debit note /Credit note/Receipt Voucher need to be issued in compliant format and within the time limit prescribed under GST law.

17.3 In case of any deficient / incomplete/rejected supply, BSNL shall convey the same in a reasonable time to enable the bidder to issue credit note and take tax adjustment.

17.4 It would be the responsibility of the bidder to declare correct information on invoice and GSTN viz. the amount, the place of supply, rate of tax etc. In case the eligibility of input tax credit is questioned or denied to BSNL on account of default by the bidder, the same would be recovered by BSNL from the bidder.

17.5 Registered location of both the parties i.e BSNL and bidder should be mentioned in the Agreement with GSTN No. Further, bidder should raise invoices at the registered premise of BSNL for availing of credit and ensure that the place of supply as per GST law is same as registered premise.

17.6 BSNL could at any time instruct the bidder to raise its invoices at a particular location of BSNL

17.7 It is the responsibility of the bidder to ensure that place of supply and the GSTN of BSNL are in the same state. If for any reason they are not in the same state, the bidder shall intimate to BSNL and give adequate time before rising of the invoices.

17.8 E-waybill number should be mentioned on the invoices.

17.9 Bidder shall be responsible for timely issuance and delivery of Invoice / DN/ CN to enable BSNL to claim tax benefit on or before the stipulated time period provided by the GST law.

17.10. (a) It is the responsibility of the bidder to ensure that outward supply return(GSTR-1) would be filled correctly .If not, than cost would be borne by bidder.

17.10.(b) Reporting of correct outward supply by bidder in the outward return(GSTR-1) is the responsibility of the bidder. In case of mismatch because of bidder's fault,prompt amendments must be made by the bidder else bidder would be required to indemnify BSNL of the loss of credit due to mis-match. The compliances to be adhered by bidder includes (but is not limited to) the following:

17.10.b.(i)Uploading appropriate invoice details on the GSTN within the stipulated time.

17.10.b.(ii)Issuing GST compliant invoice/CN /DN.PO issued by BSNL should be referred by bidder for capturing information on the invoice.

17.10.b.(iii)Bidder needs to pay the entire self assessed Tax on timely basis.

17.10.b.(iv)Where Invoice is not uploaded or incorrect upload of invoice detail of GSTN by bidder then credit on such invoice will be given provisionally subject to matching.So, acceptance of changes made by BSNL on GSTN on account of non-upload or incorrect upload of invoice details of GSTN is to be submitted by bidder. Such changes wrt. the mismatch are required to be accepted by bidder within the time limit prescribed under the GST law. It should be noted that in case bidder does not accept such changes within the time limit prescribed under GST law, the loss of input tax credit (if any) would be recovered from the bidder.In case of mismatch because of bidder's fault, prompt amendments must be made by the bidder else bidder would be required to indemnify BSNL for the losses of credit and interest paid due to mismatch.

17.10.b.(v)Bidder to issue all necessary documentation and perform all necessary compliances for BSNL to be eligible to claim the input tax credit of GST. In case BSNL is unable to claim the input tax credit, the amount wrt GST charged by the bidder would be recovered from the bidder.

17.10.b.(vi)A self-declaration alongwith evidence that the bidder is not blacklisted by GST authority. In case supplier gets black listed during the tenure of BSNL contract,then supplier must indemnify BSNL to ensure that no loss of input tax credit is borne by BSNL due to default of supplier.

18. It shall be the responsibility of the bidder to mention state of place of goods/services in the invoice issued to BSNL.

19. GST(if applicable) on account of liquidated damages due to delay in supply of goods would be borne by bidder.

20.Payment against GST Credit will be made only when GST complaint Invoice is submitted by the bidder.

21.In case the bidder does not agree with the POS or HSN/SAC code stated on the POS,it is the responsibility of the bidder to approach/request BSNL to revise the PO.

22. Any further amendment notified by the government in GST Rules during the currency of contract shall also be applicable without any separate notice.

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

**GENERAL RULES AND DIRECTIONS**

1. All works proposed for execution by contractor will be notified in a form of invitation to tender displayed on Notice Board in select BSNL offices and signed by the officer inviting tender or by publication in News papers/internet (designated web page) as the case may be.
2. This form will state the work to be carried out, as well as the date of submitting and opening tenders and the time allowed for carrying out the work; also the amount of earnest money to be deposited with the tender, and the amount of performance guarantee to be deposited by the successful tenderer(s). Copies of the specifications, designs and drawings and any other documents required in connection with the work signed for the purpose of identification by the Officer inviting tender shall also be open for inspection by the contractor at the office of Officer inviting tender during office hours.
3. In the event of the tender being submitted by a firm it must be signed by the authorised signatory.
4. Receipts for payments made on account of work when executed by a firm, must also be signed by authorized signatory.
5. Any person who submits a tender shall fill up the usual printed form stating at what rate he is willing to undertake each item of the work. Tenders, which propose any alteration in the work specified in the said form of invitation to tender, or in the time allowed for carrying out the work, or which contain any other condition of any sort, including conditional rebates will be summarily rejected. However, tenders with unconditional rebate will be acceptable. No single tender shall include more than one work, but contractors who wish to tender for two or more works shall submit separate tender for each. Tenders shall have the name and number of the works to which they refer written on the envelopes.  
The rates(s) must be quoted in decimal coinage. Amounts must be quoted in full rupees by ignoring fifty paisa and considering more than fifty paisa as rupee one.
6. The Officer inviting tender or his duly authorized assistant will open tenders in the presence of any intending contractors who may be present at the time, and will enter the amounts of the several tenders in a Comparative Statement in a suitable form. In the event of a tender being accepted a receipt for the earnest money forwarded therewith shall thereupon be given to the contractor who shall thereupon for the purpose of identification sign copies of the specifications and other documents mentioned in Rule 1. In the event of a tender being rejected, the earnest money forwarded with such unaccepted tender shall thereupon be returned to the contractor remitting the same without any interest.
7. The officer inviting tenders shall have the right of rejecting all or any of the tenders, and, will not be bound to accept the lowest or any other tender.
8. The receipt of an accountant or clerk for any money paid by the contractor will not be considered as any acknowledgement of payment to the Officer inviting tender and the contractor shall be responsible for seeing that he procures a receipt signed by the concerned Accounts Officer.

9. The memorandum of work tendered for and the schedule of materials to be supplied by BSNL shall be filled and completed in the office of the Officer inviting tender before the tender form is issued. If a form is issued to an intending tenderer without having been so filled in and incomplete, he shall request the officer to have this done before he completes and delivers his tender.
10. The tenderer shall sign a declaration under the officials Secret Act, 1923 for maintaining secrecy of the tender documents drawings or other records connected with the work given to them. The unsuccessful tenderers shall return all the drawings given to them.
11. Rates quoted by the Contractor in the tender both in figures and words shall be accurately filled-in so that there is no discrepancy in the rates written in figures & words. However, if a discrepancy is found the rates which correspond with the amount worked out by the contractor shall unless otherwise proved be taken as correct. If the amount of an item is not worked out by the contractor or it does not correspond with the rates written in either in figures or words then the rates quoted by the contractor in words shall be taken as correct. Where the rates quoted by the contractor in figures and in words tally but the amount is not worked out correctly, the rates quoted by the contractor will unless otherwise proved be taken as correct and not the amount.
12. Performance Guarantee :- The contractor is required to furnish performance guarantee for an amount equal to 5% of the contract value in the form of bank guarantee of a Nationalized / Scheduled bank (in a standard format) / CDR / FDR / DD within two weeks from the date of issue of acceptance letter. This period can be further extended by the Engineer – in – Charge upto maximum period of two weeks on written 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. The award letter shall be issued by Executive Engineer only after submission of Performance Guarantee. In case the contractor fails to deposit the said performance guarantee within the period, including the extended period if any, the Earnest Money deposited by the contractor shall be forfeited automatically without any notice to the contractor.  
b) Security Deposit : In addition to the performance guarantee stated above, a sum @ 10% of the gross amount of the bill shall be deducted from each running bill of the contractor till the sum be deducted till amount to security deposit of 5% of the contract value of the work.
13. All rates shall be quoted on the tender form. The amount for each item should be worked out and requisite totals given. Special care should be taken to write the rates in figures as well as in words and the amount in figures only, in such a way that interpolation is not possible. The total amount should be written both in figures and words. In case of figures, the word 'Rs.' Should be written before the figure of rupees and word 'P' after the decimal figures, e.g. 'Rs.2.15 P' and in case of words, the word, 'Rupees' should precede and the word 'Paise' should be written at the end. Unless the rate is in whole rupees and followed by the word 'only' it should invariably be up to two decimal places. While quoting the rate in schedule of quantities, the word 'only' should be written closely following the amount and it should not be written in the next line.
14. **The bidder shall give the price inclusive of all taxes and excluding GST etc. No concessional form shall be provided by BSNL.** The contractor / supplier shall submit to BSNL necessary supporting documents for availing input Tax credit of GST by BSNL. In case the documents furnished by the firm are not accepted by taxation department then the amount of GST shall be deducted from the payments due to the firm.
- 15.A However, pursuant to the constitution (forty-sixth amendment) act, 1982, if any further tax or levy is imposed by statute, after the last date of receipt of tenders, and the contractors thereupon necessarily and properly pays such taxes/ levies, the contractor shall be reimbursed the amount so paid, provided such payment, if any, is not in the opinion of

Superintending engineer (whose decision shall be final and binding) be attributable to delay in execution of work within the control of contractor.

- 15 B In case of any statutory variation in regard to existing Taxex & duty, within the stipulated date of completion of agreement, the same shall be paid or recovered as per the actual against valid documentary proof. However, beyond this period Deptt will take advantage of any reduction in Taxex & duty but will not pay extra on account of increase in Taxex & duty.
- 15.C The contractor shall, keep necessary books of account 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 BSNL and further shall furnish such other information/document as engineer-in-charge may require.
16. The Contractor shall, within a period of 30 days of imposition of any further tax or levy in pursuant to the constitution of (forty sixth amendment) act 1982 give a written notice thereof to the Engineer-in-charge that the same is given pursuant to this condition, together with all necessary information relating thereto.
- 17. BSNL shall deduct income tax and other statutory deductions from payments due to the firm as per rules of the State/Central Government. The Accounts Officer of the concerned Division shall issue certificates for such deductions to the firm.**
18. The tender for the 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 tending the tender is/are liable for summarily rejection.
19. Other agencies will also simultaneously execute the works like horticulture, external services, installation of telephone exchange equipment and other building works for the same project along with this work in particular.
20. The contractor shall afford necessary facilities for the same. No claim in the matter shall be entertained. Some restrictions may be imposed by the security staff etc. On the working and/or movement of labour, material etc., The contractor shall be bound to follow all such restrictions /instructions and nothing extra shall be payable on this account.
21. The contractor shall comply with the provisions of the Apprentices Act 1961, and the rules and orders issued there under from time to time. If he fails to do so, his failure will be a breach of the contract and the Engineer-in-charge may in his discretion without prejudice to any other right or remedy available in law cancel the contract. The contractor shall also be liable for any pecuniary liability arising on account of any violation by him of the provisions of the said Act.
22. No engineer of gazetted rank or executive of BSNL employed in engineering or administrative duties in an engineering department of the government of India/BSNL is allowed to work as a contractor for a period of two years of his retirement from government service without the previous permission of government of India/BSNL. This contract is liable to be cancelled if either the contractor or any of his employee is found at any time to be such a person who had not obtained the permission of government of India as foresaid, before submission of the tender or engagement in the contractor's service as the case may be.
23. 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 and wife.
- c. The one is related to the other in the manner as father, mother, son(s) & son's wife(daughter-in-law), Daughter(s) & daughter's husband(son-in-law), brother(s) & brother's wife, sister(s) & sister's husband (brother -in-law).

24. The company or firm or any other person is not permitted to tender for works in BSNL Unit in which his near relative(s) is(are) posted. The unit is defined as SSA/Circle/Chief Engineer/Chief Archt./Corporate office for non executive employees and all SSA in a circle including circle office/Chief Eng./Chief Archt./Corporate office for executive employees (including those called as Gazetted officers at present). The 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 firm certificate will be given by the sole proprietor, for partnership firm, certificate will be given by the authorized signatory. Any breach of these conditions by the company or firm or any other person, the tender/work will be cancelled and earnest money/performance guarantee will be forfeited at any stage whenever it is so noticed. BSNL will not pay any damages to the company or firm or the concerned person. The company or firm or the person will also be debarred for further participation in retendering in the concerned unit.

**The format of the certificate to be given is**

"I.....  
 .....Son of Shri  
 .....  
 Resident of  
 ..... hereby  
 certify that none of my relative(s) as defined in the tender document is/are employed in BSNL 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 Contractor)

**Declaration By Contractor**

1. I / we do hereby undertake to have gone through the terms & conditions / clauses of all the tender documents including Form EW-6, EW-8 being adopted by the BHARAT SANCHAR NIGAM LIMITED (Electrical Wing) & agree to abide by the same.
2. I / We hereby declare that no addition / deletion / correction have been made in the tender document submitted and is identical to the tender document appearing on website.

In case of failure to comply as above, our offer will stand withdrawn and the decision of tender opening officer in this regard shall be final & binding on me.

**Signature of Contractor / Authorized representative**

**With seal of the firm**

**UNDERTAKINGS**

**UNDERTAKING - A TO ABIDE BY EW-6 & EW-8**

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

(Seal of the firm)

Dated Signature of Contractor)

## PROFORMA OF SCHEDULES

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

SCHEDULE 'A'Schedule of quantities: Appended from **page 42-43**SCHEDULE 'B'

Schedule of materials to be issued to the contractor. Transportation shall be paid extra as per quoted rate.

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	Nil	Nil	Nil	Nil

SCHEDULE 'D'

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

I. Important Note for Contractors: Appended from page 30-37.

II. Specifications: Appended from page 44-57

<u>SCHEDULE 'F'</u>	
Reference to General Conditions of contract.	
Name of work:	<b>SITC of 2 x 1.5 TR Split Ac units at NFS Site Riga Under ARP SSA.</b>
Estimated cost of work:	<b>Rs. 89748/-</b>
i) Earnest money:	<b>Rs. 1795/-</b>
ii) Performance Guarantee:	The contractor is required to furnish performance guarantee for an amount equal to 5% of the contract value in the form of bank guarantee of a Nationalized / Scheduled bank (in a standard format) / CDR / FDR / DD within two weeks from the date of issue of acceptance letter
iii) Security Deposit:	In addition to performance guarantee stated above, a sum @ 10% of the gross amount of the bill shall be deducted from each running bill of the contractor till the sum will amount to security deposit of 5% of the contract value of the work.
GENERAL RULES and DIRECTIONS:	Officer inviting tender EE (E), BSNL Electrical Division, Dimapur
Definitions:	See below
2(v) Engineer-in-Charge	Executive Engineer (E), BSNL Electrical Division, Dimapur

<b>2(vi) Accepting Authority</b>	<b>Executive Engineer (E), BSNL Electrical Division, Dimapur</b>
2(x) Percentage on cost of materials and labour to cover all overheads and profits	10%
Standard BSNL EW contract Form	BSNL EW Form 8 latest
Clause 1 i) 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.	Superintending Engineer (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.	<b>Two Months.</b> Superintending Engineer (E)
Clause 10CC Clause 10CC to be applicable in contracts with stipulated period of completion exceeding the period shown in next column.	NA
Clause 12 12.2(iii) schedule of rates for determining the rates of additional, altered or substituted items that can not be determined under 12.2(i) & (ii)	NIL
Clause 12 12.2(iii) plus/minus +/- the % over the rate entered in the schedule of rates	NA
Clause 12 Deviation Limit beyond which clause 12.3 shall apply	25%
Clause 25 Competent Authority for Conciliation	Superintending Engineer (E), Not in-charge of the work.
Clause 30.2 Minimum Qualifications and experience required for Principal Technical representative.	
a) For works with estimated cost put to tender more than i) Rs. 2lakh but less than 5Lakhs for Ele/ Mech. Works	Recognized diploma holder
b) For works with estimated cost put to tender more than i) Rs.5 Lakhs for Elect/ Mech. Works	Graduate or Recognized diploma holder with 3years experience
Recovery to be effected from the contractor in the event of not fulfilling provision of clause 30.5	Rs.4,000/- p.m. for works costing above 5 Lakhs Rs.2,000/- p.m. for works costing between 2 Lakhs to 5 Lakhs

( I ) “IMPORTANT NOTE FOR CONTRACTORS”

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

GENERAL TERMS AND CONDITIONS:-

1. EVALUTION OF TENDERS:-

The bidder shall quote the rates inclusive of all Duties and Taxes, Packing, Forwarding, Freight, Insurance charges, and **excluding GST** etc.

2. CURRENCY OF CONTRACT: -

The contract shall be valid for Two Months. Including 25% deviation if any, after the date of its acceptance. 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.

4. 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.

5. CO-ORDINATION AT SITE :-

At the site of work more than one agency may be working full cooperation shall be extended to other agencies during 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.

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

DECLARATION BY TENDERER

- a) To be signed by Proprietor in case of proprietorship firm.
- b) To be signed by all partners in case of partnership firm.
- c) To be signed by all the directors in case of the company.

1. M/s.....

S/o .....

R/o .....

Hereby certify that none of my relatives(\*) as defined below is/are employed in BSNL units(\*\*) as defined below.

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

(\*) Definition of Relatives.

- a) Member of Undivided family.
- b) They are husband and wife.
- c) They are related to the other in the manner as Father, Son(s), Son's wife (Daughter-in-law, Daughter(s) & Daughter's husband (Son-in-law), Brother & Brother's wife, Sister(s) & Sister's husband (Brother-in-law).

(\*\*) The company or firm or any person is not permitted to tender for the work in BSNL unit in which his near relative(s) is (are) posted. The unit is defined as

- d) For Non Executive Employees: SSA/Circle/Chief Engineer/Chief Architect/Corporate Office.
- e) For Executive Employees (including those called as gazetted officer at present): All SSA in Circle office/Chief Engineer / Chief Architect /Corporate Office.

Place : \_\_\_\_\_

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

Signature of tenderer

**6 .Goods & Service Tax (GST): Firm shall have valid GST registration.** The rates offered by the firm shall be *exclusive of the GST* as applicable. The firm shall claim GST with the bill clearly furnishing complete details of GST so included. BSNL under no circumstances will consider any claim of GST not included in the bill. It will be the firm's responsibility to settle GST with GST authorities.

**7 TAX AND DUTIES: -**

The bidder shall give the price inclusive of all taxes and excluding GST etc. No concessional form shall be provided by BSNL. The contractor / supplier shall submit to BSNL necessary supporting documents for availing input Tax credit of GST by BSNL. In case the documents furnished by the firm are not accepted by taxation department then the amount of GST shall be deducted from the payments due to the firm.

**8 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.

- a. 80% against supply of materials (On pro-rata basis) of approved value of contract on receipt of the complete equipment at site and after physical verification of the same.
- b. 10% (On pro-rata basis) of approved value against erection of equipment, successful testing and commissioning.
- c. 10% (On pro-rata basis) of approved value against Final successful charging, Handing over of the equipment & completion of work.

For claiming this payment the following documents are to be supplied to the paying authority :-

- a. Basic Value of Goods.
- b. GST Percentage with Amount.
- c. Correct GST tariff head.

**9 STORES AND SAFETY: -**

All the stores and materials required for the satisfactory completion of work except those specified, as departmental supply shall be arranged at work site by the contractor from his own resources or open market. It should be clearly understood that no claim whatsoever shall be entertained by the department on this account, safe custody of the material brought and installed at site shall be contractor's responsibility till the installation is taken over by the department after successful completion. List of approved material not in list prior case permission in writing is to be obtained from Engineer-in-charge.

**10 TEST CERTIFICATES: -**

BSNL reserves the right to depute representative for inspection of material/ equipment and witness the test at contractor's/ suppliers works and the firm shall be required to perform routine/ type test for unit of each type/ model as per Annexure-I of I.S in the presence of BSNL's representative. At least one week's notice shall be given by the contractor to the BSNL for fixing up inspection and factory test.

The firm shall submit manufacturer test certificates of MV Cables, accessories and HT cable etc on supply of the material at site.

**11 COMPLETION DRAWINGS: -**

Five sets or following drawings shall be submitted by the contractor after physical completion of the work but before commissioning of the installation.

- (a) I G.A. arrangement of Feeder Pillar , Single line Diagram, equipment installation drawing giving complete details of the entire equipment
- (b) Electrical drawings, power wiring & control wiring drawing showing cable sizes, equipment capacity, control components and control wiring.
- (c) Schematic control drawings giving detailed sequence or operation and notes to explain the operation or the control circuit.
- (d) Various HT & LT Cable route Layout with sizes etc

Note :- In case agency fails to give the completion plans as described above, an amount @2.5% of the value of work subject to a ceiling of Rs.15,000/- will be recovered from the bill.

**12 GUARANTEE AND DEFECT LIABILITY: -**

- a. The guarantee shall be valid for a period of 12 Months from the date of completion of work. The firm shall guarantee that all equipments shall be free from any defects due to the defective materials or bad workmanship and that the equipment shall work satisfactorily and that the performance and efficiencies of the equipments shall not be less than the guaranteed values. Any parts found defective during the guarantee period shall be replaced by the firm without any charge whatsoever. The services of the firm's personnel, if required, during this period for such work shall be made available to the department without any extra charges. The firm shall depute their representatives to the site immediately on notification of defects by the department. The consequential losses and damages are, however not recovered under the purview of guarantee.
- b. The contractor shall depute his representative to the site within 72 hours of notification of defects by BSNL.



- c. A joint inspection report will be made by BSNL representative and representative of the firm regarding the nature of defects and remedial action required and time schedule for the rectification/remedial action.
- d. In case the contractor fails to depute his representative within 72 hours of notification of defects or fails to cause remedial action within a reasonable time as decided in the joint inspection, BSNL may proceed to do so at the contractor's risk and expenses without prejudice to any other right

## **MAINTENANCE**

The contractor shall provide free maintenance for a period of 12 months from the date of completion and attend to any defects that may arise in operation of the equipment during this period.

## **TRAINING OF BSNL PERSONNEL**

The contractor shall arrange to impart the training to the BSNL Personnel on the following aspects prior to provisional takeover of the equipment:

- a) Operation of all equipments.
- b) Adjustments of settings for all controls and protective devices.
- c) Preventive maintenance.
- d) Diagnosing & attending to minor faults and defects, which might develop during the course of system operation.

### **13 DATE OF COMPLETION: -**

Date of completion of the work shall be Two month after completion of civil work. However the Final bill shall be prepared after commissioning of installation.

### **14 PROGRAMME FOR EXECUTION: -**

The firm shall supply detailed program to Engineer-in-charge for execution of contract within 10 days of award of work. The program shall contain details about submission & approval of drawing, supply of materials etc. Tentative dates for installation and testing shall also be submitted.

1. The contractor shall get the following approved before start of the work: - G.A. drawing, Control & Power wiring Drawing, equipment details, HT&LT Cable layout & Room Layout.
2. The approval of drawings by the department shall not absolve the firm of their responsibility for supplying and installing the system confirming to relevant standards and specifications and schedule of work of the contract.

### **15 GENERAL: -**

The following special conditions shall be read in conjunction with general conditions of contracts and amendments there to. If there are any provisions in these special conditions, which are in variance with the provisions in the other documents, the provisions in these special conditions shall take precedence. The work shall generally be carried out as per IE rules & National building/Electrical code/Fire manuals/Telecom & CPWD specifications & NIT conditions.

### **16 Change in Specification**

1. 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 EW-8.
2. 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.

17 Prior written approval of BSNL is necessary before undertaking any alteration/modification in the specifications of the equipments.

18 INSPECTION OF SITE AND CONTRACT DOCUMENTS: -

For the purpose of inspection of site and relevant contract the contractor is required to contact the Senior Manager concerned who shall give reasonable facilities for inspection of the same. The contractor shall inspect and examine the site and shall satisfy himself, before submission of his tender as to the form and nature of the site, the quantities and nature of the work, materials necessary for completion of the work and shall himself obtain all necessary information as to risks, contingencies and circumstances which may influence or effect his tender. No extra charges consequent to any misunderstanding or otherwise shall be allowed.

19 SUFFICIENCY OF TENDER: -

The contractor shall be deemed to have satisfied himself before entering into the contract as to the correctness and sufficiency of his offer the work and of the rates quoted in the schedule of works. These rates and amounts shall, except as otherwise provided, cover all his obligations under the contract and all matter and things necessary for proper completion and maintenance and guarantee of the work.

20 PAINTING: -

The entire exposed iron work shall be painted with one coat of primer followed by 2 coats of approved/matching colour synthetic enamel paint.

21 TEST AT SITE: -

After physical completion of the installation following testing shall be conducted by the firm in the presence of Engineer-in-charge or any representative of the department at his cost & intimate test results before commissioning . . Nothing extra will be paid to him on this account.

- a Meggar test between Phases, Neutral and Earth for all systems.
- b Earth Resistance test for all earth stations.
- c Functional test of all switchgears and circuit breakers.
- d Relay test & their settings.
- e Polarity test.

(a) The BSNL shall have the right to operate all equipments if in operating conditions, whether or not such equipment, have been accepted as complete and satisfactory. Repairs and alternations shall be made at such times as directed by Engineer-in-Charge.

(b) In special circumstances the BSNL may have to use the equipment even before the completion of whole work. The firm shall co-operate fully under such circumstances.

(c) Wherever relaxations are required, these should be obtained from the Superintending Engineer (Electrical) well before the final performance test.

(d) All test equipments, the operating personnel, required for testing shall be supplied by the contractor.

(e) At the final inspection a factory trained representative of the manufacturer of the major equipment shall demonstrate that the system is functioning properly in every respect.

f) The contractor shall provide all necessary facilities for inspection of his equipment. In case of imported equipments, the contractor shall furnish the routine and type test certificates to the satisfaction of Engineer-in-charge.

g) All information, documents and tests as required by BSNL for their final approval for this installation shall have to be arranged by the contractor.

## 22 REJECTION OF DEFECTIVE INSTALLATION:

The reject material will be cleared from site immediately on rejection. If the complete system or any part thereof, before it is taken over, be found defective or fails to fulfill the intent of the specification, the contractor, shall, on receipt of a written notice from the Engineer-in-charge forthwith made good the defects, should the contractor fail to rectify the defects and or make good the defective system within a stipulated time mentioned in the written notice or replace the equipment's / components at no extra cost, department may make good, reject or replace the same at the risk and expenses of the contractors, the whole or any portion of the system which is defective or fails to fulfill the requirements of the contract.

### **Compensation to be levied in cases of use of duplicate/ spurious material.**

1. Department reserves the right to get inspected any components thereof by the manufacturer / their authorized representative, whose report as regards to the genuineness of component shall be final and binding. In case any component upon such inspection is found to be duplicate/spurious, double the cost of such component based on price list (without any discount whatsoever) effective on date of aforesaid inspection shall be recoverable.
2. In case the contractor agrees to replace the components so found spurious/duplicate at his cost, within 15 days of the said report compensation of Rs. 3,000/- per component found spurious/duplicate should be levied against the contractor.
3. Besides the above the department reserves the right to take disciplinary action against the Contractor.
4. Decision of Superintending Engineer (E), Shillong in such case shall be final .

## 23 GENERAL CONDITIONS: -

The following general conditions of Contract are deemed to have been agreed upon.

1. All civil works such as construction of foundation for the equipments with masonry or the steel members as may be required is included in the scope of work.
2. 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.
3. The contractor is responsible for the removal of debris and waste materials arising out of the work done by him, from the site.
4. Necessary tools and plants shall be arranged by the firm. Modern tools and equipment shall be need for handling of cables and machines, drilling, chiseling, cutting etc. So that speed, accuracy, minimum noise, vibrations and disturbance to the building/ occupants / equipment's can be achieved.

5. The firm shall provide necessary barriers, warnings, signals and other safety measures to avoid any accident. The employees of the firm are to be suitably insured against such accidents. The dept. shall not be responsible for any such accidents.
6. The concealed items like earthing, cabling, conducting etc. shall be carried out only in presence of duly authorized department staff.
7. The offer shall include all changes for packing, handling, freight, insurance, loading, unloading, stocking etc. for the material.
8. Work shall generally be carried out during working hours. However as per the department requirement the working hours shall be extended without any extra claim.
9. All fittings unit assemblies, accessories, hardware foundation bolts, terminal blocks for connections, cable glands and miscellaneous material and accessories of items of work which are useful and necessary for efficient assembly within the scope 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.

#### **24 Bye-laws Indemnity against Liabilities**

1. 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.
2. 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.
3. 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.
4. 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.
5. 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.

#### **SPECIAL CONDITIONS**

(As per O/o PGM (Elect), New Delhi ltr no:- 1-5/EW/2015 Dated :- 15/10/2015)

- 1) Termination of Contract on Death of Contractor :- Without prejudice of any of the rights or remedies under this contract, if the contractor dies, the Engineer-In-Charge on behalf of the BSNL shall have the option of terminating the contract without compensation to the contractor.
- 2) Indulging of Contractor in Criminal/Antisocial Activities & cases under investigation /Charge Sheeted by CBI OR Any other Government Agencies etc. :- If the CBI/Independent External Monitor (IEM)/Income Tax/ Sales Tax/ Central Excise/ Custom Departments recommends such a course –Action will be taken as per the directions of CBI or concerned department.

**ANNEXURE “D”**

( II ) “Copy of Memorandum No.5-1-12/EW/94 dated 26th Sept.96”

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

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 Telecom Commission to provide for an option to the Contractor(s) for depositing Bank Guarantee along with the Tenders for Air-conditioning, Diesel Engine Alternator, 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..
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 Government 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/ en-cashing or release of these Bank Guarantee.
6. This is issued with the concurrence of Telecom Finance vide their U.O.No.274/FA-V dated
7. 26<sup>th</sup> Sept.1996 and shall come into force with immediate effect.

Encl.: Annexure- I

## Annexure-I

## MODEL FORM OF BANK GUARANTEE

BANK GUARANTEE BOND FOR EMD FOR AIR CONDITIONING, DIESEL ENGINE ALTERNATOR, LIFTS AND SUB STATION WORKS WHEREVER THE AMOUNT OF EMD IS MORE THAN RS. 20, 000/-.

Whereas \_\_\_\_\_ (hereinafter called "The 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 in full (including 50% deviation) as per Master Agreement.
  - (b) Fails or refuses to furnish Security Deposit in accordance with the conditions of Tender document & Master Agreement.

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 one hundred eighty (180) days after the period of the Tender validity, and any demand in respect thereof should reach the Bank not later than the specified date/dates.

Signature of the Bank

Signature of the Witness

Name of Witness

Address of Witness

Annexure-II

**PROFORMA FOR AGREEMENT**

(ON NON- JUDICIAL STAMP PAPER OF APPROPRIATE VALUE)

Contract Agreement for the work of “-----  
---dated .....Between M/s ..... (Refer note) in the town of (address)  
..... herein after called the contractor (which term shall unless excluded by or  
repugnant to be subject or context include its successors and permitted assigns) of the one part and the Bharat  
Sanchar Nigam Limited herein after called the BSNL (which term shall unless excluded by or repugnant to the  
subject or context include its successes and assigns) of the other part.

WHEREAS

a. The BSNL is desirous that the execution of “-----  
----- should be  
executed as mentioned, enumerated or referred to in the tender including Press Notice Inviting  
Tender, General Conditions of the Contract, Special conditions of the contract, Specifications,  
Drawings, Plans, Time Schedule of completion of jobs, Schedule of Quantities and Rates, Agreed  
Variations, other documents, has called for Tender (e-tender through publication in the portal).

b. The contractor has inspected the site and surroundings of the work specified in the tender documents and  
has specified himself by carefully examinations before submitting his tender as to the nature of the surface ,  
strata , soil , sub soil and grounds , the form and nature of the site and local conditions the quantities , nature  
and magnitude of the work , the availability of the labour and materials necessary for the execution of work ,  
the means of access of site , the supply of power and water thereto and the accommodation he may require  
and has made local and independent enquiries and obtained complete information as to the matters and things  
referred to or implied in the tender , documents or having any connection therewith and has considered the  
nature and extent of all the probable and possible situations , delays , hindrances or interferences to or with the  
execution and completion of the work to be carried out under the contract, and has examined and considered  
all other matters, conditions and things and probable and possible contingencies, and generally all matters  
incidental thereto and ancillary thereof affecting the execution and completion of the work and which might  
have influenced him in making his tender.

a. The tender documents including BSNL’s Press Notice Inviting Tender, General conditions of Contract,  
Special Conditions of Contract, Schedule of Quantities and Rates, General obligations, Specifications,  
Drawings, Plan, Time Schedule for completion of work, Letter of Acceptance of tender and any statement  
of agreed variations with its enclosures copies of which are hereto annexed form part of this contract  
though separately set out herein and are included in the expression Contract wherever herein used.

AND WHEREAS

The BSNL accepted the tender of M/s. \_\_\_\_\_ (refer note) (Contractor) for the work of “---  
-----  
----- and conveyed vide letter No. \_\_\_\_\_ dated \_\_\_\_\_ at the rates stated in the  
Schedule of quantities for the work and accepted by the BSNL (hereinafter called the Schedule of Rates) upon  
the terms and subject to the conditions of the contract.

**NOW THIS AGREEMENT WITNESSTH & IT IS HEREBY AGREED AND DECLARED AS FOLLOW**

1. In consideration of the payment to be made to the contract for the work to be executed by him , the contractor hereby convenient with the BSNL that the contractor shall and will duly provide , execute, complete and maintain the said work and shall do and perform all other acts and things in the contract mentioned or described or which are to implied and there from or may be reasonably necessary for the completion of the said works and at the said times and in the manner and subject to the terms and conditions or stipulations mentioned. In the contract and
2. In consideration of the due provisions execution, completion and maintenance of the said work, the BSNL does hereby agree with the contractor that the BSNL will pay to contractor the respective amounts for the work actually done by him and approved by the BSNL at the schedule or rates and such other sum payable to the contractor under provision of the contract, such payment to be made at such time in such manner as prescribed for in the contract.
3. The contract is subject to the jurisdiction of Court at DIMAPUR only. (Where the NIT/Tender has been issued)

It is specifically and distinctly understood and agreed between the BSNL and the contractor that the contractor shall have no right , title or interest in the site made available by the BSNL for execution of the works or in the building , structures or works executed on the said site by the contractor or in the goods , articles , materials etc. brought on the said site ( unless the same specifically belongs to the contractor ) and the contractor shall not have or deemed to have any lien whatsoever charge for unpaid bills will not be entitled to assume or retain possession or control of the site or structures and the BSNL shall have an absolute and unfettered right to take full possession of site and to remove the contractor , their servants , agents and materials belonging to the contractor and lying on the site.

In witness where of the parties hereto have here-into set their respective hands and seals in the day and the year first above written.

**Signed and delivered for and on behalf of  
behalf of BSNL**

**Signature and delivered for and on  
the Contractor**

**(BHARAT SANCHAR NIGAM LIMITED)**

**OFFICIAL ADDRESS**

**(CONTRACTOR)**

Date  
Place

Date  
Place

**IN PRESENCE OF TWO WITNESSES**

SIGNATURE  
NAME

SIGNATURE  
NAME

SIGNATURE  
NAME

SIGNATURE  
NAME



## Annexure-III

**PERFORMANCE SECURITY GUARANTEE BOND**

1. In consideration of the CMD, BSNL (hereinafter called 'BSNL') having agreed to exempt \_\_\_\_\_ (hereinafter called 'the said contractor(s)') from the demand under the terms and conditions of an agreement/Advance Purchase Order No \_\_\_\_\_ dated \_\_\_\_\_ made between \_\_\_\_\_ and \_\_\_\_\_ for the supply of \_\_\_\_\_ (hereinafter called "the said agreement"), of security deposit for the due fulfillment by the said contractor (s) of the terms and conditions contained in the said Agreement, on production of the bank guarantee for \_\_\_\_\_ we, (name of the bank) \_\_\_\_\_ ( hereinafter refer to as "the bank") at the request of \_\_\_\_\_ (contractor(s)) do hereby undertake to pay to the BSNL an amount not exceeding \_\_\_\_\_ against any loss or damage caused to or suffered or would be caused to or suffered by BSNL by reason of any breach by the said Contractor(s) of any of the terms or conditions contained in the said Agreement.
2. We (name of the bank) \_\_\_\_\_ do hereby undertake to pay the amounts due and payable under this guarantee without any demur, merely on a demand from the BSNL by reason of breach by the said contractor(s)' of any of the terms or conditions contained in the said Agreement or by reason of the contractors(s)' failure to perform the said Agreement. Any such demand made on the bank shall be conclusive as regards the amount due and payable by the Bank under this guarantee where the decision of BSNL in these counts shall be final and binding on the bank. However, our liability under this guarantee shall be restricted to an amount not exceeding \_\_\_\_\_.
3. We undertake to pay to the BSNL any money so demanded notwithstanding any dispute or disputes raised by the contractor(s)/supplier(s) in any suit or proceeding pending before any court or tribunal relating thereto our liability under this present being absolute and unequivocal. The payment so made by us under this bond shall be valid discharge of our liability for payment there under and the contractor(s)/supplier(s) shall have no claim against us for making such payment.
4. We( name of the bank)\_\_\_\_\_ further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said agreement and that it shall continue to be enforceable till all the dues of the BSNL under or by virtue of the said Agreement have been fully paid and its claims satisfied or discharged or till \_\_\_\_\_(office/Department) BSNL certifies that the terms and conditions of the said Agreement have been fully or properly carried out by the said contractor(s) and accordingly discharges this guarantee. Unless a demand or claim under this guarantee is made on us in writing on or before the expiry of TWO/TWO AND HALF/THREE YEARS (as specified in P.O) from the date hereof, we shall be discharged from all liabilities under this guarantee thereafter.
5. We (name of the bank)\_\_\_\_\_ further agree with the BSNL that the BSNL shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Agreement or to extend time of performance by the said contractor(s) from time to time or to postpone for any time or from time to time any of the powers exercisable by the BSNL against the said Contractor(s) and to forbear or enforce any of the terms and conditions relating to the said agreement and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said Contractor(s) or for any forbearance, act or omission on the part of the BSNL or any indulgence by the BSNL to the said Contractor(s) or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us.
6. This guarantee will not be discharged due to the change in the constitution of the Bank or the Contractor(s)/supplier(s).
7. We (name of the bank) \_\_\_\_\_ lastly undertake not to revoke this guarantee during its currency except with the previous consent of the BSNL in writing.

Dated the \_\_\_\_\_ day of \_\_\_\_\_  
for \_\_\_\_\_

**(Indicate the name of Bank)**

**SCHEDULE OF WORK**

<b>Name of Work: SITC of 2 x 1.5 TR Split Ac units at NFS Site Riga Under ARP SSA.</b>								
Sl. No	Description of Item	Qty	Unit	Unit Price i/c all taxes ( W/o GST)	Amount	GST rate in %	GST Amount	Total Amount i/c GST
1	2	3	4	5	6 =(3x5)	7	8= (6x7)	9=6 + 8
<b><u>PART-A</u></b>								
1	Supply of 1.5 TR inverter type split AC unit having nominal cooling capacity of 4500 Kcal/hr (5.2 KW) , minimum room air flow of 700 cub.mtr/hr and minimum Indian Seasonal Energy Efficient Ratio (ISEER) of 3.5 to 3.99 along with standard L Shape Stand, Hot gas & liquid copper piping, wiring and drain pipe as per SECTION – II, General specifications of Inverter type Split ACs including transportation etc.,complete attached as required. Note: Condenser coil tube and evaporator coil tube shall be made from copper of high quality grade.	02	Nos					
<b>TOTAL OF PART A</b>								
<b><u>PART-B</u></b>								
1	Installation, Testing and commissioning of 1.5 TR inverter type split type AC unit along with standard L shape stand, Hot gas & liquid copper piping, wiring up to the standard length of 3 mtrs (supplied as under Item.1) including gas charging, insulation, PVC drain pipe and making opening in wall and making good the damages etc., as required.	02	Nos					
2	Providing and installing additional copper piping suitable for the above AC units, over and above 3 mtrs length where ever required including insulation, wiring, additional gas charging, PVC pipes etc., as required.	04	Mts					
<b>TOTAL OF PART B</b>								

		<b>NET COST TO BSNL OF PART (A+B) excluding GST</b>	
		<b>TOTAL GST Amount of PART (A+B)</b>	
		<b>Total Cost i/c GST OF PART (A+B)</b>	

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

- Note:** (i) Invoice favouring BSNL shall be issued by the supplier indicating GST (as applicable CGST/SGST/IGST) with documentary proof to avail input tax credit by BSNL as per the requirement of GST ACT.
- (ii) The rates quoted shall be inclusive of all taxes and duties but excluding GST. The rates for all items of work shall include cost of all materials, labour, packing & forwarding charges and other input involved in the execution of the items as specified in the scope of work. All taxes/ duties, cess, welfare fund etc. as applicable except GST shall be included in the offer. No sales tax concessional forms will be issued by BSNL/ Client.
- (iii) The evaluation and comparison of responsive bids shall be done on the basis of Net cost to BSNL on the prices offered inclusive of packing, forwarding, freight and insurance charges but excluding input tax credit/GST as indicated in the price schedule. Octroi/Entry Tax are not to be included in the composite price and hence the same will not be considered for the purpose of evaluation and comparison of responsive bids. However, Octroi will be paid extra, as per actual wherever applicable on production of proof of payment/relevant invoices/documents.
- (iv) Works contract tax will not be deducted at the source as it is subsumed in the GST. However, any deduction of tax at source under GST is affected it will be done as per statutory instructions issued by Govt of India time to time.
- (v) If any levy / duty is not payable or documentary proof is not produced, the amount for the same shall be deducted.
- (vi) The firm should quote for each item separately. They should not club the items while quoting.
- (vii) 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.

**Executive Engineer [E],  
BSNL Electrical Division, Dimapur**

**SPECIFICATIONS  
(SUMMARY)**

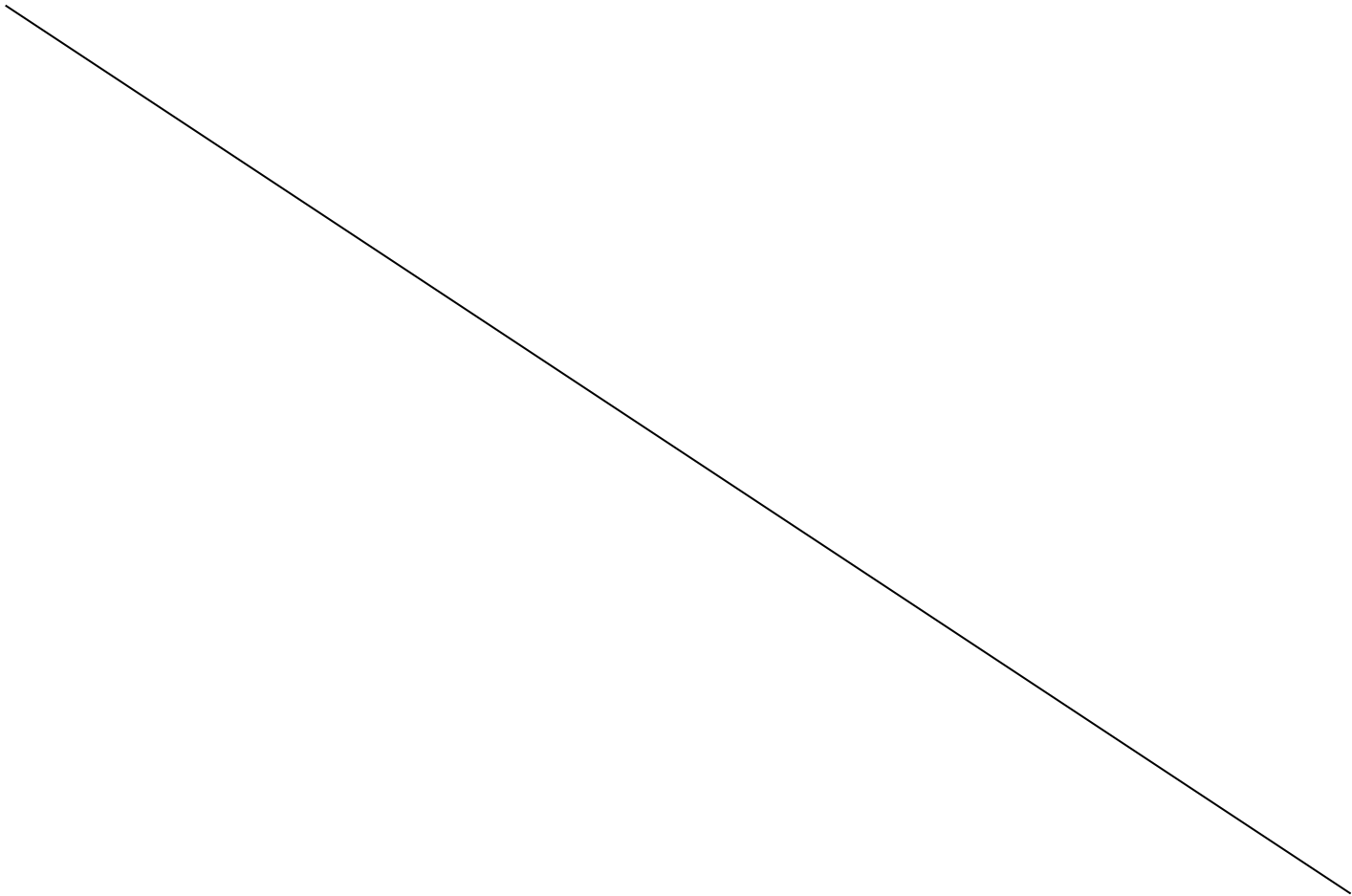
**SECTION I: ELECTRICAL WORK**

**SECTION II: INTERNAL AND EXTERNAL ELECTRICAL WORKS  
ADDITIONAL SPECIFICATIONS**

**SECTION III: SPECIFICATION FOR EARTHING**

**SECTION IV: ADDITIONAL SPECIFICATIONS**

**SECTION V: GENERAL SPECIFICATIONS OF INVERTER TYPE SPLIT ACs**



**SECTION-I****ELECTRICAL WORK****1. Scope**

This section sets out the basic requirement for switchboards, electrical power wiring to individual motors and other equipments, control circuit wiring and earthing etc.

**2. General**

1. Unless otherwise specified particularly the entire equipment shall be suitable for operation on 415 volts/240 volts, 50Hz earthed neutral, 3/single-phase alternating current system as may be required.

2. All components, accessories, raw materials and finished parts used in manufacture and assembly of switch boards, power and control circuit wiring and earthing system shall comply with the relevant Indian Standards amended up to date. Where Indian Standards do not exist British Standards shall apply.

3. The entire work shall comply with Indian Electricity rules and C.P.W.D general specifications for electrical work. Particular care shall be taken to ensure compliance to I. E. rules 41, 45, 51 and 61.

4. When cables pass through pipes, wooden bushes shall be provided at both the ends. When cables are required to pass through floors or walls, pipe inserts shall be provided and openings sealed in approved manner.

**3. Control Wiring**

1. Control circuit wiring shall be carried out with 250 volts grade PVC insulated armored multi core copper conductor cables.

2. Control cables shall be of adequate cross sections to restrict the voltage drop but each conductor shall be not less than 1.5 sq. mm.

3. Runs of control wires within the switchboard shall be neatly bunched and suitably supported / clamped. Means shall be provided for easy identification of the control wires by means of labeled ferrules.

4. The control wiring shall correspond to the circuit / sequence of operations and inter locks as required for satisfactory performance of the plant.

**4. MS Tray**

1. Power cables shall be laid in racks or trays made out of minimum 40 x 40 x 2mm thick MS solid/ slotted angle having weight of minimum 970 grams/meter & MS flat of size not less than 12mm x 2mm thick. The cable shall be fixed on the tray using suitable size clamps, nut bolts & washers. The linear distance between two clamps shall not exceed 150mm. The trays shall be suspended with hangers at every 1.5 meter from ceiling or fixed on the wall using suitable brackets as required. No trenches shall be made in floors for this purpose. Where two or more cables are laid together, the cables shall be properly de-rated.

**5. Earthing**

1. In accordance with Rule 61 of IE Rules, metallic frame of all medium voltage equipments / supporting frames, shall in all cases be connected to 2 separate and distinct earths. The size of such earth wires shall be not less than 4-mm dia GI wire.

**SECTION-II**  
**INTERNAL AND EXTERNAL ELECTRICAL WORKS**  
**ADDITIONAL SPECIFICATIONS**

1. All repairs & patch work shall be neatly carried out to match with the original finish & all damages caused to the building installation during the execution of work shall have to be made good by the contractor immediately at his own cost to the entire satisfaction of Engineer-in-charge. In case contractor fails to comply with the instructions of the Engineer-in-charge, Engineer-in-charge shall be at liberty to get the work done by any other agency and recover such amount as paid to the other agency from the bill(s) of the contractor. Contractor shall have no claim, whatsoever, on the extent of such amount.
2. Wherever ceiling roses are not required to be provided in the light/fan/exhaust fan points, due to site conditions, the contractor shall use suitable three pin connectors for which nothing extra shall be paid. Wiring shall be carried out with FR wires. Copper wire upto 4 sq.mm may be single stranded whereas wires above 4 sq.mm shall be multi-stranded conductor. Termination of multi-stranded conductors shall be done using crimping type thimbles at both the ends. Nothing extra shall be paid for the same.
3. Contractor shall provide polythene/PVC plastic cover for all MDB 's/SDB 's/DB 's to protect them from rust/damages, during execution of work till the work is actually completed and handed over to the department.
4. The loose wire boxes/cable end boxes (adaptor boxes) shall be provided on the various electrical boards to facilitate the termination of the wiring in the various mountings. The boxes shall be of the same make as the DB's as far as possible. Wherever the company made cable end boxes are not available they shall be neatly fabricated with 16 SWG CRCA sheet steel, duly powder coated, dust & vermin proof and the front cover of MS sheet shall be with rubber gasket suitably screwed or with 3mm thick phenolic laminated sheet of Hylam/Formica instead of MS sheet, as desired by the Engineer-in-charge. The length of such boxes shall be same/or more as the width of the electrical switchboard. Such loose wire boxes are deemed included in the scope of the work and no extra payment shall be made for them.
5. All debris/malba resulting due to electrical work shall be removed on daily basis and completion of the work shall only be accepted after the site has been cleaned of all Melba. In case, contractor fails to comply, the same shall be got removed by the other agency and the payment so made shall be recovered from the bill(s) of the contractor.
6. The contractor shall have to make arrangements, at his own risk and cost, for transportation of materials from the point of issue of stores to site of work, if any.
7. Makes of all items that are not covered in the schedule of work/additional specifications shall be got approved from the Engineer-in-charge and shall conform to relevant Indian Standard as applicable.
8. The contractor shall ensure that the staff employed by him for execution of the electrical work, possess the valid electrical license issued by competent authority. Consequences arising due to the default of the contractor in not complying with the above condition shall be the responsibility of the contractor.
9. Copper lugs shall be provided for terminating copper/aluminum/GI earth wire to all switchboards for which nothing extra shall be paid. All multi strand/ stranded wires shall be terminated through copper lugs. All hardware items such as screws, thimbles, G.I. Wires, etc. which are essentially required for completing an item as per specifications will be deemed to be included in the item even when the same have not been specifically mentioned.
10. All concealed work and earthing shall be done in the presence of the Engineer-in-charge or his authorized representative.
11. The schematic diagram/dimensional drawings of the various electrical cubical panels shall be got approved from the Engineer-in-charge. The Panel shall be inspected at factory in three stages during fabrication and shall comply with CPWD specifications and Indian Electricity Rules. The panels shall conform to IS: 8623/1993. All panels shall be powder coated inside out, in shade approved by the Engineer-in-charge.
12. All floor-mounted panels shall be mounted on thick M.S. channel on all the sides. It shall have a continuous earth bus running continuously along the length of the panel extending on either side for earth connection.

13. The doors of all cubicle panels shall be hinged type including those of bus bar chambers and cable alleys. The locking shall be with chrome plated metal key locks. All doors shall be earthed with copper conductor wire as approved by the Engineer-in-charge.
14. The work shall be carried out according to drawing approved by the Engineer-in-charge. The layout once approved can only be changed by the Engineer-in-charge as per requirement at site. It shall be the responsibility of the contractor to plan the layout and get the approval from the Engineer-in-charge before laying the conduits etc.
15. The MCB should be of the same make as that of MCB DB's and having a minimum breaking capacity of 10 KA. Contractor shall obtain approval of the Engineer-in-charge before procurement of MCB DB's.
16. All model of modular accessories required for the work shall be got approved from the Engineer-in charge from among the approved makes. The base plate shall be preferably in sheet steel or otherwise in unbreakable polycarbonate. The cover plates shall be screw less type in shade approved by the Engineer-in-charge.
17. Contractor shall have to check the Site Order Book for any instructions of the Engineer-in-charge or his authorized representative and sign the site order book. He shall be bound to ensure compliance with the instructions recorded therein.
18. The MCCB's shall be compatible for reliable protection and accurate measurement. The rated Service breaking capacity (kAmps) shall be 100% of Ultimate breaking capacity (kAmps). All MCCB's shall be current limiting type with features as per relevant IS codes and CPWD specification.
19. MCCB's shall be used with terminal spreaders and all terminals shall be shrouded to avoid direct contact.
20. Mechanical Castle key interlock shall be provided among the incomer MCCB's, wherever, as applicable, two different incomer sources are provided in the panel as per the directions of the Engineer in charge. The same is deemed included in the scope of work.
21. All measuring and indicating instruments shall be protected through fuses/ MCB's and isolating switches.
22. General arrangement drawing of the switchboard shall be got approved from the Engineer-in-Charge before commencement of manufacturing. While deciding the size of switch boxes for light point/fan points/exhaust fan point items, wherever fan regulators are to be provided, extra two modules will be provided for fan regulators (fan regulator is to be provided in separate item).
23. For the items like LT panels, feeder pillars and accessories, etc, the firm shall arrange for inspection in the factory and provide for all facilities for testing. The cost of the visit of Engineer-in-Charge or his representative shall be borne by department. However, firm will be responsible for arranging the inspections as required.
24. Conduit layout as per switching arrangement shall be prepared by contractor and got approved from the Engineer-in-Charge before slab casting. However the Engineer-in-Charge has the right to change the layout as per the site requirements and the contractor shall not have any claim due to change in layout.
25. To facilitate drawing of wires (including telephone/ fire alarm wires) 16/18 SWG G.I fish wire shall be provided along with lying of recessed conduit for which no extra payment shall be made to contractor. Color coding shall be done for conduit laid for different services as per direction of Engineer-in –charge.
26. Conduit and termination to SDB and main board adapter box i/c connection wires to MCB,s inter connection between SDB and main board etc shall be included in the tendered rates and nothing extra shall be paid for the same.
27. The contractor shall provide junction boxes / looping boxes of required sizes and such boxes shall be measured as part of conduit / batten wiring without any extra payment.
28. Only brass screws along with brass washers will be used for fixing Phenolic laminated sheet covers and at other places aluminum alloy/ brass / cadmium plated screws, nuts, washers will be used.
29. M.S. dash fastener shall be used for installation of fittings and fixtures in ceiling and for providing suspenders for the angle support, conducting, cable tray etc. for which nothing extra shall be paid
30. All CI/metal boxes & junction boxes should be cleaned properly and painted from inside before wiring & fixing the accessories.

31. In wiring items like point wiring / wiring for light and power plug /circuit wiring / sub main wiring, the item includes the cost of conduit also.
32. For items of power plugs, 15 Amp socket shall be of universal 6 pin type.
33. (a) The telephone conduits shall be laid with GI fish wires kept, pulled in for pulling of wires, at least 1000mm extra at outlets.  
(b) Main junction box of telephone conduit system shall be mounted at a height so that the top of box does not exceed 1.65 meters from the floor level and in a suitable location for working by the staff, with approval of Engineer-in-charge.
34. The work is to be carried out in good-workman like manner & generally in accordance with the plans. However, the contractor will be bound to carry out the work with minor deviations over the plans supplied if desired by the Engineer-in-Charge of the works.
35. Deep Junction boxes of PVC/ metal shall be provided for conduits laid in RCC Slabs.
36. The MCB's, RCCB with MCB and MCB DB's shall be of the same make. The front cover of the MCB DB's shall be powder coated.
37. All metal boxes housing control switches, regulators and plug sockets shall be suitably earthed and no extra amount is payable on this account for loop earthing switch boxes of same distribution circuits.
38. General arrangement drawing of the switch board shall be got approved from the Engineer-in-Charge before commencement of manufacturing.
39. The contractor is advised to visit the site of work to have an idea of the execution of the work, failure to do so will not absolve their responsibility to do the work as specified in agreement.
40. The rates should be inclusive of all taxes & duties. Nothing extra will be paid on this account.
41. Termination of wiring inside the DB's Main Board shall be with crimped copper lugs connection.
42. Point wiring and Power wiring shall be taken in separate conduit.
43. The contractor shall also supply insulation and earth test reports before the installations are handed over to the Engineer-in-Charge in good condition, as required under CPWD specifications.
44. Where conduit has already been laid in slabs / wall (through other agencies before award to this agency) the same shall be used by the contractor for drawing wires for items like point wiring or circuit / sub main wiring in which the above conduits forms a component of the item. Payment will be made to the contractor for such items based on the agreement rates for the complete item. However recovery will be made for quantities already laid in slabs / wall from the contractor's bill at the rate derived from similar items in the agreement of schedule rate for the item enhanced by overall agreement percentage, whichever is higher.



**SECTION-III**  
**SPECIFICATION FOR EARTHING**

**1.0 SCOPE:-**

This chapter covers the essential requirement of earthing system components and their installation. This shall be read with which lays down criteria for their design. For details not covered in these specifications, IS Code of Earthing (IS : 3043-1987) shall be referred.

**1.1. APPLICATION:-**

- (i) The electrical distribution system in the department is with earthed neutral (i.e., neutral earthed at the transformer/generator end). In addition to the neutral earthing, provision is made for earthing the metallic body of equipment's and non-current carrying metallic components in the sub-station, as well as in the internal/external electrical installations.
- (ii) Earthing system is also required for lightning protection, computer installations and for functional reasons.
- (iii) Earthing requirements are laid down in Indian Electricity Rules, 1956, as amended from time to time, and in the Regulations of the Electricity Supply Authority concerned. These shall be complied with.
- (iv) Though this chapter form part of the Specifications for Internal EI works, these requirements shall be complied with in works of earthing for other applications also.

**1.2. MATERIALS.****1.2.1. EARTH ELECTRODES.****1.2.1.1. TYPES:-**

The type of earth electrode shall be any of the following, as Specified (For selection criteria in designs)

- (a) Pipe earth electrode.
- (b) Plate earth electrode.
- (c) Strip or conductor earth electrode.

**1.2.1.2. Electrode materials and dimensions:-**

- (i) The materials and minimum sizes of earth electrodes shall be as per table VIII.
- (ii) GI pipe electrodes shall be cut tapered at the bottom, and provided with holes of 12mm dia, drilled not less than 7.5cm from each other up to 2m of length from the bottom.
- (iii) The length of the buried strip or conductor earth electrode shall be not less than 15m. This length shall suitably be increased if necessary, on the basis of the information available about soil resistance, so that the required earth resistance is obtained. Prior approval of the Engineer-in-charge shall be taken for any such in-crease in length.

**1.2.2. EARTHING CONDUCTOR:-**

- (i) The earthing conductor (protective conductor from earth electrode up to the main earthing terminal/earth bus, as the case may be) shall be of the same material as the electrode, viz, GI or copper, and in the form of wire or strip as specified.
- (ii) The size of earthing conductor shall be specified, but this shall not be less than the following (For calculating the size of the earthing conductor in design).
  - a. 5mm dia. (6SWG) for GI, or 4mm dia. (8SWG) for copper wire.
  - b. 25mmx4mm in the case of GI strip, or
  - c. 20mmx3mm in the case of copper strip.
- (iii) Earthing conductor larger that the following sectional areas need not be used, unless otherwise specified.
  - a. 150 Sq.mm. in case of GI in case of GI,
  - or,
  - b. 100 Sq.mm. in the case of copper strip.

**1.2.3. EARTH BUS:-**

- (i) Two copper strips, each of size 50mmx5mm shall be provided as earth bus in a 11KV sub-station and/or diesel generating station irrespective of the capacity of the transformer or the D.G. set. Each of these strips shall be connected to an independent earth electrode. The two earth leads from the body of each transformer/panel/generating set etc. shall be connected to these two strips of earth bus. The two strips of the earth bus shall be bonded together.

- (ii) The neutral earth leads of the transformer and/or generator alternator shall not be connected to this earth bus. They shall be connected directly to individual earth electrodes.

**1.2.4. HARDWARE ITEMS:-**

All hardware items used for connecting the earthing conductor with the electrode shall be of GI in the case of GI pipe and GI Plate earth electrodes, and forged tinned brass in case of copper plate electrodes.

**1.2.5. PROTECTIVE (Earth continuity Loop Earthing) CONDUCTOR:-**

- (i) The material and size of protective conductors shall be as specified.(For criteria in design of these)
- (ii) The minimum cross sectional area of a protective conductor (not contained within a cable or flexible cord) shall be:-
  - a) 2 mm dia. (14 SWG) in case of copper.
  - b) 2.5 mm dia. (12 SWG) in case of GI,or.
  - c) 2.24 mm dia. (13 SWG) in case of Aluminum.
- (iii). Unless otherwise specified, GI conductor should not be ordinarily used as protective conductor within any circuit, beyond a DB downstream.

**1.3. LOCATION FOR EARTH ELECTRODES:-**

- (i) Normally an earth electrode shall not be located closer than 1.5 m from any building. Care shall be taken to see that the excavation for earth electrode does not affect the foundation of the building, in such cases, electrodes may be located further away from the building, with the prior approval of the Engineer-in-charge.
- (ii) The location of the earth electrode will be such that the soil has a reasonable chance of remaining moist as far as possible. Entrances, pavements and road ways, should be avoided for locating earth electrodes.

**1.4 INSTALLATION.**

**1.4.1. ELECTRODES.**

**1.4.1.2. Various types of electrodes:-**

- a) Pipe electrode shall be buried in the ground vertically with its top at not less than 20cm below the ground level.
- b) In locations where the full length of pipe electrode is not possible to be installed due to meeting a water table, hard soil or rock, the electrode may be to reduced length, provided the required earth resistance result is achieved with or without additional electrodes, or any alternative method of earthing may be adopted, with the prior approval of the Engineer-in-charge. Pipe electrodes may also be installed in horizontal formation in such exceptional cases.
  - (i) Plate electrode shall be buried in ground with its faces vertical, and its top not less than 3 m below the ground level.
  - (ii) When more than one electrode (plate/pipe) is to be installed a separation of not less than 2m shall be maintained between two adjacent electrodes
- c) The strip or conductor electrode shall be buried in trench not less than 0.5m deep.
- d) If conditions necessitate the use of more than one strip or conductor electrode, they shall be laid as widely distributed as possible, in a single straight trench where feasible, or preferably in a number of trenches radiating from one point.
- e) If the electrode cannot be laid in a straight length, it may be laid in a zig-zag manner with a deviation up to 45 degrees from the axis of the strip. It can also be laid in the form of an arc with curvature more than 1m or a polygon.

**1.4.1.3. Artificial treatment of soil:-**

When artificial treatment of soil is to be resorted to, the same shall be specified in the schedule of work. The electrode shall be surrounded by charcoal/coke and salt as indicated. In such cases, excavation for earth electrode shall be increased as per dimensions indicated in these figures.

**1.4.1.4. Watering arrangement:-**

- (i) In the case of plate earth electrodes, a watering pipe 20mm dia, medium class pipe shall be provided and attached to the electrodes as shown in gif. 4 and 5. A funnel with mesh shall be provided on the top of this pipe for watering the earth.
- (ii) In the case of pipe electrodes, a 40mm x 20mm reducer shall be used for fixing the funnel with mesh.
- (iii) The watering funnel attachment shall be housed in a masonry enclosure of size not less than 30cm x30cmx30cm.
- (iv) A cast iron/MS frame with MS cover, 6mm thick, and having locking arrangement shall be suitably embedded in the masonry enclosure.

**1.4.1.5. EARTHING CONDUCTOR (Main earthing lead):-**

- (i) In the case of plate earth electrode, the earthing conductor shall be securely terminated on to the plate with two bolts, nuts, check nuts and washers.
- (ii) In the case of pipe earth electrode, wire type earthing conductor shall be secured using a through bolt, nuts and washers and terminating socket.
- (iii) A double C-clamp arrangement shall be provided for terminating tape type earthing conductor with GI watering pipe coupled to the pipe earth electrode. Galvanized "C" shaped strips, bolts, washers, nuts and checkouts of adequate size shall be used for the purpose.
- (iv) The earthing conductor from the electrode up to the building shall be protected from mechanical injury by a medium class, 15mm dia. GI pipe in the case of wire, and by 40mm dia, medium class buried at least 30cm deep (to be increased to 60cm in case of road crossing and pavements). The portion within the building shall be recessed in walls and floors to adequate depth in due co-ordination with the building work.
- (v) The earthing conductor shall be securely connected at the other end to the stub/earth bar provided on the switch board by:
  - a) Soldered or preferably crimped lug, bolt, nut and washer in the case of wire, and,
  - b) Bolt, nut and washer in case of strip conductor.

In the case of substations or alternators, the termination shall be made on the earthing terminal of the neutral point on the equipment and/or the earth bus, as the case may be.

**1.4.3. EARTH BUS AND MAIN EARTHING TERMINAL:-**

- (i) In the case of substations and generating stations, two numbers copper/GI (as specified) earth bus shall provided, duly connected to two numbers of independent electrodes, exclusively for equipment (body) earthing of substation or generating station equipments.
- (ii) In all other installations, main earthing terminal shall be provided at the main switch board. This may be in the form of earth stud or single earth bar depending on the type of the switch board.
- (iii) Following conductors shall be terminated on to the main earthing terminal.
  - (a) Earth connection from electric supply company (where provided).
  - (b) Earthing conductor from electrode.
  - (c) Protective conductors.
  - (d) Equipment potential bonding conductors.

**1.4.4. PROTECTIVE(Loop earthing/earth continuity) CONDUCTOR:-**

- (i) Earth terminal of every switch board in the distribution system shall be bonded to the earth bar/terminal of the upstream switch board by protective conductor (s).
- (ii) Two protective conductors shall be provided for a switch board carrying a 3 phase switch gear thereon. All the mountings of industrial type switch boards shall be bonded to the earth stud/earth bar using a protective conductor looping from one to another. Loop earthing of individual units will not be however necessary in the case of cubicle type switchboards.
- (iii) The earth connector in every distribution board (DB) shall be securely connected to the earth stud/earth bar of the corresponding switch board by a protective conductor.

- (iv) All metallic switch boxes and regulator boxes and regulator boxes in a circuit shall be connected to the earth connector in the DB by protective conductor (also called circuit protective or loop earthing conductor), looping from one box to another up to the DB.
- (v) The earth pin of socket outlets as well as metallic body of fan regulators shall be connected to the earth stud in switch boxes by protective conductor. Where the switch boxes are of non-metallic type, these shall be looped at the socket earth terminals, or at an independent screwed connector inside the switch box. Twisted earth connections shall not be accepted in any case.
- (vi) Double earthing strips in rising mains, bus trunking etc. shall be securely connected to the earth bar/earth stud at the sending end switch board. In the case of overhead busbar systems, protective conductor shall be provided in addition to feeder cable armouring connection.

**1.5. EARTH RESISTANCE:-**

- (i) The earth resistance at each electrode shall be measured. No earth electrode shall have a greater ohmic resistance than 5 ohms as measured by an approved earth testing apparatus. In rocky soil the resistance may be upto 8 ohms.
- (ii) Where the above stated earth resistance is not achieved, necessary improvement shall be made by additional provisions, such as additional electrode (s), different type of electrode, or artificial chemical treatments of soil etc., as may be directed by the Engineer-in-charge.
- (iii) In addition to the above (I) The earthing is to be got A/T'ed in the presence of representatives of A/T wing or any other nominated authority as per A/T Schedule till the final results are achieved. The testing equipment required that at site shall be arranged by the contractor without any extra charges.
- (iv)

**1.6 MARKING:-**

- (i) Earth bars/terminals at all switch boards shall be marked permanently, either as "E" or as.
- (ii) Main earthing terminal shall be marked "SAFETY EARTH- DO NOT DISCONNECT".

## SECTION-IV

### ADDITIONAL SPECIFICATIONS

- 1 The equipment offered and the work shall be carried out as per current CPWD specification for electrical works as amended from time to time and Indian electricity rules as amended up to date. The specification /conditions indicated here in under will be applicable to the extent of the details of item including schedule of work.
- 2 The firm shall prepare the general layouts of M.V. panels i/c capacitor panel, single line diagram & control wiring diagrams, Electrical Interlock diagram, general arrangement layout of substation equipment etc and submit to the Engineer-in-charge for his approval within 15 days after the award of work.
- 3 The layout of the work will be given by the Engineer-in-charge or his duly authorized representative at site of work.
- 4 It will be responsibility of the contractor to issue of Test Report of the installation without any extra cost.
- 5 Excise gate pass/ Invoice and factory test reports shall be submitted at the time of delivery of equipment at site.
- 6 M.V. panels shall be manufactured from CPRI/TAC approved firm.
- 7 The work shall be supervised by a qualified Supervisor.
- 8 Rejected materials if any, shall have to be removed from site immediately by the contractor at his cost and risk.
- 9 The contractor shall submit the completion plan as per Clause 8.2, of the agreement within 30 days of the completion of work. Failing to submit the completion plan, he will be liable to pay a sum equivalent to 2.5% of the value of work subjected to the ceiling of Rs.15000/- as per the clause-8.3 of agreement.
- 10 The contractor will have to give the following tests at his cost and intimate test results before final bills are paid. Nothing extra will be paid to him on this account.
  - a. Meggar test between Phases, Neutral and Earth for all systems.
  - b. Earth Resistance test for all earth stations.
  - c. Functional test of all switchgears and circuit breakers.
  - d. Relay test & their settings.
  - e. Polarity test.
- 11 Any damage done to the building by the contractor during the execution of work shall have to be made good at his cost and risk. If he does not do it himself within a reasonable time as determine by the Executive Engineer (E) then the same will be got done at his cost departmentally after giving notice to him.
- 12 While making the end connections of wires, no strand shall be cut and the termination of wire shall be done with necessary lugs and ferrules without any extra payment.
- 13 Lugs should be provided while terminating of G I earth wires for earth continuity without any extra payment.

- 14 The contractor shall furnish the test certificate of manufacturer in triplicate for all equipment and panels. Necessary instruction manuals, operation and maintenance manual in triplicate for ACBs of M.V. panel and major items shall be furnished before completion of work.
- 15 The overhead bus trunking system shall be fabricated as per the specification attached.
- 16 The fixing of the bus trunking, cable trays etc. to ceiling / wall etc. shall be done using suitable hangers. Fixing of panel boards on slabs, hangers on ceiling/walls shall be done using suitable expansion fasteners instead of grouting bolts
- 17 Wherever electrical termination, connections are made between dissimilar metals like copper and aluminum suitable size bimetal strips, washer shall be used.
- 18 Earthing shall be done in presence of the Engineer In Charge or his duly authorized representative.0
- 19 All necessary Tools & Plants shall be arranged by the contractor at his cost and risk.
- 20 Wherever two plates are joined like transformer body and cable end box etc., those have to be provided with laminated copper clip/tinned flexible copper strip connection at intervals without extra cost .

**SECTION-V****GENERAL SPECIFICATIONS OF INVERTER TYPE SPLIT ACs**

Technology	:	Variable speed compressor motor
Cooling capacity	:	4500 kcal/hr (5.2 kW) as per IS 1391(part 2)
Minimum Room Air Flow	:	700 m <sup>3</sup> /hr
Energy Efficiency as per ISEER	:	3.5 to 3.99
Star Rating Plan – Voluntary Phase (Valid from 29.06.2015 to 31.12.2017)	:	3 Star
Star Rating Plan – Mandatory Phase (Valid from 01.01.2018 to 31.12.2019)	:	3 Star
Compressor	:	Rotary
Refrigerant	:	R 410A or R32

**1 CONSTRUCTION****1.1 General**

- 1.1.1 The air conditioner and its parts shall be constructed with the strength and rigidity adequate for normal conditions of handling, transport and usage.
- 1.1.2 There shall be no sharp edges or corners liable to cause injury under normal conditions of use and all moving parts which constitute accident hazards shall be effectively guarded.
- 1.1.3 Parts which require periodic servicing shall be readily accessible.

**1.2 Material**

- 1.2.1 Materials used in the construction of cabinet, front panel etc. shall comply with the corresponding Indian Standards wherever applicable except where such requirements are modified.
- 1.2.2 The material shall be free from defects which are liable to cause undue deterioration or failure.
- 1.2.3 Under normal conditions of use and maintenance, the materials used shall not shrink, deteriorate, warp or cause mould or odours and shall be resistant to attack of vermin and destructive pests.
- 1.2.4 Sealing and insulating material shall not lose their essential properties such as adhesion, moisture and heat resistance.
- 1.2.5. Internal and external finishes shall be capable of being cleaned effectively without undue deterioration and shall be such as to afford protection against climatic action in all seasons under normal use. All metal parts which are exposed to moisture or ambient conditions shall be corrosion resistant or adequately protected against corrosion.

**2. Refrigerant Circuit**

- 2.1 The refrigerant pipes and fittings shall be of approved quality and shall withstand normal working pressure of air conditioners and should conform to IS 10773:1983 or equivalent national standard/ international standard.
- 2.2 The refrigerant used shall be chemically pure, free from moisture or any other chemical contamination.

**3. Electrical Ratings**

- 3.1 Ratings in watts for split air conditioners shall be based on standard voltage which shall be 230V. single phase, 50 Hz, the units, however, shall be capable of working at any voltage within  $\pm 10$  percent of the standard voltage.

**4. Rating and Test Conditions****4.1 Capacity rating test conditions**

The split air conditioner shall have nameplate rating determined by tests conducted at the standard rating conditions specified below:

Room air temperature:

a) Dry bulb : 27° C

b) Wet bulb	:	19° C
Outside air temperature:		
a) Dry bulb	:	35° C
b) Wet bulb	:	30° C
Test voltage	:	Rated voltage
Test frequency	:	Rated frequency

## NOTES

1. If rated frequency is not available, the capacity measured shall be corrected by a correction factor depending upon frequency actually measured during the testing.
2. Percentage drop in frequency shall be applied as percentage drop in voltage for power consumption.
3. The pipe length between Indoor unit and outdoor unit shall be 3 mtr when laid horizontally.

### 4.2 Maximum Operating Test conditions

The maximum operating tests shall be conducted under the conditions specified below:

Room air temperature:

c) Dry bulb	:	35° C
d) Wet bulb	:	24° C

Outside air temperature:

c) Dry bulb	:	46° C
d) Wet bulb	:	27° C

Test frequency : Rated frequency

Test voltage : 90 percent and 110 percent of nameplate rating

5. Air conditioners shall be capable of performing the functions as cooling, dehumidifying, air Circulating and filtering. The Air conditioners shall be provided with adjustable step less type electronic thermostat.
6. Outdoor unit of the air conditioners shall be fitted with discharge cooled type rotary compressor Operating on Refrigerant non-CFC refrigerant R-410A or R32 with suitably rated variable speed motor. It shall be equipped with overload protection and shall be mounted on resilient mountings for quiet operation. The Rotary compressor shall be of Matsushita / Hitachi / Toshiba / Carrier / Emerson / LG / Tecumseh / Danfoss/GMCC make and shall be covered by manufacturers test certificate and Type Test Certificate according to JIS or ASHRAE.
7. Remote cordless control with LCD / LED Display shall be provided with one On / Off timer, selecting Fans speed (three speed) and setting up of temperature. Display shall be provided on indoor unit or on handset or on both.
8. Air conditioners shall be provided with standard L shape Condenser stand. Also, Hot gas & liquid copper piping, electrical wire and drainage pipe, all 3 mtrs each are to be provided.
9. Type Test Certificate for two samples of each type / model of Air conditions from any NABL / ILAC Accredited laboratory shall be submitted by the firm. The type test results shall include capacity test at standard rating test conditions and maximum operating test as specified in IS: 1391 (Part-2)-1992.



10. Servicing: Free servicing shall be provided for 15 months from the date of supply or 12 months from the date of installation of air conditioner whichever is earlier. Firm is also required to send service engineer at least 3 times during the warranty period.
11. Manufacturer's Guarantee: The manufacturer shall give a guarantee for the soundness of construction and performance of the air conditioner and shall be responsible for putting right any manufacturing defects free of charge for a period of 15 months from the date of supply or 12 months from the date of installation of air conditioner, whichever is earlier.
12. Installation: The installation charges shall include the following work:-
  - i) Mounting / Fitting indoor and outdoor units at the respective locations.
  - ii) Laying refrigerant piping of required length and connecting both the units after drilling hole / holes in the wall, if required.
  - ii) Leak testing of the entire system.
  - iii) Charging Refrigerant gas in the unit.
  - iv) Suitable electric wiring between indoors and outdoors units of required length up to switch at location of indoor unit. Switches / Sockets / Plugs are not included in the scope of supply.
13. Inspection:  
Quality inspection certificate / Routine test certificate of the Inverter Split AC units shall be submitted at the time of supply.

**BHARAT SANCHAR NIGAM LIMITED**  
**LIST OF APPROVED MAKES- BSNL ELECTRICAL WING**

**(AS ON 29.02.2016)**

1. Engine	Ashok Leyland /Cummins/ Cater pillar /KOEL/ Volvo Penta / Mahindra & Mahindra (up to 200 KVA) /Escorts (up to 30 KVA)/ Eicher (up to 35 KVA)
2. Alternator(Brushless)	Crompton Greaves (AL. series) / KEC /Leroy Somer / Stamford/Jyoti Ltd
3. Battery (Lead Acid / Mntc. Free)	Amara Raja / AMCO / Farukawa / Hitachi/ Exide/ Prestolite / Standard
4. HV Switchgear (Vacuum Circuit Breaker/SF6 )	Biecco Lawrie / Crompton / Kirloskar /MEI / Jyoti Ltd
5. Transformer (Oil filled / Dry type)	
a) Above 400 KVA	ABB / Schneider Electric /Andrew Yule /Bharat Bijlee / Crompton / EMCO /Kirloskar / Siemens
b) Up to 400 KVA	In addition to above makes, Uttam/Patson/Rajasthan Transformer and Switchgear
6. Air Circuit Breaker	L&T/ Schneider Electric / Siemens
7. MCCB(Ics=Icu)	L&T/ Schneider Electric / Siemens
8. SDF units	L&T/ Schneider Electric / Siemens/ HPL/ Havells
9. Power Contactors	L&T/ Schneider Electric / Siemens/ Lakshmi(LECS)
10. Change Over Switch	HPL / Havells / H-H Elcon
11. Intelligent APFC Relay	L&T/EPCOS(Siemens)/Schneider Electric / Neptune Ducati/Syntron/ABB
12. Bus Bar Trunking/ Sandwiched Bus Duct	Moeller/L&T/Schneider Electric/ABB/Legrand/Zeta
13. Power Capacitors (MPP/APP)	L&T/EPCOS(Siemens)/ABB/Crompton/ Schneider Electric/Neptune Ducati
14. Digital/ KWHr meter	Schneider Electric/ AE/ Digitron / IMP/Meco/ Rishabh / Universal/HPL/L&T/ABB/Yokins
15. Cold shrink HT/LT Cable Joint	Denson / 3M(M-Seal )/ Raychem
16. Rubber Matting	ISI mark
17. MCB/ Isolator /ELCB/RCCB/ Distribution Board	Crompton / Havells / Indokopp / MDS Legrand/ L&T / Schneider Electric/ Siemens / Standard/ABB/HPL
18. MS/ PVC Conduit	ISI mark
19. Cable Tray	MEM/Bharti/Ratan/Slotco/Profab
20. HT/LT Cables	ISI mark
21. PVC insulated copper conductor wire	ISI mark
22. Centrifugal Pump	Amrut / BE / Beacon / Batliboi /Crompton / Jyoti / Kirloskar / KSB / Mather & platt / WASP/Grundfos
23. Submersible Pump	Crompton/Amrut / BE / Calama /Kirloskar / KSB
24. Motors	ABB/ Bharat Bijlee / Crompton Greaves/Schneider Electric / HBB / KEC/Siemens/Jyoti Ltd
25. Fresh Air Fans	GE / Khaitan/Almonard/Crompton
26. Starter	ABB / BCH / Schneider Electric / L&T / Siemens /
27. Single Phase Preventer	L&T / Minilec / Siemens / Zerotrip
28. GI/MS Pipe	ATC / ATL / BST / GSI / ITC / ITS / IIA / JST / Jindal /TTA

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

**NOTE-**

1. In case of External / PMC works, the list of approved makes may be modified as per client's requirement.
2. The accessories such as CT/PT/measuring instrument/relays provided by approved make in respect of Transformer/HT Panel/DG /AC Package by approved make in respect of Transformer/HT Panel/DG /AC Package Units as supplied by approved manufacturer along with the equipments are also acceptable in addition.
3. Any additional makes may be approved by concerned PCEs/Sr CEs/CEs(Elect) for the work under his jurisdiction as already accorded vide letter no. 3-2-5/EW/VEP-1/2007 dated 05-07-2007.