



# **BHARAT SANCHAR NIGAM LIMITED**

(A Govt. of India Enterprise)

**OFFICE OF THE GENERAL MANAGER TELECOM,  
ITANAGAR, ARUNACHAL PRADESH BA**

**e – Tender for “Providing of equipment earthing, repairing or replacement of aviation light and lightning arrestors in BSNL Arunachal Pradesh BA”**

TENDER ENQUIRY NO: **WG-633/PLG/2023-24/03**

Dated **17/11/2023**

DUE DATE OF OPENING: **11/12/2023**

COST OF BID DOCUMENT: **Rs. 1770/- (incl. of 18% GST)**

VALIDITY OF OFFER: **150 DAYS FROM DATE OF OPENING**

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**SECTION 1 (PART A)**  
**DETAILED NOTICE INVITING E-TENDER (DNIT)**

On behalf of BSNL, the General Manager Telecom, Arunachal Pradesh BA, Sanchar Bhawan, Itanagar-791111 invites e-Tenders from eligible bidders for Electrical works on Equipment Earthing, Lightning Arrestor and Aviation Light in Arunachal Pradesh BA for a period of One year, as per details given below: -

| Name of BA | Zone Name | Locations                                   | Description of Works | Estimated Qty | Estimated Value of work (in Rs) | EMD 2% (in INR) Zone wise |
|------------|-----------|---|----------------------|---------------|---------------------------------|---------------------------|
| ARP BA     | Zone-I    | Tawang, Bomdila & Seppa                     | Equipment Earthing   | 40            | 31,10,425                       | 62,209                    |
|            |           |   | Lightning Arrestor   | 15            |                                 |                           |
|            |           |   | Aviation Light       | 15            |                                 |                           |
| ARP BA     | Zone-II   | Itanagar, Naharlagun & Ziro                 | Equipment Earthing   | 35            | 29,99,925                       | 59999                     |
|            |           |   | Lightning Arrestor   | 20            |                                 |                           |
|            |           |   | Aviation Light       | 15            |                                 |                           |
| ARP BA     | Zone-III  | Basar, Aalo, Pasighat, Daporijo & Yingkiong | Equipment Earthing   | 45            | 37,59,875                       | 75198                     |
|            |           |   | Lightning Arrestor   | 20            |                                 |                           |
|            |           |   | Aviation Light       | 25            |                                 |                           |
| ARP BA     | Zone-IV   | Changlang, Khonsa, Tezu & Roing             | Equipment Earthing   | 45            | 37,59,875                       | 75198                     |
|            |           |   | Lightning Arrestor   | 20            |                                 |                           |
|            |           |   | Aviation Light       | 25            |                                 |                           |

|   |   |                        |
|---|---|------------------------|
| <b>Name of Tender</b>                                     | Providing of equipment earthing, repairing or replacement of aviation light and lightning arrestors in BSNL Arunachal Pradesh BA. |                        |
| <b>Duration of Contract</b>                               | One Year.   |                        |
| <b>Tender Enquiry No. and Date</b>                        | No: WG-633/PLG/2023-24/03 Dtd 17.11.2023  |                        |
| <b>Estimated Cost</b>                                     | Zone wise detail given above.   |                        |
| <b>Cost of Bid Document</b>                               | Rs. 1770/- (incl. of 18% GST) for each zone.  |                        |
| <b>EMD</b>  | Zone wise detail given above.   |                        |
| <b>Bid/Document Downloading/Uploading</b>                 | Start Date: 18.11.2023  | End Date: 09.12.2023   |
|   | Start Time: 1000 Hrs  | End Time: 1100 Hrs     |
| <b>Tender Closing Date and Time</b>                       | Closing Date: 09.12.2023  | Closing Time: 1100 Hrs |
| <b>Date and Time of Opening of Tender (Technical Bid)</b> | Date: 11.12.2023  | Time: 1130 Hrs         |
| <b>Date and Time of Opening of Financial Bid</b>          | To be intimated later.  |                        |
|   | Venue: Conference Hall, O/o the GMTD, BSNL, Itanagar.   |                        |

**Any firm may participate in any zone or all zones; however only two zones may be awarded to a firm. The Evaluation of tender would be done separately for each zone.**

Interested bidders may visit <https://etenders.gov.in/eprocure/app> and participate in the e-tender. The tender document shall be available for downloading from BSNL website <https://ne2.bsnl.co.in/> from date of issue of NIT.

Sd/-  
AGM (Plg)  
O/o the GMTD, BSNL, Itanagar,  
Arunachal Pradesh

**Note:** In case the date of opening of bid is declared to be a holiday, the date of opening of bid will get shifted automatically to next working day at the same scheduled time. Any change in bid opening date due to any other unavoidable reason will be intimated to all the bidders separately.

## 1. ELIGIBILITY CRITERIA:-

A. The Contractors satisfying the following conditions:

**Experience certificate of successfully completed as work involving Earthing works or Lightning Arrestor works or all vendors who are currently working (any other than Earthing work) in BSNL/Telecom Operators//Telecom Infrastructure Provider /State/Central Govt/PSUs are also allowed to participate and also 20% works may be awarded to fresh bidders as per MSME guidelines.**

a) Three completed works costing not less than the amount equal to 40% of the estimated cost/quantity.

**OR**

b) Two completed works costing not less than the amount equal to 50% of the estimated cost/quantity.

**OR**

c) One completed works costing not less than the amount equal to 80% of the estimated cost/quantity.

**in any one year or in last seven financial year i.e. (2016-17, 2017-18, 2018-19, 2019-20, 2020-21, 2021-22, 2022-23).**

## B. Statutory obligations:-

(i) EPF, ESI, GSTIN registration & other miscellaneous provisions:-

The agency has to comply with the provisions of EPF & ESI and miscellaneous provisions Act-1952 and employees provident fund scheme- 1952 as amended up to date in respect of labourers / employees engaged by them for this work. Any consequence arising due to non-complying of provisions as specified above shall be the sole responsibility of the firm only. The agency shall give an undertaking to this effect as per the prescribed Proforma under Section 6 (Undertaking & Declarations) of this document.

Note: The work completion certificate issuing authority in respect of above shall not be below the rank of Executive Engineer (E) / Manager.

**2. Accessibility of Tender Document:** Tender document consisting of detailed plans, complete specifications, the schedule of quantities and the set of conditions of contract to be complied with can be accessed / obtained for viewing by downloading it from the website [www.etenders.gov.in](http://www.etenders.gov.in) and web site of central procurement portal. The official copy of tender document for participating in E-tender shall be available for downloading from [www.etenders.gov.in](http://www.etenders.gov.in). The Notification for said tender is also available on <https://ne2.bsnl.co.in>

2.1 As tenders are invited through e-Tendering process, physical copy of the tender document would not be available for sale.

2.2 The bidding process will be accepted only through e-Tendering platform.

2.3 Once the bidder has submitted his bid through e-Tender, it will be presumed that bidder has understood & accepted all the terms and condition of the tender and no correspondence at later stage will be entertained in this matter.

**2.4 Contractor can upload documents in JPG or PDF format or any other format as permitted by e-tendering portal. The e- tender has to be downloaded and uploaded to e- portal with bidder's digital signature. The submission of documents is deemed as undertaking by bidder that all the documents are true and genuine. If it is found at any time during bidding, execution of work or after completion of work that the information/documents submitted by the bidder are in variance of original/forged/bogus, they shall be legally held responsible for the same. Their offer shall be summarily rejected or termination of contract if awarded, forfeiting of the performance guarantees, security deposit, if any. Further the bidder/contractor shall be blacklisted/ debarred for further works in BSNL Arunachal Pradesh BA, Itanagar for a period of Three years.**

2.5 Tenderer must submit following documents online in the Electronic Envelope on e-tender portal on or before the due date & time of submission of tender specified on covering letter to this tender document, in a Electronic Envelope and also upload the scanned copies of these documents with the tender form.

i) Documentary proof of satisfying the eligibility conditions as per "1" above.

ii) Valid Trading License or Certificate of Incorporation or Notarised proprietorship Affidavit.

iii) Copy of PAN card.

iv) Copy of valid Goods & service tax (GST) registration/ proof of application for GSTN registration with temporary allotted number should be submitted

v) Copy of CA certificate on original letter head of C.A for turnover.

vi) Copy of EPF, Valid ESI Registration.

vii) Earnest Money Deposit amount as per table at Page no. 3 in the prescribed format must accompany each tender.

- It should be in the form of demand draft / Banker Cheque/Pay Order/Cash Deposit /FDR / BG(As per format at Annexure)/ of a nationalized / scheduled bank guaranteed by the Reserve Bank of India, drawn in favour of **Account Officer (Cash) O/o the GM BSNL Arunachal Pradesh BA, Itanagar**. The Validity period of EMD is **150+30 =180 days**, from the date of opening of tender.
- viii) Cost of Bid Document - Demand draft / Banker Cheque/Pay Order/Cash Deposit amounting to Rs. 590/- (inclusive of GST) drawn in favour of **Account Officer (Cash), O/o GM BSNL Arunachal Pradesh BA, Itanagar**
- ix) Certificate for “Near relative not working in BSNL” as per format available in NIT.  
(All documents shall be self-attested) (Each Partner/Director of Company will submit information).
- x) Scan copy of duly filled “TENDER SUBMISSION FORMAT (FOR E-TENDER)\_& CHECK LIST FOR THE TENDERER” on Page No 14 and various “Declaration by Contractor” on Page No 37-38
- 2.6 The bidder shall have to download the full tender Documents and again shall upload the Documents with Digital Signature before the prescribed date and time of submission.
- 2.7 Online bid documents submitted by intending bidders shall be opened only of those bidders, whose Earnest Money Deposit, Cost of Bid Document and other documents placed in the envelope are found in order. Tender not accompanied by documents as 2.5 & 2.6 above shall be summarily rejected and will remain archived/unopened.
- 2.8 In case the date of submission (opening) of bid is declared to be a holiday, the date of submission (opening) of bid will get shifted automatically to next working day at the same scheduled time. Any change in bid opening date due to any other unavoidable reason will be intimated to all the bidders separately.
- 2.9 After submission of online bid, the contractor can resubmit revised bid any number of times but before last time and date of submission of bid as notified. While submitting the revised bid, contractor can revise the rate of one or more item(s) any number of times (he need not re-enter rates of all the items).
- 2.10 Contractor must ensure to quote rate of each item. If any cell is left blank and no rate is quoted by the bidder, rate of such item shall be treated as “0” (Zero).
- 2.11 The tender submitted shall become invalid and tender cost shall not be refunded if:
- (i) The tenderer is found ineligible or wrong tender document is uploaded.
- (ii) The tenderer does not upload all the documents as per 2.5 & 2.6 above.
- (iii) Any discrepancy is noticed in the documents as uploaded at the time of submission of bid.
- 2.12 For e-Tendering of this tender BSNL has engaged e-portal maintained by **Central Public Procurement Portal (CPPP)**. For details kindly visit website **the Central Public Procurement Portal (CPPP)** <https://eprocure.gov.in>
- 2.13 The intending bidders must have **Class-III digital signature** to submit the bid.
- 2.14 On opening date, the contractor can login and see the bid opening process. After opening of tender he will receive the competitor bid sheet.
- 2.15 It is essential to upload all mandatory documents. If some document is not applicable the status shall be printed on paper and same shall be uploaded. Uploading of any blank, irrelevant documents in connection to mandatory documents may lead to rejection of offer.
- 2.16 Deviation, if any, in Technical & Commercial Bid of DNIT will be given by the firm on its letter head duly signed & same shall be uploaded. In the absence of such letter it will be assumed that there are no deviations.
3. Before e- tendering, the contractor shall inspect the site and fully acquaint himself about the condition with regard to accessibility of site and site nature and the extent of grounds, working condition, including stocking of materials, installation of T&P etc., and conditions affecting accommodation and movement of labour etc., required for the satisfactory execution of the contract. No claim whatsoever on such account shall be entertained by the BSNL in any circumstances.
4. Agreement shall be drawn with the successful Tenderer on prescribed Form No. Bid Form, which is available in Office. Tenderer shall quote his rates as per various terms and conditions of the said form.
5. The time allowed for carrying out the work will be as mentioned above in the table at the beginning of NIT.
6. In case the eligibility credentials are not found in order at any stage i.e. before award of work or during execution of the work or after completion of the work, the contractor will be debarred from tendering in BSNL including any other action under the contract or existing law.

## 7. Performance Guarantee & Security Deposit

- a) Performance Guarantee (PG): - 5% of the tendered value of the work which shall be valid for [12+6] = 18 months from the date of acceptance of Rate Contract The Performance Guarantee shall be refunded 06 months after completion of Rate Contract.
  - b) Security deposit: A sum @ 10% of the gross amount of the bill shall be deducted from each bill of the contractor till the sum will amount to security deposit of 5% of the Tendered value of the individual work. Security Deposit shall be released after expiry of defect liability period i.e. 06 months from the date of actual completion of individual work.
8. The acceptance of a tender will rest with the **GM Arunachal Pradesh BA**, who does not bind himself to accept the lowest tender or any other tender and reserves to himself the Authority to reject lowest or all the tenders received without assigning any reason. All tenders in whom any of the prescribed conditions are not fulfilled or incomplete in any respect are liable to be rejected.
  9. 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.
  10. A separate bid form along with bid price should be filled up for each zone separately if a bidder wishes to participate for more than one zone and each zone shall be treated as a separate tender.
  11. Financial Opening methodology:-
    - i) Financial bids for all the technically qualified will be opened.
    - ii) Maximum of two zones will be awarded to a single firm. In case, a firm is becoming L1 in more than 2 zones, the two zones with lowest quoted rate will be awarded. The remaining zones will be awarded to L2 bidder at L1 rate.
    - iii) In case, a single firm is becoming L1 in more than two zone with same lowest quoted rate, the two zones with highest estimated amount will be awarded.
    - iv) In case, only a single firm is qualified in more than two zones, it is discretion of GM Arunachal Pradesh BA to award the work for more than two zones also.
    - v) e-Reverse auction may be adopted if necessary.
  12.
    - i) The tenderer should give a certificate that none of his/her relative is employed in BSNL units. In case of proprietorship firm, certificate will be given by the proprietor and for partnership firm certificate will be given by all the Directors of the company.
    - ii) Near relatives of all BSNL employees either directly recruited or on deputation are prohibited from participation in tenders and execution of works in the different units of BSNL. The near relatives for this purpose are defined as:
      - a) Members of a Hindu Undivided family.
      - b) They are husband 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).
    - 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 BSNL/unit is defined as BA/Circle/Chief General Manager/ General Manager/Deputy General Manager/ Assistant General Manager/ Sub Divisional Engineer/Sub Divisional Officer/ Junior Telecom Officer/ Chief Accounts Officer/ Accounts Officer/ Junior Accounts Officer/ Including other officers in the BSNL (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, partnership firms and limited company certificate shall be given by the authorized signatory of the firm. Any breach of these conditions by the company or firm or any other person, the tender/work will be cancelled and earnest money/performance guarantee will be forfeited at any stage whenever it is so noticed. BSNL will not pay any damages to the company or firm or the concerned person. The company or firm or the person will also be debarred for further participation in the concerned unit. **The format of the certificate to be given is**

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

(Seal of the firm)

(Signature of Contractor)

13. No employee in BSNL/ Govt. of India is allowed to work as a contractor for a period of two years of his retirement from service without the prior permission. The contract is liable to be cancelled if either the contractor or any of his employees is found at any time to be such a person who had not obtained the permission as aforesaid before submission of tender and engagement in the contractor's service.
14. The tender for the works shall only be witnessed by the contractor who himself/themselves has/ have tendered or who may and has/have tender for the same work. Failure to observe this condition would render tenders of the contractors tendering as witnessing the tender is/are liable for summarily rejection.
15. The tenders for the work shall remain open for acceptance for a period of **150 days** from the date of opening of the 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 be suspend for one year and shall not be eligible to bid for BSNL tenders from date of issue of suspension order.
16. **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 tenderer to extend the validity of their respective tenders by a reasonable period. While BSNL can make the request for extension, the tenderer is free to either extend the validity or refuse the request to extend the validity.
17. The contractor should read the tender documents carefully before submitting the tender.
18. This Notice Inviting Tender shall form part of the Contract document. The successful tenderer/contractor on acceptance of his tender by the Accepting authority, shall, within 15 days from the stipulated date of start of the work, sign the contract consisting of:-
  - a) The Notice Inviting Tender, all the documents including additional conditions, specifications and drawings, if any, forming the tender as issued at the time of invitation of tender and acceptance thereof together with any correspondence leading thereto.
  - b) Standard BSNL Bid Document form.
19. Conditional tenders or tenders with conditional rebate shall be summarily rejected.
20. BSNL shall deduct work contract tax, income tax and other statutory deductions, as applicable 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.
21. **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.
22. **Indulging of contractor in criminal /antisocial activities and cases under Investigation /charge sheeted by CBI or any other government agencies etc.**  
If the CBI or any Independent External Monitor (IEM) such as Income Tax/ Goods & Service Tax/ Central Excise/ Custom Department recommends a course of action; action will be taken as per the directions of CBI or concerned department.
23. **EPF Provisions**  
The agency has to comply with the provision of EPF Act-1952 and employee Provident Fund Scheme- 1952 as amended up to date in respect of labours/employees engaged by them for this work. Any Consequences arising due to non-complying of provisions as specified above shall be the sole responsibility of the firm only.
24. **Bye laws Indemnity against liabilities:-**  
The contractor shall comply with all by laws and regulations of the local and statutory authorities having jurisdiction over the works and shall be responsible for payment of all fees and other charges and giving and receiving all necessary notices and keep the Engineer –in-charge informed about the notices issued and received. The contractor shall indemnify the department against all claims in respect of patent rights design, trademark or name of other protected rights in respect of any plant, machine, work or materials used for or in connection with the works or temporary works and from and against all claims demands, proceedings, costs, charges and expenses whatsoever in respect of or in relation thereto. The contractor shall defend all actions arising from such claims and

shall himself pay all royalties, License fees, damages , costs and charges of all and every sort that may be legally incurred in respect hereof shall be borne by the contractor. • All liabilities / penal recoveries on matters arising out of tax/excise /levies such as incorrect deductions discrepancies in the filing of returns, revised assessments by the concerned authorities etc., shall be borne by the contractor.

## **25. CONCESSIONS TO MSE UNITS**

- 23.1 The guidelines, issued by Ministry of Micro, Small & Medium Enterprise (MSME), Government of India regarding concessions for Micro & Small Enterprise Units registered with District Industries Centers or Khadi & Village Industries Commission or Khadi & Village Industries Board or Coir Board or National Small Industries Corporation(NSIC) or Directorate of Handicrafts & Handloom or any other body specified by Ministry of Micro, Small & Medium Enterprise, have been considered by the BSNL (Corporate Office) and it has been decided that these units shall be allowed the following concessions.
- 23.2 Supply of Tender Documents: The tender documents shall be issued to MSE bidders free of cost provided the tendered item is listed in the Registration Certificate of MSE
- 23.3 Exemption from payment of Bid Security deposit /Earnest Money Deposit The MSE units registered with bodies as detailed in para 23.1 above shall be given exemption from payment of Bid Security deposit provided the tendered item is listed in the Registration Certificate of MSE.
- a) A proof regarding current registration with bodies as detailed in para 23.1 above for the tendered items will have to be attached along with the bid.
  - b) The enlistment certificate issued by bodies as detailed in para 23.1 should be current & valid on the date of opening of bid.

**AGM (Planning)**  
**For & on Behalf of BSNL**



## SECTION -2

### E-TENDERING INSTRUCTIONS TO TENDERER

#### General

#### Submission of Tender through online process is mandatory for this e-Tender.

E-Tendering is a new methodology for conducting Public Procurement in a transparent and secured manner. For conducting electronic tendering, BSNL Arunachal Pradesh BA has decided to use the portal <https://www.etenders.gov.in> through Central Public Procurement Portal, **NIC, Government of India**.

#### 1. Tender Bidding Methodology:

Electronically Sealed Bid System –“Single Stage - Two Envelopes Electronic system”

In case of two electronically sealed envelopes system Financial & Techno-commercial tender shall be submitted by the bidder at the same time.

E-Reverse Auction enabled – YES.

#### 2. Broad outline of activities from Bidders prospective:

- I. Procure a Digital Signing Certificate (DSC)
- II. Register on Central Public Procurement Portal (CPPP)
- III. Create Users and assign roles on CPPP
- IV. View Notice Inviting Tender (NIT) on CPPP
- V. Download Official Copy of Tender Documents from CPPP
- VI. Bid-Submission on CPPP: Prepare & arrange all document/paper for submission of bid online and offline.
- VII. Please take care to scan documents that total size of documents, to be uploaded remains minimum. If required, documents may be scanned at lower resolutions say at 150 dpi. However it shall be sole responsibility of bidder that the uploaded documents remain legible.
- VIII. Utmost care may be taken to name the file/documents to be uploaded on CPPP. There should be no special character or space in the name of file. Only underscores are allowed. The illustrative examples are given below:

| File name         | Allowed or not allowed in CPPP | Reason for allowed /Not allowed                 |
|-------------------|--------------------------------|---|
| QA Certificate    | not allowed                    | Space in between words / characters not allowed |
| QA Certificate(1) | not allowed                    | Special characters not allowed                  |
| QA Certificate    | Allowed                        | Under score allowed between words /characters   |
| QA Certificate    | Allowed                        | Upper & lower cases allowed                     |

- IX. It is advised that all the documents to be submitted (See clause 5 of this Section) are kept scanned or converted to PDF format in a separate folder on your computer before starting online submission. Price schedule (BOQ) as per Section-8 (Excel Format) may be downloaded and rates may be filled appropriately. This file may also be saved in a secret folder on your computer. The names & total size of documents (Preferably below 50 MB) may be checked. For participating in this tender online, the following instructions are to be read carefully. These instructions are supplemented with more detailed guidelines on the relevant screens of the CPPP.

#### 3. Digital Certificates

For integrity of data and its authenticity/ non-repudiation of electronic records, and be compliant with IT Act 2000, it is necessary for each user to have a Digital Certificate (DC). also referred to as Digital Signature Certificate (DSC), of **Class III or above**, issued by a Certifying Authority (CA) licensed by Controller of Certifying Authorities (CCA) [refer <http://www.cca.gov.in>].

#### 4. Registration

To use the Central Public Procurement Portal (<https://www.etenders.gov.in>), vendor needs to register on the portal (if not registered earlier). The vendor should visit the home-page of the (<https://www.etenders.gov.in>) CPPP portal and go to online Bidder Enrolment or select Bidders Manual Kit.

Note: Please contact NIC Helpdesk (as given below), to get your registration accepted/activated

|              |
|--------------|
| NIC Helpdesk |
|--------------|

|                       |  |
|-----------------------|--|
| Telephone             | 0120-6277787,4001002,4001005   |
| E-mail ID             | Technical - support-eproc(at)nic(dot)in<br>Policy Related – cPPP-doe(at)nic(dot)in |
| BSNL Contact-1 :      |  |
| BSNL's Contact Person | Sh. Harish Narayan Bagade, AGM (Plg)   |
| Telephone             | 9422910533 (M)<br>[between 10:00 hrs to 17:30 hrs on working days]                 |
| E-mail ID             | agmplgarp@gmail.com  |
| BSNL Contact-2 :      |  |
| BSNL's Contact Person | Sh. Jahan Rafique Ahmed, SDE(Plg)  |
| Telephone/FAX         | 9435599060 (M)<br>[between 10:00 hrs to 17:30 hrs on working days]                 |
| E-mail ID             | agmplgarp@gmail.com  |

## 5. Method for submission of bid documents

The entire bid-submission would be online on E-TENDER. Broad outline of submissions are as follows:

1. Submission of scanned copy of Bid Cost/ Earnest Money Deposit (EMD)/ Eligibility Documents as prescribed etc.
2. Submission of digitally signed copy of Financial Bid/ Full Tender Documents.

All documents submitted online must be digitally signed by the bidder

NOTE: Bidder must ensure that after following above the status of bid submission must become – “Complete”.

### 5.1 Offline Submission (for those bidders who do not opt to submit Tender cost & EMD through RTGS/NEFT):

5.2 The bidder is requested to submit the following documents offline to **The AGM(Planning), BSNL Arunachal Pradesh BA** on or before the due date & time of submission of tender specified on covering letter of this tender document.

- I. Cost of Bid Document - Demand draft amounting Rs. 590/- (inclusive of GST) drawn in favour of **Account Officer (Cash) O/o GM BSNL Arunachal Pradesh.**
- II. Earnest Money Deposit amount as per table at page no.3 in the prescribed format must accompany each tender. It should be in the form of demand draft / FDR / BG/ (As per format at Annexure) / CDR of a nationalized / scheduled bank guaranteed by the Reserve Bank of India, drawn in favour of **Account Officer (Cash) O/o GM BSNL Arunachal Pradesh.** The Validity period of EMD is 150+30 =**180 days**, from the date of opening of tender.

NOTE: The Bidder has to upload the Scanned copy of above said original documents during Online Bid-Submission.

### 5.2 Online submission:

#### i. ELECTRONIC ENVELOPE-I

|   |  |
|---|--|
| 1 | Tender Document duly digitally signed by the authorized signatory.         |
| 2 | Scanned copies of Earnest Money Deposit (EMD) and Cost of tender document. |
| 3 | All documents as per 2.5 & 2.6 on Page No: 4                               |

#### ii. ELECTRONIC ENVELOPE-II

|   |
|---|
| Price Schedule(BOQ) as per Schedule of Work (Financial Bid) |
|---|

Note:

- I. It is strictly instructed that documents should be uploaded in order as detailed above.
- II. No document should be uploaded twice.

## 6. Price schedule / BOQ/Schedule of Work-

Utmost care may kindly be taken to upload price schedule / BOQ/ Schedule of work. Any change in the format of price Schedule / BOQ /Schedule of work file shall render it unfit for bidding. Following steps may be followed

- i. Down load price schedule / BOQ/ Schedule of work part.
- ii. Fill rates in downloaded price schedule / BOQ/ Schedule of work.
- iii. Save filled copy of downloaded price schedule/BOQ/ Schedule of work file in your computer and remember Its Name & location for uploading correct file (duly filled in) when required.
- iv. Download price schedule / BOQ/ Schedule of work in Excel/pdf format. Fill up required information and save

- in your computer for uploading it while submitting the bid.
- v. Basic rate per unit of work to be quoted only without GST.
  - vi. Evaluation will be done on the grand total composite rate.

## 7. Other Instructions

For further instructions, the vendor should visit the home-page of the portal ([www.etenders.gov.in](http://www.etenders.gov.in)), and go to the Bidders Manual Kit. The compatible support software (PDF Converter, Java, etc.) for online bid submission may be downloaded from CPP Portal. The help information provided through ‘CPPP User-Guidance Center’ is available in three categories –Users intending to Register / First-Time Users, Logged-in users of Buyer organizations, and Logged-in users of Supplier organizations. Various links are provided under each of the three categories.

E-TENDER offers a unique facility for “Public Online Tender Opening Event (TOE)”. Tender Opening Officers as well as authorized representatives of bidders can attend the Public Online Tender Opening Event (TOE) from the comfort of their offices. For this purpose, representatives of bidders (i.e. Supplier organization) duly authorized are requested to carry a Laptop and Wireless Connectivity to Internet.

For further instructions, the vendor should visit the home-page of the portal ([www.eprocure.gov.in](http://www.eprocure.gov.in)), and go to the Bidders Manual Kit. The compatible support software (PDF Converter, Java, etc) for online bid submission may be downloaded from CPP Portal.

The help information provided through ‘CPPP User-Guidance Center’ is available in three categories – Users intending to Register / First-Time Users, Logged-in users of Buyer organizations, and Logged-in users of Bidder organizations. Various links are provided under each of the three categories.

**Important Note:** It is strongly recommended that all authorized users of Supplier organizations should thoroughly peruse the information provided under the relevant links, and take appropriate action. This will minimize problems during the use of CPPP. The following ‘FOUR KEY INSTRUCTIONS for BIDDERS’ must be assiduously adhered to:

- i) Obtain individual Digital Signing Certificate (DSC or DC) well in advance of your first tender.
- ii) Submission deadline on CPPP.
- iii) Register your organization on CPPP well in advance of your first tender submission deadline on CPPP.
- iv) Get your organization’s concerned executives trained on CPPP using online training module well in advance of your tender submission deadline on CPPP.
- v) Submit your bids well in advance of tender submission deadline on CPPP (BSNL should not be responsible any problem arising out of internet connectivity issues).

## 8. Minimum Requirements at Bidders end

- Computer System with good configuration (with at least 2 GB RAM).
- 2 Mbps Broadband connectivity.
- Internet Explorer 9.0 or above.
- Java Run Time Engine (JRE –1.8.0) or higher
- Digital Certificate(s) for users.

## TENDER SUBMISSION FORMAT (FOR E-TENDER)

**IMPORTANT NOTE:** before submitting the tender document on line, contractor must verify the check list properly.

To,  
The AGM (Planning), BSNL  
Arunachal Pradesh BA,  
Itanagar

**Important Note:** Before submitting on line tender document, contractor must verify the check list properly for submission of required documents & uploading of their scanned copies as per 2.5 & 2.6 on Page. 4.

**Subject:** Submission of e-Tender for the work of “As per table at page no.3”

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

### ENVELOPE – I

| S.No. | DOCUMENTS   | DETAILS                      |
|-------|---|------------------------------|
| 1     | <b>Tender due on</b>  |                              |
| 2     | <b>Tender Cost.</b>   |                              |
| a.    | Demand Draft No   |                              |
| b.    | Date  |                              |
| c.    | Amount Rs.  |                              |
| d.    | Name of Bank and Branch   |                              |
| e.    | In favour of  | <b>Account Officer .....</b> |
| 3.    | <b>Earnest Money Deposit</b>                                      |                              |
| a.    | DD/FDR/CDR/BG No.   |                              |
| b.    | Date  |                              |
| c.    | Amount Rs.  |                              |
| d.    | Name of Bank and Branch   |                              |
| e.    | In favour of  | <b>Account Officer .....</b> |
| 4.    | <b>Details of firm / Company</b>                                  |                              |
| a.    | Name of firm / Company)   |                              |
| b.    | Name of Proprietor / Partner / Managing Director                  |                              |
| c.    | Address   |                              |
| d.    | Pin Code  |                              |
| e.    | Telephone   |                              |
| f.    | E- mail address (MANDATORY)                                       |                              |
| g.    | Address of Branch / Head Office Name                              |                              |
| 5.    | <b>Income Tax returns / Chartered Accountant Certificate Date</b> |                              |
| 6.    | <b>Goods &amp; Service tax (GST) Registration No. &amp; Date</b>  |                              |
| 7.    | <b>EPF Registration NO.</b>                                       |                              |
| 8.    | <b>ESI Registration NO.</b>                                       |                              |
| 9.    | <b>Bank details of agency for RTGS/online payment</b>             |                              |
| A     | Bank Account No:-   |                              |
| B     | Bank Name & Branch:-  |                              |
| C     | IFSC code:-   |                              |

|  |  |  |
|--|--|--|
|  |  |  |
|--|--|--|

**10. Lists of 3 works carried out satisfactorily (Certified Officer not below the rank of Executive Engineer/General Manager).**

(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. |
|-------|--------------|---------------|--------------------|---------------------|-------------------------------------|
| 1.    |              |               |                    |                     |                                     |
| 2.    |              |               |                    |                     |                                     |
| 3.    |              |               |                    |                     |                                     |

**10. Annual Turnover (To be issued by Chartered Accountant on his letter head indicating following)**

| Sl. No | Year | Annual turn over |
|--------|------|------------------|
| 1      |      | Rs               |
| 2      |      | Rs               |
| 3      |      | Rs               |

Note: - The bidder may upload certificate from C.A mentioning financial turnover. There is no need to upload entire voluminous balance sheet. If required the same may be provided at the time of offline opening of documents.

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

## CHECK LIST FOR THE TENDERER

**IMPORTANT NOTE:** Before on line submitting the tender document, contractor must verify the check list properly.

| S.No                                 | Check  | Yes / No   |  |
|--------------------------------------|--|--|--|
| OFFLINE DOCUMENT SUBMISSION ENVELOPE | 1  | Whether the demand draft / Banker Cheque/Pay Order/Cash Deposit for amount as per table on Page no.3 drawn in favor of <b>Account Officer (Cash), O/o GM BSNL Arunachal Pradesh BA</b> towards the tender cost is placed in the envelope for documents for offline submission.   |  |
|                                      | 2  | Whether EMD amount as per table on Page no.3 in the form of Demand draft/ Banker Cheque/Pay Order/Cash Deposit /FDR/Bank guarantee of a nationalized bank or Scheduled bank guaranteed by the RBI, drawn in favor of <b>Account Officer (Cash) O/o GM BSNL Arunachal Pradesh BA</b> is placed in the Envelope for documents for offline submission. OR Electronic receipt of EMD in the form of RTGS/NEFT, in favor of <b>Account Officer (Cash) O/o GM BSNL Arunachal Pradesh BA</b> is placed in the Electronic Envelope and e-mailed to the concern |  |
|                                      | 3  | Whether attested copies of valid chartered accountant certificate for the works execution turnover of not less than 30% of the estimated cost put to tender for each FY in last three FY is placed in the envelope.  |  |
|                                      | 4  | Whether the Tenderer has got the requisite “Digital Signing Certificate” (DSC) and has got itself registered with the Central Public Procurement Portal (CPPP) <a href="https://eprocure.gov.in">https://eprocure.gov.in</a> to e-submit the tender  |  |
|                                      | 5  | Whether attested copies of documents required as per NIT document is placed in the envelope to be submitted offline.   |  |
|                                      | (i)  | PAN Card   |  |
|                                      | (ii)   | Valid Goods & service tax (GST) registration   |  |
|                                      | (iii)  | CA certificate for Turn over   |  |
|                                      | (iv)   | EPF , ESI registration   |  |
|                                      | 6  | Whether Power of attorney in favour of the signatory signing the tender and documents is placed in the first E-envelope.(Not applicable, in case of the tenders signed by the proprietor himself)  |  |
|                                      | 7  | Whether the tenderer has uploaded soft copy of tender document under his /her digital signature  |  |
|                                      | 8  | Whether the tenderer has filled up his address and phone number in the relevant page of the tender document.   |  |
| 9                                    | Valid Trading License or Certificate of Incorporation or Notarize Proprietorship deed. |  |  |

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.

(Signature of the contractor)  
Seal of the firm

**Section-3****Tender Bid Form****BHARAT SANCHAR NIGAM LIMITED****CIRCLE – NE-II, TELECOM CIRCLE****DIVISION- ARP BA****Item Rate Tender & Contract for Works**

(A) Tender for the work of:-

.....

**TENDER**

1. I/we have read and examined the notice inviting tender, schedules A, B, C, D, E & F., specifications applicable, Drawings & Designs, General Rules and Directions, Conditions of Contract, clauses of contract, special conditions, Schedule of Rates and other documents and Rules referred to in the conditions of contract and all other contents in the tender document for the work.
2. I/We hereby tender for the execution of the work specified for BSNL within the time specified, schedule of quantities and in accordance in all respects with the specifications, designs, drawings and instructions and other documents and Rules referred to in the conditions of contract and all other contents in the tender document for the work.
3. I/We agree to keep the tender open for 150 days from the due date of submission thereof and not to make any modifications in its terms and conditions.
4. EMD of requisite amount is enclosed. If I/We, fail to commence the work specified I/We agree that the said BSNL shall without Prejudice to any other right or remedy, be at liberty to forfeit the EMD absolutely and the same may at the option of the competent authority on behalf of BSNL be recovered without prejudice to any other right or remedy available in law out of the Deposit in so far as the same may extend in terms of the said bond and in the event of Deficiency out of any other money due to me/us under this contract or otherwise.
5. Should this tender be accepted, I/We agree to execute all the works referred to in the tender documents upon the terms and conditions contained or referred to therein and to carry out such deviations as may be ordered up to maximum of percentage mentioned in clause 12.3 of the tender form and those in excess of that limit at rates to be determined in accordance with provisions contained in clause 12.2.
6. I/we agree to furnish to BSNL Deposit at call receipt/FDR/Bank guarantee of a Nationalized/ Scheduled Bank for an amount equal to 5% of the contract value in a standard format within two weeks from the date of issue of award letter. I/We agree to keep the performance bank guarantee valid for one year from the date of actual completion of work.
7. I/We hereby declare that I/We shall treat the tender documents drawings and other records connected with the work as secret/confidential documents and shall not communicate information/derived there from to any person other than to whom I/We am/are authorized to communicate the same or use the information in any manner prejudicial to the safety or interest of BSNL.
8. I/We agree that should I/we fail to commence the work specified in the above memorandum, an amount equal to the amount of the Performance Guarantee money mentioned in the form of invitation of tender shall be absolutely forfeited to the B.S.N.L. and the same may at the option of the competent authority on behalf of the B.S.N.L. be recovered without prejudice to any other right or remedy available in law out of the deposit in so far as the same may extend in terms of the said bond and in the event of deficiency out of any other money due to me/us under this contract or otherwise.

**Signature of Witness**

(Required in the case of contractor's thumb impression is given by the contractor in place of signature)

(Signature of contractor)

(Name &amp; Postal address)

Date:

Occupation of Witness

Seal of Contractor

**ACCEPTANCE**

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

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

a)

b)

Executive Engineer (E)  
For & on behalf of the B.S.N.L.

## **SECTION -4 (Part A)** **TECHNICAL SPECIFICATION**

### **1. Test check by EE(E) and SDE(E) (As applicable)**

1. Equipment should be tested in factory with respect to all relevant I.S Standards.  
Factory inspection:  
Inspection/Testing of the equipment will be carried out by the Engineer-in- Charge or his representative before dispatch in factory. Material should not be dispatched before inspection.
2. Site testing:-  
Each transformer shall be tested for following tests at site as per IS 9815 (Part I): 1994 amended up-to-date, in presence of engineer-in-charge. All the T&P required for carrying out such tests including artificial heater load, meggar, Voltage tester etc. for the said purpose have to be arranged by the firm without any extra claim.
  - a. Physical examination.
  - b. Insulation resistance test transformer, HT cables between HT to earth and HV to MV with 5000 volts meggar.
  - c. Insulation test of LT panel, isolation transformer & LT cable between MV to earth with 500 volts meggar.
  - d. Functional test of all switchgears, circuit breakers and protection relays.
  - e. Ratio test of transformer.
  - f. Earth continuity test.
  - g. Dielectric strength test of transformer oil before commissioning.

### **TECHNICAL SPECIFICATION FOR ELECTRICAL INSTALLATION.**

#### **Wiring system:**

- i) In wiring, no joints in wiring will be permitted anywhere, except in switch box or point outlets, where jointing of wires will be allowed with use of suitable connector.
- ii) The wiring throughout the installation shall be such that there is no break in the neutral wire except in the form of linked switchgear.
- iii) Following colours scheme may be followed for differentiating between the junction on boxes. A note may be inserted in drawing.
  - (ii) Light & fans (off wire) - White
  - (iii) Power wiring/Ckt./Submain wiring - Red/Blue/Yellow
  - (iv) Neutral - Black
  - (v) Earth – Green
- i. Termination of circuit into switchboard: -  
Circuit will consist of phase / neutral / earth wire. Circuit will terminate in a switch board (first tapping point, where from point wiring starts) which will have phase, neutral and earth terminal connector blocks to receive phase / neutral /earth wire.
- ii. Load more than 1 KW shall be controlled by suitably rated MCB and cable size shall be decided as per calculations

#### **Socket Outlets:**

- i) Socket outlets shall be 5A/6A 3 pin, 15/5 A 6 pin or 16 / 6 Amp 6 pin. 2 pin or 5 pin socket outlets shall not be permitted. Where specified, shutter type (interlocking type) of sockets shall be used.
- ii) Socket for the power outlets of rating above 1 KW shall be of industrial type with associated plug top and controlling MCB.
- iii) Every socket outlet shall be controlled by a switch or MCB (connected on the 'live' side), as specified.
- iv) 5A / 6A and 15A / 16A socket outlets shall be installed at the following positions, unless otherwise specified.
  - a) Non-residential buildings – 23 cm above floor level.
  - b) Kitchen – 23 cm above working plate-form and away from the likely positions of stove and sink.
  - c) Bathroom – No socket outlet is permitted for connecting a portable appliance thereto. MCB may be provided above 2 M for fixed appliances, and at least 1 M away from shower.
  - d) Rooms in residences – 23 cm above floor level or as specified by the E-in-C.

#### **Cables:**

- i) Copper conductor cable only is used for sub-main / circuit / point wiring.
- ii) Minimum size of wiring:



|                            |   |                         |
|----------------------------|---|-------------------------|
| Light Wiring               | : | 1.5 sq. mm              |
| Power Wiring               | : | 4.0 sq. mm              |
| Power circuit rated > 1 KW | : | Size as per calculation |

- iii) Insulation – Copper conductor cable shall be PVC insulated, Fire retardant, low smoke (FRLS) type.
- iv) Multi stranded cables are permitted for use in electrical installation.

#### Wiring Accessories:

- i) Control switches for point:
  - a) Control switches (SP switch) carrying not more than 16 A shall be modular type / piano type. The switch shall be ‘ON’ when the knob is down.
  - b) Modular type sockets, stepped type fan regulators and accessories shall be of same make of modular switch manufacturer.
  - c) It is recommended to provide double pole MCB in proper enclosure as power out let for widow type AC units, geysers etc.
- ii) Switch Box covers (for application other than modular type):  
Phenolic laminated sheets of 3 mm thickness shall be used for switch box covers.

#### Attachment of fittings and accessories:

- i. Conduit wiring system:
  - a) All accessories like switches, socket outlets, regulators shall be fixed in flush pattern inside the switch boxes. Accessories like ceiling roses, lamp holders etc. shall be fixed on outlet boxes.
  - b) Aluminium alloy or cadmium plated iron screws shall be used to fix the accessories.
  - c) The switch box shall normally be mounted with their bottom 1.25 M from floor level.

#### Marking of Switch Boards:

- i. Marking of each Main Board:  
Each main board / sub-main board shall be marked indicating rating of each incoming / outgoing switch and details of load / area it feeds. Detail / size of incoming and outgoing cable shall also be marked indicating from where the incoming cable has originated.
- ii. Marking of Distribution Board:  
Each Distribution Board shall be marked indicating detail of incoming switch (size of cable and from where it is fed) and marking of each outgoing MCB indicating the area it feeds. Suitable marking sticker shall be suitably fixed to indicate such details.
- iii. Marking of Power / Light DB:  
Power / Light DB shall be marked “P” and “L” respectively.
- iv. Marking of Main earthing Terminal:  
Main earthing terminals in main / sub-main switchboard shall be permanently marked, as “**Safety Earth – Don’t Remove**”.

### METALLIC CONDUIT WIRING SYSTEM

#### Application:

Recessed conduit is suitable generally for all applications.  
Flexible conduits may only be permitted for interconnections between switchgear, DB.

#### Material:

##### i. Conduits:

- a) All rigid conduit pipes shall be of steel and ISI marked. The wall thickness shall be not less than 1.6 mm (16 SWG) for conduits up to 32 mm dia and not less than 2 mm (14 SWG) for conduits above 32 mm dia.
- b) The maximum number of PVC insulated cables that can be drawn in one conduit (refer Table given below) shall not be exceeded. Conduit sizes shall be selected accordingly in each run.
- c) No steel conduit less than 20mm in diameter shall be used.

#### *Maximum number of PVC insulated 650/1100 V grade Al / Cu Conductor Cable that can be drawn in one conduit*

| Nominal cross sectional area of conductor in sq. mm | 20 mm |   | 25 mm |   | 32 mm |    | 38 mm |   | 51 mm |    | 64 mm |    |
|---|-------|---|-------|---|-------|----|-------|---|-------|----|-------|----|
|   | S     | B | S     | B | S     | B  | S     | B | S     | B  | S     | B  |
| 1   | 2     | 3 | 4     | 5 | 6     | 7  | 8     | 9 | 10    | 11 | 12    | 13 |
| 1.5   | 5     | 4 | 10    | 8 | 18    | 12 | -     | - | -     | -  | -     | -  |
| 2.5   | 5     | 3 | 8     | 6 | 12    | 10 | -     | - | -     | -  | -     | -  |
| 4   | 3     | 2 | 6     | 5 | 10    | 8  | -     | - | -     | -  | -     | -  |
| 6   | 2     | - | 5     | 4 | 8     | 7  | -     | - | -     | -  | -     | -  |
| 10  | 2     | - | 4     | 3 | 6     | 5  | 8     | 6 | -     | -  | -     | -  |

Note:

- 1) The above table shows the maximum capacity of conduits for a simultaneous drawing in of cables.
- 2) The columns headed 'S' apply to runs of conduits which have distance not exceeding 4.25m between draw in boxes and which do not deflect from the straight by an angle of more than 15 degrees. The columns headed 'B' apply to runs of conduit, which deflect from the straight by an angle of more than 15 degrees.
- 3) Conduit sizes are the nominal external diameters.

## ii. Conduit accessories:

- a) All conduit accessories shall be of threaded type, and under no circumstances pin grip type or clamp grip type accessories shall be used.
- b) Bends, couplers etc. shall be solid type in recessed type of works and may be solid or inspection type as required, in surface type of works.
- c) Saddles for surface conduit work on wall shall not be less than 0.55mm (24 gauges) for conduits up to 25mm dia and not less than 0.9mm (20 gauges) for larger diameter. The corresponding widths shall be 19mm and 25mm.

Girder Clips or Clamps

| Size of conduit | Width | Thickness     |
|-----------------|-------|---------------|
| 20mm            | 19mm  | 0.9mm (20SWG) |
| 25mm            | 19mm  | 0.9mm (20SWG) |
| 32mm & above    | 25mm  | 1.2mm (18SWG) |

## iii. Outlets:

- a) The switch box or regulator box shall be made of metal on all sides, except on the front. In the case of cast boxes, the wall thickness shall be at least 3mm and in case of welded mild steel sheet boxes, the wall thickness shall not be less than 1.2 mm (18 gauge) for boxes up to a size of 20cm X 30cm, and above this size 1.6 mm (16 gauge) thick MS boxes shall be used. The metallic boxes shall be duly painted with anticorrosive paint before erection.
- b) Where a large number of control switches and / or fan regulators are required to be installed at one place, these shall be installed in more than one outlet box adjacent to each other for ease of maintenance.
- c) An earth terminal with stud and 2 metal washers and terminal block shall be provided in each MS box for termination of protective conductors and for connection to socket outlet / metallic body of fan regulator etc.
- d) Clear depth of the box shall not be less than 60 mm and this shall be increased suitably to accommodate mounting of fan regulators in flush pattern.
- e) The fan regulators can also be mounted on the switch box covers.
- f) Except where otherwise stated, 3mm thick phenolic laminated sheets shall be fixed on the front with brass screws, or aluminium alloy / cadmium plated iron screws.

## iv. INSTALLATION:

Common aspects for recessed and surface conduit works:

### 1. Conduit joints

- a) The conduit work of each circuit or section shall be completed before the cables are drawn in.
- b) Conduit pipe shall be joined by means of screwed couplers and screwed accessories only. Threads on conduit pipes in all cases shall be between 13 mm to 19 mm long, sufficient to accommodate pipes to full threaded portion of couplers or accessories.
- c) Cut ends of conduit pipes shall have no sharp edges, nor any burrs left to avoid damage to the insulation of the conductors while pulling them through such pipes.

### 2. Bends in conduit

- a) All necessary bends in the system, including diversion, shall be done either by neatly bending by pipes without cracking with a bending radius of not less than 7.5cm, or alternatively, by inserting suitable solid or inspection type normal bends, elbows or similar fittings, or by fixing cast iron inspection boxes, whichever is most suitable.
- b) No length of conduit shall have more than the equivalent of four quarter bends from outlet to outlet.

### 3. Painting after erection

After installation, all accessible surfaces of conduit pipes, fittings, switch and regulator boxes etc. shall be painted.

### Additional requirements for surface conduit work:

- a) Painting before erection.
- b) Fixing conduit on surface: Conduit pipes shall be fixed, by saddles, at an interval of not more than one meter, but on either side of the couplers or bends or similar fittings, saddles shall be fixed at a distance of 30 cm from the center of such fittings.

- c) **Fixing outlet boxes:** Only portion of the switch box shall be sunk in the wall, the other portion being projected out for suitable entry of conduit pipes into the box.

**Additional requirement for recessed conduit work:**

- 1) **Making chase:** In the case of buildings under construction, the conduit shall be buried in the wall before plastering, and shall be finished neatly after erection of conduit.
- 2) **Fixing conduit in chase:** The conduit pipe shall be fixed by means of staples, J-hooks, or by means of saddles, not more than 60cm apart or by any other approved means of fixing.
- 3) **Fish wire:** To facilitate subsequent drawing of wires in the conduit, GI fish wire of 1.6mm/1.2mm (16/18SWG) shall be provided along with the laying of the recessed conduit.

**Earthing requirements**

- a) The entire system of metallic conduit work, including the outlet boxes and other metallic accessories, shall be mechanically and electrically continuous by proper screwed joints, or by double check nuts at terminations. The conduit shall be continuous when passing through walls or floors.
- b) A protective (loop earthing) conductor(s) shall be laid inside the conduit between the metallic switch boxes and distribution switchboards and terminated into proper earth lugs/ terminals. Only PVC insulated copper conductor cable of specified size, green-yellow in color shall be allowed. Such conductor will not run external to the conduits.
- c) Gas or water pipe shall not be used as protective conductor (earth medium).

**EARTHING**

**Electrode material and dimensions:**

- 1) The material and minimum size of earth electrode shall be as per Table –

**Material and sizes of earth electrodes**

| Type of Electrode | Material              | Size   |
|-------------------|-----------------------|--|
| Pipe              | GI medium class       | 40 mm dia<br>3.45 m long (Without any joint)             |
| Plate             | (i) GI<br>(ii) Copper | 60 cm X 60 cm X 6 mm thick<br>60 cm X 60 cm x 3 mm thick |
| Strip             | (i) GI<br>(ii) Copper | 100 sq. mm section<br>40 sq. mm section                  |
| Conductor         | (i) Copper            | 4mm dia (8 SWG)  |

- 2) GI pipe electrode shall be cut tapered at the bottom, and provided with holes of 12 mm dia, drilled not less than 7.5 cm from each other up to 2 M of length from the bottom.
- 3) The length of the buried strip or conductor earth electrode shall not be less than 15 M. 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 E-in-C shall be taken for any such increase in length.
- 4) All hardware items used for connecting the earthing conductor with the electrode shall be of GI in case of GI pipe and GI plate earth electrodes, and forged tinned brass in case of copper plate electrodes.

**I. Earthing Conductor and Sizes:**

- i. The earthing conductor (protective conductor from earth electrode up to the main terminal / earth bus, as the case may be) shall be of the same material as the electrodes, 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:-
  - 4 mm dia. (8 SWG ) Copper wire
  - 25 mm X 3 mm in the case of the GI strip, or,
  - 20 mm X 3 mm in the case of copper strip.
- iii. Earthing conductor larger than the following sectional area need not be used, unless otherwise specified.
  - 150 sq. mm in case of GI or,
  - 100 sq. mm in case of copper.

- II. Earth continuity / Loop earthing conductor & sizes:** The material and size of protective conductors shall be as specified –

| Size of phase conductor         | Size of protective conductor of the same material as phase conductor |
|---------------------------------|--|
| Up to 4 sq. mm                  | 4 sq. mm   |
| Above 4 sq. mm up to 16 sq. mm  | Same size as phase conductor   |
| Above 16 sq. mm up to 35 sq. mm | 16 sq. mm  |
| Above 35 sq. mm                 | Half of the phase conductor  |

### LOCATION FOR EARTH ELECTRODES:

Normally any earth electrode shall not be located closer than 1.5 M from any building. Care shall be taken to see that the excavation for the earth electrode does not affect the foundation of the building; in such cases, electrodes maybe located further away from the building, with the prior approval of the Engineer-in-charge.

The location of the earth electrode will be such that the soil has a reasonable chance of remaining moist as for as possible. Entrances, pavements and roadways, should be avoided for locating earth electrode.

### INSTALLATION

#### I. Electrodes:

##### (A) Various types of electrodes:

- (i) Pipe electrode shall be buried in the ground vertically with its top at not less than 20 cm below the ground level.
- (ii) 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 reduce in 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.
- (iii) Plate electrode shall be buried in ground with its faces vertical, and its top not less than 1.5 m below the ground level.
- (iv) When more than one electrode (plate / pipe) is to be installed, a separation of not less than 2 M shall be maintained between two adjacent electrodes.
  - (a) The strip or conductor electrode shall be buried in trench not less than 0.5 m deep.
  - (b) 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.
  - (c) If the electrode cannot be laid in a straight length, it may be laid in a zigzag 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 1 M or a polygon.

##### (A) Artificial Treatment of soil:

When artificial treatment of the 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. In such cases, excavation for the earth electrode shall be increased as per the dimensions indicated in these figure.

##### (B) Watering Arrangement:

- (a) In case of plate earth electrode, a watering pipe 20 mm dia, Medium class pipe shall be provided and attached to the electrodes . A funnel with mess shall be provided on the top of this pipe for watering the earth.
- (b) In the case of pipe electrodes, a 40 mm X 20 mm reducer shall be used for fixing the funnel with mess.
- (c) The watering funnel attachment shall be housed in a masonry enclosure of size not less than 30 cm X 30 cm.
- (d) A cast iron / MS frame with MS cover, 6 mm thick, and having locking arrangement shall be suitably embedded in the masonry enclosure.

## II. Earthing Conductor ( Main earthing lead):

- (i) In 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 case of pipe earth electrodes, 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 check nuts 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 15 mm dia GI pipe in case of wire, and 40 mm dia, medium class GI pipe in the case of strip. The protection pipe in the ground shall be buried at least 30 cm deep (to be increased to 60 cm in case of road crossing and pavements). The portion within the building shall be recessed in wall 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 earth stud / 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, nuts, washer in the case of strip conductor.
 In the case of sub-station 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.

## III. Loop earthing / earth Continuity Conductor:

- (i) Earth terminal of every switchboard 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 switchboard carrying a 3-phase switchgear thereon.
- (iii) Loop earthing of the individual units will not be however necessary in the case of cubical type switchboard.
- (iv) The earth conductor in every distribution board (DB) shall be securely connected to the earth stud / earth bar of the corresponding switch board by a protective conductor.
- (v) The earth pin of socket outlets as well as metallic body of fan regulators shall be connected to the earth stud in the 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 connected in side the switch box. Twisted earth connections shall not be accepted in any case.

## MARKING

- (i) Earth bus / 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”.

### USE OF RESIDUAL CURRENT DEVICES (RCD)

Provision of RCD (also known as RCCB) shall be specified in individual cases keeping in the view the type, use, importance, system of earthing and nature of electrical installation to be protected by the RCCB, requirement of the local electric supply company, etc. The sensitivity shall be 30 mA, 100 mA, 300 mA, or 500 mA, as specified.

## Number of Earth Electrodes:

- (I) Non-current carrying metal parts of all apparatus utilizing power supply at voltage exceeding 250 Volts shall be earthed by two separate and distinct connections to earth bus, or to two separate and distinct earthing sets.
- (II) The number of earthing electrodes for sub-station and generating sets shall be as under -

|  |        |
|--|--------|
| For neutral earthing of each transformer   | 2 sets |
| For body earthing of all the transformers, HT / LT Panels and other electrical equipments in the Sub-station / Power House | 2 sets |
| For neutral earthing of each generating set  | 2 sets |
| For body earthing of all generating sets, LT Panels and other electrical equipments in the generator room.                 | 2 sets |

**Note:** Where the generator and sub-station equipments are located together in the same building, the body earthing can be common for the electrical equipments in the building.

**(III)** Separate earth electrodes shall be provided for lightning arrester / lightning conductors.

**Size of protective conductor:**

The minimum acceptable size of a protective conductor shall be 2.5 sq. mm, if protected mechanically, and 4 sq. mm if otherwise.

**General Electrical specifications:-**

1. All the work should be carried out as per General specification for Elect. Part-I (Internal) 2005, Part – II (External) 1995 amended upto date and should also comply with relevant provision of the India Electricity Act amended upto date of opening of the tender.
2. The work shall be supervised by a qualified Engineer.
3. The layout of the work will be given by the Engineer-in-charge or the duly authorized representative at the site of work.
4. The following wiring shall be done on separate circuits.
  - (a) Power plug wiring.
  - (b) Light and fan point wiring.
  - (c) Emergency light and fan point wiring.
  - (d) Telephone wiring.
  - (e) Circuit wiring.
  - (f) Sub main wiring.

The number of power plug points shall not exceed two per circuit/in any of the case.
5. The earthing sets shall be provided in the presence of the Engineer-in-charge or his authorized representative.
6. The contractor will have to submit the completion plan along with final bills. If contractor fails to do within one month of completion of work. Then bill be finalized after recovery of 2.5% value of work subject to a ceiling of Rs. 2500/-
8. 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) Earth Test.
  - (b) Insulation Test.
  - (c) Earth continuity Test of the recessed conduit pipes.
9. Any damaged done to the building by the contractor during the execution of work shall have to be made good without any extra cost. If he does not rectify the same within a reasonable time determined by the Executive Engineer (E) then the same will be got done at his risk & cost by departmentally after giving notice to him.
10. The department shall not supply any tools and plant unless otherwise specified.
11. The outlet boxes I.C. boxes for switches and piece of conduits etc. For different categories of conduits runs catering for different type of electric wiring as mentioned in clause (4) above shall be painted inside with different colours each signifying the different categories mentioning so as to avoid mixing of various circuit and their wiring and nothing extra will be paid for this account.
12. At the time of laying conduit pipe in the slab and in recess the contractor will keep fish wire on 14 SWG (G.I.) wire throughout conduit pipe and will have to take special care so that the conduit do not pass through air-conditioning ducts, grills, columns, beams etc. If any such necessity is for seen special written permission of E.E. (E), will be obtained before such work is carried out, In case of failure the contractor will not be paid on this account. Successful tenderer should recess the conduit in the walls before they are plastered and in collaboration with building progress of work. Any damage done to the building will have to be made good without any extra cost by the contractor. The conduit pipes should be mechanically and electrically continuous.
13. The runs of various circuits wiring at various places shall be kept minimum by taking the runs on walls where crossing columns is not necessary. This has to be decided before the casting of slab so that unnecessary lengths of conduits are not laid therein.
14. All the I.C. distribution board, sub main boards and their complete fittings shall be sign written clearly indicating the number of distribution board, the exact load of it is serving and the number of circuits contained in the distribution box.
15. Underground cables both of 11 KV and 1.1 KV grade should be subjected to pressure/ insulation tests before and after laying the same in the ducts and in case of unsatisfactory tests, the cost of all repairs and replacements and all extra work of removal and relaying will have to be made good by the contractor at his own cost and risk.

- 16 Termination of all connections of main Boards/Sub main board sub distribution boards will be done with crimping tool and nothing extra will be payable on this account.
- 17 Interconnection between busbar & switches above 100 AMP sub-main boards will be done with solid Aluminium conductor as per 1 Amp per sq.mm. rating of cross section with PVC sleeving.
- 18 All the cables and wires shall be tagged and labelled for proper identification & connection will be done with thimbles/ferrules at all the termination ends.
- 19 Before tendering, the contractor shall inspect the site and fully acquaint himself about the condition with regard to accessibility of site and site nature and the extend of grounds, working condition, including stocking of materials, installation of T&P ETC and conditions affecting accommodation and movement of labour etc., required for the satisfactory execution of the contract, including physical layout of the building where the utility services are to be installed, no claim whatsoever on such account shall be entertained by the BSNL in any circumstances. The contractor must study the specifications and conditions to tender carefully before tendering. No claim of any sort shall be entertained on account of site condition or ignorance of specifications and conditions. Any damages done to the Bldg. During execution of working shall be the responsibility of the contractors to make good the same immediately at his own cost.
- 20 All the materials to be used on the work shall be ISI marked and if ISI marked is not manufactured the in conformation to IS shall be used. The same shall be got approved by the Engineer-in-charge before actual use. All rejected materials are to be removed from the site of work immediately at contractors own cost.
- 21 The contractor/Engineer-in-charge shall be bound to sign the site order book and to carry out the instructions given therein. The contractors shall comply with requirements of clause 36 of the agreement. The contractor will ensure the presence of his site Engineer at least once a week.
- 22 The work is to be carried out according to the drawings issued by the department and shall be kept in the office. The Engineer-in-charge who reserves the right to change the layout as and when required according to changes of site conditions at any stage. Wiring and conduit routes are to be marked at site first and got approved by the engineer-in-charge at site before commencement of actual work. No extra payment shall be made on this account.
23. The contractor has to make his own arrangement for stores watch and ward arrangement for material brought at site by him and or issued by the department at the site of work to contractor and nothing extra will be paid on this account.
24. The contractor has to accept any portion of work if carried out either departmentally or through other agency before award of this work. However recovery on this account shall be made as per the rates tendered by him or CPWD schedule of rates + abatement of the Sub-head-I.
25. GI/MS junction boxes/conduit junction boxes are to be provided with Aluminium / phenolic laminated sheet cover as approved by the Engineer-in-charge and nothing extra shall be paid on this account.
26. The contractor is to get approval for layout drawing arrangement of the switch boards before fabrication and installation in this work. The earthing of all the metal parts (as per Indian Electricity Rules) has to be made with suitable lugs and no extra payment shall be made on this account.
27. For protection of underground cable, locally manufactured bricks of 2nd class quality shall be accepted, if used.
28. All cable work shall got checked by the Engineer-in-charge before refilling of trench is done. No pit work is to be left open. If due to unavoidable circumstances this is to be left open, the contractor shall make adequate arrangement during that period to avoid any accident.
29. No compensation shall be payable to then contractor for any damage caused by rain, fire, wind, storm or flood or any other reasons as natural calamity during execution of work. The Contractor/Agency should make good of all such damages at his own cost and no claim on this account shall be entertained.
- 30 The contractor shall drain out rain water collected during execution of work from the excavated portion at his own cost. Nothing extra will be payable on this account, however the contractor shall be entitled for extension of time under clause No. 5 of the agreement.
31. The tenderer shall see the approach conditions of the site. In case of any approach from main road is required at site or existing approach to be improved for cartage of material by the tenderer, the same shall be provided and maintained by the successful tenderer at his own cost and nothing shall be paid extra on this account.
32. The contractor shall maintain in good condition all work executed till the completion of work allotted to him.
33. The contractor has to lay the conduit in slab as well as in walls within three days from the intimation to avoid hindrance in execution of civil work failing which the same shall be got done in that portion, at the risk and cost of contractor.
34. The Electrical work is to be carried out in close coordination and according to the progress of civil work. No claims for any idle labour etc. On account of slow progress/hindrance of civil work shall be entertained.
35. No sharp edges of conduit shall be left unrounded.
36. The threaded portion of MS/GI boxes shall be at least 1.6mm thick.

37. The PVC insulation of busbar shall be at least 1.2mm thick.
38. No extra payment shall be made for sweating of earth strip joints and each such joint shall be provided with at least 2 Nos. bolts and nuts with flat lock washers or 2 Nos. rivets.
39. Conduit and conduit accessories shall conform to IS specification No. 9537.
41. Too many junction boxes in the ceiling will spoil the look and hence during conduit laying it should be ensured that too many junction boxes are not concentrated in one room. If it is required then suitable size of M.S. boxes shall be provided.
42. Multipurpose plug socket to be provided in light & power circuits.
43. Water and Electricity required for execution of work including temporary accommodation for labour etc. will be arranged by the contractor himself at his own cost and nothing extra shall be paid on this account
44. The Contractor shall have to make his own arrangement for transportation from the point of issue of stores to site and safe custody of the material issued departmentally and nothing extra will be paid to him on this account.
45. The contractor shall ensure that all the persons executing the electrical work have the valid Electrical License; consequences arising due to the fault to contraction to comply with the above conditions would be contractor responsibility.
46. All debris due to Electrical work shall be removed and shall be cleared by the contractor as soon as his work is completed.
47. The work shall be carried out with good workmanship and bad workmanship shall not be accepted.
48. The work shall be carried out accordingly to drawing, which will be supplied by the department but the layout can be changed by the Engineer in Charge as per requirement at site.

### **GENERAL SPECIFICATION FOR L.T.PANEL**

#### **1. GENERAL:**

- 1.1 M.V. switchboard shall be fabricated out of CRCA sheet steel cubicle, indoor floor mounting, dead front freestanding type. The design shall be totally enclosed, completely dust tight and vermin proof. The sheet steel used shall be 1.6 mm thick, gaskets of 2mm thick shall be used between all adjacent units and beneath all covers to render the joints effectively dust proof. Sheet steel work shall be of high quality. All openings and outlets in the doors shall be machine made and shall be free from burrs. Welded runs shall be ground smooth. All sheet surfaces shall be free from dents and hammer marks. A base channel of 100mm x 50mm fabricated out of 5mm thick hot rolled sheet steel painted black shall be provided to prevent corrosion of the sheet steel cubicles and to facilitate cleaning of floors. For convenience of operation and ease of cable termination, there shall be a gap of at least 75mm between the floor level and the bottom most units.
- 1.2 The design of frame work and end covers shall be such as to require a minimum number of screws visible from outside. The frame work shall be made of steel sheets folded to impart strength which will also serve as continuous barriers between logically arranged switch board components. The arrangement of horizontal and vertical bus bars, switchgear compartment and cable space shall be used on modular construction.
- 1.3 The switch boards shall be easily extensible type and shall have high degree of flexibility. The arrangement shall be logically compact and neat. Each module shall be fitted with individual dust proof doors provided with insulated thumb screws. The switchboard shall have uniform height and depth throughout its length and shall present a flush appearance. The maximum operation height shall not exceed 2000mm. Adequate lifting facilities shall be provided for each shipping section to facilitate handling and transport. The compartment doors shall be so inter locked that it shall not be possible to open the doors with the switch in closed position. An arrangement for defeating this door inter lock shall be provided for testing purposes.
- 1.4 Outgoing links from feeders shall be rigidly supported on minimum 6 mm thick hylem sheet and extended in cable box chamber for ease of cable connections. Insulated shields shall cover Cable lugs and links. Barriers shall be provided between the modules accommodating equipments associated with the outgoing circuits. All vertical sections shall have covering at the bottom so that entry of dust, rats and vermin is not possible.

#### **2. ACB / MCCB COMPARTMENT:**

- 2.1 The circuit breaker shall be of the air break type. In order to eliminate fire and explosion risk, the compartment doors should be so inter locked that they do not open when the MCCB is in closed position. The rupturing capacity of MCCB must be as specified in schedule/specifications.
- 2.2 A safety catch should be provided to ensure that the movement of the breaker as it is with drawn is checked before it is completely out of the cubicle thus preventing its accidental fall due to its weights.
- 2.3 It shall not be possible to open the door with ACB/ MCCB in 'ON' position



**3. HEAVYDUTY COMPOSITIVE UNITS OF AIRBREAK SWITCHES AND FUSES:**

- 3.1 All switches shall be operated from the front and shall conform to IS 4047. The rating of switch fuses shall be as specified. Outgoing feeders shall be neatly arranged in different compartment. Normally switches for individual feeders shall be accommodated in separate models.
- 3.2 It shall not be possible to open the door with switch in 'ON' position

**4. BUS BARS:**

- 4.1 Three phase & neutral Al. busbars shall be provided of rating as specified. Al. alloy used for bus bars and connections shall be equivalent to E.91-E-WP of I.S.5082/1969.
- 4.2 Busbars shall be housed in separate busbar chambers. Horizontal busbars shall extend throughout the length of the panels.
- 4.3 The busbars shall be supported on unbreakable non-hygroscopic fingered/SMC type insulators rigidly held to the frame work of the chamber. Busbar chamber shall have a separate screwed cover and heat shrinkable and colour coded PVC sleeves be provided to identify the various phases of the busbars.
- 4.4 Vertical busbars shall be accessible from the front. Cable runs shall not prevent or obstruct the access to vertical busbars. The vertical busbars shall be arranged as close to the units as possible.
- 4.5 The cross-section of the neutral busbar shall be the same as that of phase busbars of capacity up to 200A and for higher capacities, the neutral busbar must not be less than half the cross-section of phase busbar. Size of the busbar shall be selected considering the required duration.
- 4.6 The insulator support shall be at each cubicle / partition including ends

**5. CABLE COMPARTMENTS:**

- 5.1 A full height cable compartment shall be provided for easy termination of all incoming and outgoing cables entering either from top or from bottom. Adequate supports shall be provided for the cables where necessary. The cable compartment shall have its own hinged cover which can be removed for case of access during cabling.

**6. INTER CONNECTION AND CONTROL WIRING:**

- 6.1 Switch board shall be completely factory wired ready for connecting to the equipment. Power connection of the circuits shall be done by Al. flats or by adequate size of P.V.C. Insulated standard copper wires. Control wiring shall be done by P.V.C. insulated wires of minimum size 1.5 Sq.mm copper. All control wiring shall be fitted with identification ferrule at each end and not more than two connections shall be made at any one terminal. The wires shall be arranged and supported in such a manner that there shall be no strain on the terminations.

**7. TERMINAL ARRANGEMENTS:**

- 7.1 The termination shall be of adequate current rating and size to suit individual feeder requirements. For connections above 6A rating cable lugs shall be used. These cable lugs shall be mounted in such a manner so as to facilitate easy cable connections. Terminals shall be mounted in the cable compartment.
- 7.2 Tap off connections at the busbar shall be made with nuts, bolts and washers. Bus bars shall not be threaded for terminating wire connections.
- 7.3 Terminals shall be suitably extended via Busbar links to facilitate multiple cable termination

**8. CABLE ENTRY:**

- 8.1 The switchboard shall be designed to facilitate for termination of suitable nos of Al conductor XLPE cables from top and/or bottom as the case may be. Removable sheet steel plates provided with suitable size of cable glands as specified shall be fitted at the top or bottom.

**9. INDICATION INSTRUMENTS:**

- 9.1 The indicating instruments shall be of a reputed make conforming to relevant I.S. The arrangement of the instruments shall be logical. The size of the instruments shall be as specified.

**10. LABELS:**

- 10.1 Labels on steel plates shall be provided on all the incoming and outgoing feeder compartments. The exact legend to be engraved will be furnished by the Department.

**11. EARTHING BUS BARS:**

- 11.1 Two copper earth bus bars matching the substation capacity shall run throughout the length of panel along with

and earth studs at both ends.

## 12. **PAINTING:**

- 12.1 All steel work shall undergo a process of degreasing, pickling in acid, cold rinsing, phosphating, passivating and then powder coated.

## 13. **CHEMICAL EARTHING**

### 13.1 Earth Electrode

- The earth electrode shall be made of high tensile low carbon steel circular rods, molecularly bonded with copper on outer surface to meet the requirements of latest Underwriters Laboratories (UL). Such copper bonded steel cored rod is preferred due to its overall combination of strength, corrosion resistance, low resistance path to earth and cost effectiveness.
- The earth electrode shall be UL listed and of minimum 17.0mm diameter and minimum 3.0mtrs. long.
- The minimum copper bonding thickness shall be of 250 microns.

### 13.2 Earth Enhancement material

Earth enhancement material is a superior conductive material that improves earthing effectiveness, especially in areas of poor conductivity (rocky ground, areas of moisture variation, sandy soils etc.). It improves conductivity of the earth electrode and ground contact area. It shall have following characteristics-

- Shall mainly consist of Graphite and Portland cement. Bentonite content shall be negligible.
- Shall have high conductivity, improves earth's absorbing power and humidity retention capability.
- Shall be non-corrosive in nature having low water solubility but highly hygroscopic.
- Shall be suitable for installation in dry form or in a slurry form.
- Shall not depend on the continuous presence of water to maintain its conductivity.
- Shall be permanent & maintenance free and in its "set form", maintains constant earth resistance withtime.
- Shall be thermally stable between -10<sup>0</sup> C to +60<sup>0</sup> C ambient temperatures.
- Shall not dissolve, decompose or leach out with time.
- Shall not require periodic charging treatment nor replacement and maintenance.
- Shall be suitable for any kind of electrode and all kinds of soils of different resistivity.
- Shall not pollute the soil or local water table and meets environmental friendly requirements for landfill.
- Shall not be explosive.
- Shall not cause burns, irritation to eye, skin etc.
- Marking: The Earth enhancement material shall be supplied in sealed, moisture proof bags.

### 13.3 Backfill material

The excavated soil is suitable as a backfill but should be sieved to remove any large stones and placed around the electrode taking care to ensure that it is well compacted. Material like sand, salt, coke breeze, cinders and ash shall not be used because of its acidic and corrosive nature.

### 13.4 Earth Pit

- A hole of 100mm to 125mm dia shall be augured /dug to a depth of about 2.8 meters.
- The earth electrode shall be placed into this hole.
- It will be penetrated into the soil by gently driving on the top of the rod. Here natural soil is assumed to be available at the bottom of the electrode so that min. 150 mm of the electrode shall be inserted in the natural soil.
- Earth enhancement material (minimum approx. 30-35 kg) shall be filled into the augured/dug hole in slurry form and allowed to set. After the material gets set, the diameter of the composite structure (earth electrode + earth enhancement material) shall be of minimum 100mm dia covering entire length of the hole.
- Remaining portion of the hole shall be covered by backfill soil, which is taken out during auguring

/digging.

#### 14. SPECIFICATIONS FOR SOLAR AVIATION LIGHT

| <b>Low Intensity Type B Single Dome</b> |   |
|---|---|
| <b>Light intensity</b>                  | Low intensity Type B (as per ICAO specs), 32CD  |
| <b>Flashing</b>                         | Fixed light, no flashing (as per ICAO norms)  |
| <b>LED</b>                              | Red color with inbuilt Lens for maximum efficiency, no secondary lenses                             |
| <b>Led Life</b>                         | >50,000 hours   |
| <b>No. of LEDs</b>                      | 75  |
| <b>No of parallel LED circuits</b>      | 15  |
| <b>LED arrangement</b>                  | LED fixed on cylindrical PCB for uniform 360 deg light Intensity                                    |
| <b>Shell</b>                            | Clear glass (No plastics which deteriorate with time)   |
| <b>Bird spike</b>                       | Yes   |
| <b>ON/OFF control</b>                   | Inbuilt LDR (Dusk to Dawn operation)  |
| <b>Power Consumption</b>                | 3.0 W approx  |
| <b>Light base</b>                       | Made from cast Aluminum with bright orange powder Coating   |
| <b>Sealant</b>                          | Silicon based   |
| <b>Environmental protection</b>         | IP 65   |
| <b>Battery Voltage</b>                  | 12V DC  |
| <b>Battery Type</b>                     | Lithium Iron Phosphate (LiFePO4) with thermal insulation for -20 degree Centigrade cold temperature |
| <b>Battery Capacity</b>                 | 11 AH, 12V  |
| <b>Solar Module (Power)</b>             | 10 W  |
| <b>Charge Controller:</b>               | Yes   |
| <b>Overcharge Protection</b>            | Yes   |
| <b>Deep Discharge protection</b>        | Yes   |
| <b>Unit Ventilation</b>                 | Natural draft   |
| <b>Operating Temp. Range</b>            | -20 to 55 deg C   |
| <b>Mounting</b>                         | Suitable for angular member towers without welding or drilling.                                     |

#### 15. LIGHTNING ARRESTOR:

15.1 Lightning conductor finial made of 25mm dia 900 mm long GI pipe ( B-class) having single prong at top of the tower with suitable size GI base plate.

15.2 Earthing with G.I. earth plate of 600 mm X 600 mm X 6 mm thick including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7 metre long etc.

15.3 Fixing 25 mm X 3 mm G.I. strip along the tower/Wall with suitable insulators /clamps fixed at suitable interval etc.

**SECTION 5 (PART A)**  
**GENERAL INSTRUCTIONS TO BIDDER (GIB)**

**1 TOOLS & PLANTS**

All tools and plants, testing & safety equipments required for carrying out various tasks relevant to operation and maintenance have to be arranged by agency at its own cost.

**2 Tax Indemnity clause:**

BSNL has the right to recover Input Tax Credit loss suffered by it due to any mis-declaration on invoice by the supplier.

Any sum of money due and payable to the supplier (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 supplier with the Purchaser or BSNL or such other person(s) contracting through the BSNL.

In case of set off of 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 supplier 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 supplier. GST would not be liable on security deposit. But if supplier 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 supplier with the Purchaser or BSNL or such other person(s) contracting through the BSNL, then GST would be levied.

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.

**Note:** No payment will be made for goods rejected at the site on testing. Payment, if made, for such items shall be recovered from subsequent bills or other bills.

**8 GST Invoice**

- 8.1 All the details of supplier (name, address, GSTIN/ unregistered supplier, place of supply, SAC/ HSN code etc.) and other mandatory details shall be mentioned on the invoice.
- 8.2 Invoice/Supplementary invoice/Debit Note/Credit Note/Receipt Voucher need to be issued in compliant format and timely within the time prescribed under GST law.
- 8.3 In case of any deficient/incomplete/rejected supply, BSNL shall convey the same in a reasonable time to enable the supplier to issue credit note and take tax adjustment.
- 8.4 It would be the responsibility of the supplier 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 supplier, the same would be recovered by BSNL from the supplier.

- 8.5 Registered location of the both the parties i.e. BSNL and supplier should be mentioned in the agreement with GSTIN No. Further, supplier 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
- 8.6 BSNL could at any time instruct the supplier to raise its invoices at a particular location of BSNL
- 8.7 It is the responsibility of the supplier 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 supplier shall intimate to BSNL and give adequate time before rising of the invoice.
- 8.8 E-waybill number should be mentioned on the invoices.
- 8.9 Supplier 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.
- a) It is the responsibility of the supplier to ensure that outward supply return (GSTR-1) would be filed correctly. If not, than cost would be borne by supplier.
  - b) Reporting of correct outward supply by supplier in the outward return (GSTR-1) is the responsibility of the supplier. In case of mismatch because of supplier's fault, prompt amendments must be made by the supplier else supplier would be required to indemnify BSNL of the loss of credit due to mis-match. The compliances to be adhered by supplier includes (but is not limited to) the following:
    - (i) Uploading appropriate invoice details on the GSTN within the stipulated time;
    - (ii) Issuing GST compliant invoice / CN/ DN. PO issued by BSNL should be referred by supplier for capturing information on the invoice.
    - (iii) Supplier needs to pay the entire self-assessed tax on timely basis.
    - (iv) Where invoice is not uploaded or incorrect upload of invoice detail of GSTN by supplier 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 on GSTN is to be submitted by supplier. Such changes w.r.t. the mismatch are required to be accepted by supplier within the time limit prescribed under the GST law. It should be noted that in case supplier 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 supplier. In case of mismatch because of Supplier's fault, prompt amendments must be made by the supplier else supplier would be required to indemnify BSNL for the losses of credit and interest paid due to mismatch.
    - (v) Supplier to issue all necessary documentation and perform all necessary compliances for BSNL to be eligible to claim the input tax credit of GST tax to them. In case BSNL is unable to claim the input tax credit, the amount w.r.t. GST charged by the supplier would be recovered from the supplier.
    - (vi) A self-declaration along-with evidence that the bidder is not blacklisted by GST authorities. In case supplier gets black listed during the tenure of BSNL contract, then supplier must indemnify BSNL you ensure that no loss of input tax credit is borne by BSNL due to default of supplier.
- 8.10 Refer Annexure below( placed as Annexure- A1 ) for clause stating that all the details of supplier (name, address, GSTN/ unregistered supplier, place of supply, SAC/ HSN code etc.) and other mandatory details shall be mentioned on the invoice.

| S.No | Particulars for 'Input invoice' |
|------|---------------------------------|
|------|---------------------------------|

| S.No | Particulars for 'Receipt Voucher' |
|------|-----------------------------------|
|------|-----------------------------------|

|    |  |
|----|--|
| 1  | Name and registered address of the supplier  |
| 2  | GST registration number of supplier  |
| 3  | Name of BSNL entity  |
| 4  | 'Bill to' and 'Ship to' address of BSNL  |
| 5  | GST registration number of BSNL  |
| 6  | Date of invoice  |
| 7  | Invoice Number   |
| 8  | Place of supply (including state)  |
| 9  | Type of Tax (CGST, SGST and IGST)  |
| 10 | Rate of Tax  |
| 11 | Value of goods / service and type / rate / amount of Tax should be separately  |
| 12 | Quantity of goods  |
| 13 | Total value of invoice   |
| 14 | Description of Supply of goods / service   |
| 15 | HSN Code in case of goods  |
| 16 | Accounting Code in case of service   |
| 17 | In case invoice has more than one tax rates, rate of tax and amount of tax for each supply should be mentioned separately. |

|  |  |
|--|--|
| 1  | Name and registered address of the supplier  |
| 2  | GST registration number of supplier  |
| 3  | Name of BSNL entity  |
| 4  | 'Bill to' and 'Ship to' address of BSNL  |
| 5  | GST registration number of BSNL  |
| 6  | Date of document issued  |
| 7  | Document Number  |
| 8  | Place of supply (including state)  |
| 9  | Amount of advance taken  |
| 10   | Type of Tax (CGST, SGST and IGST)  |
| 11   | Rate of Tax  |
| 12   | Quantity of goods  |
| 13   | In case invoice has more than one tax rates, rate of tax and amount of tax for each supply should be mentioned separately. |
| <p>Note:<br/>           Invoice issued at a later stage against receipt voucher to mention this document number.<br/>           Refund Voucher to be issued against the advances received if no supply is made and no invoice is raised.</p> |  |

8.11 Where the location agreed are more than one state, then separate invoice state wise to claim input tax credit in a particular state (typically happens in a bill to-ship to scenario) shall have to be submitted.

- 8.12 It shall be the responsibility of the supplier to mention State of place of supply of goods/services in the invoice issued to BSNL.
- 8.13 GST (if applicable) on account of liquidated damages due to delay in supply of goods would be borne by supplier.
- 8.14 GSTN Registration Number(s) of all units/business places of the bidder vide which he intends to execute the contract, if awarded.

GSTN 1.....

GSTN 2.....

GSTN 3..... and so on

**Note:**

1. In case the supplier does not agree with the POS or HSN/SAC code stated on the PO, it is the responsibility of the supplier to approach/ request BSNL to revise the PO.
2. BSNL has the right to recover input tax credit loss suffered by it due to any mis-declaration on invoice by the supplier
3. GST will be applied additionally on above shown basic Price of tender document (tender document fee) and total tender document cost is to be shown sum of Basic price plus GST amount separately.
4. BSNL would be required to issue a tax invoice to the bidders. The details of such tax invoice would be required to be uploaded on the GSTN portal in following manner:
5. BSNL shall furnish its outward supply details (which includes revenue on account of tender fee) in form GSTR-1 by the 10th of every month;
6. Such details shall be communicated to the recipient of said supplies through GSTR- 2A (Part-A)
7. Post matching of the outward details posted by BSNL on GSTN with the input details posted by the bidder, GSTN portal would calculate the total amount of tax payable by BSNL and bidder would be eligible to claim credit of GST paid on tender fee.

**9. BSNL GSTIN Details**



**Government of India  
And  
Government of Jammu and Kashmir  
Form GST REG-25**

**Certificate of Provisional Registration**

|     |   |                               |
|-----|---|-------------------------------|
| 1.  | GSTIN                                   | 01AABCB5576G1ZZ               |
| 2.  | PAN                                     | AABCB5576G                    |
| 3.  | Legal Name                              | BHARAT SANCHAR NIGAM LIMITED  |
| 4.  | Trade Name                              | M/S BHARAT SANCHAR NIGAM LTD. |
| 5.  | Registration Details under Existing Law |                               |
|     | Act                                     | Registration Number           |
| (a) | TIN under Value Added Tax               | 01971150409                   |
|     | Date                                    | 25/06/2017                    |

This is a Certificate of Provisional Registration issued under the provisions of the Act.

**11. DAMAGES TO -INSTALLATION:**

- 11.1 Any damage to the installation(s)/building during the maintenance period due to the carelessness on the part of maintenance staff shall be the responsibility of firm & shall be replaced/rectified by the firm without any extra cost.
- 11.2 Any accident or damage during maintenance/operation will be the responsibility of the agency & the Department will not entertain any claim, compensation, penalty etc. on this account or on account of non observance of any other requirement of law relevant to his work.

**12. TERMINATION OF CONTRACT:**

- 12.1 Right is reserved by BSNL for terminating the contract due to serious default. This includes major break down or accident or loss due to negligence on the part of firm, failure to attend breakdown in reasonable time, non attending of fault in spite of repeated reminders in reasonable time disobedience and abandoning the site etc. In such a case full 8% Security Deposit which includes Performance Guarantee shall be forfeited by BSNL. The decision of Superintending Engineer in this regard shall be final and binding.
- 12.2 Right is reserved by BSNL for closure of the contract at any time by giving one month's notice for reasons not attributed to the firm. The decision of Executive Engineer shall be final and binding on the contractor for closure of contract and for which BSNL shall not entertain any claim.

**13. DETERMINATION OF CONTRACT**

The Engineer – in – charge may determine the contract in respect of any delay, inferior workmanship as per clause 3 of CPWD-8 contract conditions.

**14. 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. **INCLUDING OF CONTRACTOR IN CRIMINAL / ANTISOCIAL ACTIVITIES AND CASES UNDER INVESTIGATION / CHARGE SHEETED BY CBI OR ANY OTHER GOVERNMENT AGENCIES ETC:**

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

**15. GENERAL CONDITIONS**

- i) The agreement shall be signed by both the parties on Non judicial stamp paper of appropriate value which shall be purchased by the agency.
- ii) Firm should have round the clock Mobile telephone number. In case of Emergency and during visit of higher officers. contractor and his authorized engineer supervisor shall be available at site on short notice from Engineer-In-Charge and make all efforts to make the situation normal at the earliest in case of emergent situation.



- iii) The contractor shall not sublet the work or part thereof. However, services of specialized agencies for specific work can be obtained.
- iv) The firm should provide round the clock Mobile Telephone number (s) within 15 days from date of award.

**16. Compliance of Labour Laws :-**

All the provisions of the letter no. BSNL / Admn.I / 29-5/2007 (Pt.) Dated the 5th November 2008, Ltr No. BSNL / Admn.I/20-2/2010 Dated 6th May 2010 & up-to-date labour laws should be followed by the agency. The agency should provide documentary proof /receipt of labour payment showing amount paid, EPF Contribution, ESI documents etc. to the labour on monthly basis to concerned JTO, who should get it verified through concerned labour

The excerpts of the letter Dtd 5th Nov 2008 are reproduced as below.

“The field units must also ensure themselves that the provisions of such statutes are complied with by way of -

- i. maintenance of prescribed records and registers;
- ii. preparation and filling of required returns;
- iii. Contractor/Agency possess registration/license from the from the appropriate labour authority; and are furnishing particulars of their employees/workers engaged by them to execute the outsourced activities;
- iv. such Contractor/Agency is making payment to its workers at the rates not less than the rates prescribed under the Minimum Wages Act, 1948, for such employment wherever applicable and where the rates have been fixed by an agreement, not less than the rates so fixed;
- v. the Contractor/Agency has obtained registration with PF & ESI authorities;
- vi. monitoring that the contractors ensure timely deposit of PF and ESI dues of the employees with the appropriate authorities and contractor be asked to submit the documents in this regard to BSNL;
- vii. The payment to workers may be made in the presence of authorized representative of BSNL who must certify at the end of entries of Wage Register;/submit proof of payment made to the workers.
- ix) Such Contractor is making payment to workers by cheque or by crediting the wages in their bank account after obtaining written authorization of the workmen and the employees of the Agency/Contractor deployed for the outsourced activity must be carrying their identity Cards duly certified/issued by the Agency/Contractor as their employer and so on.”

**16. CURRENCY OF CONTRACT: -**

The contract shall be valid for issue of L.O.I for 12 months, including 25% deviation if any, after the date of its acceptance. The ordering quantity can be deviated 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. The No. of sites and quantity of schedule are tentative / indicative in nature and actual work will be executed as per requirement of department for which separate letter of intent will be issued. Decision of department will be final and contractor will have no claim whatsoever in this regard.

- a) BSNL also reserves the right to enter into parallel Rate Contract(s) simultaneously or at any time during the period of the Rate Contract with one or more tenderer as BSNL may consider it necessary.

- b) The Department reserves the right to terminate the contract by giving show cause notice of one month duration at any time during the currency of the contract.

**17. OPERATION OF MASTER AND INDIVIDUAL AGREEMENTS SHALL BE GOVERNED AS FOLLOWS:**

- 17.1 The Contract agreement shall be framed in the O/o BSNL Arunachal Pradesh BA which shall be signed by the firm within 15 days of issue of the acceptance letter.
- 17.2 Individual Letter of Intent (LOI) shall be issued by O/o BSNL Arunachal Pradesh BA to the firm giving details of site, quantity of items required, name of concerned Sub Divisional Engineer/Executive Engineer (E) and other details.
- 17.3 Date of start of agreement shall be the date of issue of LOI and time allowed to carry out the work shall be one month counted thereafter as per terms of this NIT.

**18. JURISDICTION:-**

The jurisdiction of (Head of BA – GM BSNL ARUNACHAL PRADESH BA): The jurisdiction of Head of BA – GM BSNL ARUNACHAL PRADESH BA means any part of ARUNACHAL PRADESH region which coincides geographically with Revenue District(s) of Tawang, West Kameng, East Kameng, Papum Pare, Lower Subansiri, Pakke Kessang, Kurung Kumey, Kra Daadi, Upper Subansiri, West Siang, East Siang, Upper Siang, Shi Yomi, Dibang Valley, Lohit, Namsai, Changlang, Tirap etc.

**19. OTHER CONDITIONS:**

- 20.1 The quantity mentioned in schedule of work is tentative & indicative in nature. BSNL reserves the right to issue full, half, any or nil quantity. The decision of GM BSNL ARUNACHAL PRADESH BA in this regard shall be final and binding.
- 20.2 Guarantee cards / maintenance manuals and other documents of all the new material, provided in replacement of faulty material, are to be handed over to Engineer-in-Charge.
- 20.3 Mode of communication for the purpose of notice / intimation of award shall be any or all of the following.
- a) E-mail.
  - b) By SMS.
  - c) Entry in the log book / fault register.
  - d) By letter.
  - e) Telephonic (in case of major breakdown / emergency & by Engineer-in-Charge).
  - f) WhatsApp

**21. ARBITRATION:**

In the event of any question, dispute or difference arising under this agreement or in connection therewith except as  
WG-633/PLG/2023-24/03 Dtd 17.11.2023

to matter the decision of whom is specifically provided under this agreement, the same shall be referred to sole arbitration of the General Manager BUSINESS AREA Arunachal Pradesh, ITANAGAR or In case his designation is changed or his office is abolished then in such case to the sole arbitration of the officer for the time being entrusted whether in addition to the functions of the General Manager BUSINESS AREA Arunachal Pradesh or by whatever designation such officers may be called (hereinafter referred to as the said officer) and if the General Manager BUSINESS AREA Arunachal Pradesh or the said officer is unable or unwilling to act as such to the sole arbitration or some other person appointed by the General Manager, or the said officer. The agreement to appoint an arbitrator will be in accordance with the Arbitration and Conciliation Act, 1996.

There will be no objection to any such appointment that the arbitrator is BSNL Servant or that he has to deal with the matter to whom the agreement relates or that in the course of his duties as BSNL Servant he has expressed views on all or any of the matter under dispute. The award of the arbitrator shall be final and binding on the parties. In the event of such arbitrator to whom the matter is originally referred, being transferred or vacating his officer or being unable to add for any reasons whatsoever such General Manager or the said officer shall appoint another person to act as arbitrator in accordance with terms of the agreement and the person so appointed shall be entitled to proceed from the stage at which it was left out by his predecessors.

The arbitrator may from time to time with the consent of parties enlarge the time for making and publishing the award, Subject to aforesaid Indian Arbitration and Conciliation Act 1996 and the Rules made there under, any modification thereof for the time being In force shall be deemed to apply to the arbitration proceeding under this clause.

The venue of the arbitration proceeding shall be the Office of the General Manager BUSINESS AREA ARUNACHAL PRADESH or such other Places as the arbitrator may decide. The Following procedure shall be followed:

In case parties are unable to settlement by themselves, the dispute should be submitted or arbitration, In accordance with contract agreement

There should not be a joint submission with the contractor to the sole Arbitrator.

Each party should submit its own claim severally and may oppose the claim put forward by the other party. The onus of establishing his claims will be left to the contractor.

Once a claim has been included in the submission by the contractor, a reiteration or modification thereof will be opposed.

The "points of defence" will be based on actual conditions of the contract.

Claims in the nature of ex-gratia payments shall not be entertained by the Arbitrator as these are not contractual.

The question whether these conditions are equitable shall not receive any consideration in the preparation of "points of defence".

If ,the contractor Includes such claims in his submission, the fact that they are not contractual will be prominently placed before the Arbitrator.

## **SECTION -5 (Part B)**

### **General (Commercial ) Conditions of the contract (GCC)**

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

1. Department reserves the right to accept the quantities in full or in parts.

2. **SPECIAL CONDITIONS:**

- i) The rates for all items of work, shall, unless clearly specified otherwise, include cost of all labour, materials and other inputs involved in the execution of the item.
- ii) The work will be done as per current CPWD/ BSNL Specification.
- iii) Any damage done to the building during the execution of operation & maintenance will have to be made good to the entire satisfaction of Engineer-in-charge.

Only BSNL approved material shall be used. In case BSNL approval is not there then ISI marked material shall be used. In case ISI marked is not available in particular item, material conforming to BS, shall be provided.

3. **TAXES AND DUTIES:**

- a. The bidder shall give the total composite price inclusive of all Levies & Taxes i.e. Custom Duty, Goods & Services Tax on packing, forwarding, freight and insurance etc. in the basic unit price up to two decimal points only against the goods it proposes to supply under the contract as per the price schedule given in at Page no.:- 46 -48. The offer shall be firm in Indian Rupees. No Foreign exchange will be made available by the purchaser.
- b. Documentary proof of GST registration
- c. The evaluation and comparison of responsive bids shall be done on the basis of Net cost to BSNL on the prices of the goods offered after arithmetical correction
- d. The purchaser 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.
- e. If the supplier fails to furnish necessary supporting documents i.e. Tax invoices / Customs invoices etc. in respect of the Duties ,Taxes and Cesses which are eligible for input tax credit, the amount pertaining to such Duties ,Taxes and Cesses will be deducted from the payment due to the firm
- f. If the supplier fails to perform necessary compliances which would any manner restrict BSNL to claim input tax credit, then the amount pertaining to such Duties, Taxes and Cesses will be deducted from the payment due to the supplier.
- g. If the supplier 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 and Cesses will be deducted from the payment due to the supplier. Rs. 2,500/- (plus GST as applicable). This amount is charged from bidders directly.
- h. Tendered rates are inclusive of taxes and levies payable under the respective statutes. However, pursuant to the Constitution (forty six Amendment Act, 1982, if any further tax or levy is imposed by statute after the date of receipt of tenders and the firm(s) thereupon necessarily and properly pays taxes or levies, the firm shall be reimbursed the amount paid provided such payment if any is not in the opinion of SE (whose decision shall be final and binding) attributable to delay in execution of work within the control of the firm.
- i. (a) The firm shall keep necessary books of accounts and other documents for the purpose of this condition as may be necessary and shall allow inspection of the same by a duly authorized representative of Government and shall furnish such other information/documents as the Engineer-in-Charge may require.  
(b) The firm(s) shall within a period of 30 days of imposition of any further tax or levy pursuant to the Constitution (Forty Six Amendment) Act 1982 give a written notice thereof to the Engineer-in-Chief that the same is given pursuant to this condition together with all necessary information relating thereto.

**Note: -No additional condition whatsoever will be acceptable for turnover tax/sales tax on works contract. In case of additional conditions for the payment of such claims by the firm, the tender will not be considered.**

#### **4. TERMS OF PAYMENT**

The following terms of payment shall be adopted:-

1. Payment to the contractors during progress of work is regulated for all the items as below:

a) 80 % of pro-rata of the approved price break up of contract value on receipt of material at site and after satisfactory physical inspection.

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

- i. Invoice clearly indicating break up details of composite price i.e. Basic, Goods and Services Tax(GST), any other Duties and Taxes, Freight/Packing Charges, etc.
- ii. Acknowledged Delivery Challan in original, if any
- iii. Inspection Certificate of QA(Payable copy in original), if any
- iv. E-way bill as prescribed in the GST law in case of movement of goods, if any.
- v. Proof of payment of GST, if applicable.

b) 10% of pro-rata of the approved price break-up of contract value after successful installation, testing and commissioning.

c) 10% of the approved contract value after successful handing over.

**Note:-**

- i. If the supplier fails to furnish necessary supporting documents i.e. GST invoice / Customs invoices etc. and 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 supplier.
- ii. Payment against GST credit will be made only when GST compliant invoice is submitted by the supplier.
- iii. Tax amount will be paid to the supplier only after supplier declares the details of the invoices in its return in GSTR 1 and GSTR-3 uploaded by the supplier and the same is reflected in GSTR-2A of BSNL on GSTN portal.
- iv. TDS/ TCS shall be deducted at the prescribed rate, if any (as the case may be).
- v. BSNL can adjust/ forfeit Bank Guarantee obtained from the supplier against any loss of input tax credit to BSNL on account of supplier's default.
- vi. In case BSNL has to pay GST on reverse charge basis, the supplier would not charge GST on its invoices. Further, the supplier undertakes to comply with the provisions of GST law as may be applicable.
- vii. Further, in case of any dispute on the payment to be made to the supplier, 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 supplier and input credit on the said invoice is lost by BSNL, the same shall be recovered from the supplier. 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 and when asked for.

2. Period of completion of work: One month for each job
3. Engineer-in- charge: Sub Divisional Engineer (E), Itanagar

**SECTION 6**  
**UNDERTAKING & DECLARATION**

**PROFORMAS FOR UNDERTAKING TO BE FURNISHED BY TENDERERS ALONGWITH TENDER**

**1. 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)**

**2. UNDERTAKING 'B'**  
**(Declaration by Contractor)**

I / We do hereby undertake to have gone through the terms & conditions / clauses of all the tender documents including Bid Form being adopted by the BHARAT SANCHAR NIGAM LIMITED (ElectricalWing) & agree to abide by the same.

1. I/We hereby agree that Bid form shall form part of the agreement in case the work is awarded to us.
2. I/we hereby declare that no addition /deletion/correction have been made in the tender document submitted (offline) and is identical to the tender document appearing on website. If during the opening of tender or during the process of tender finalization, it is detected that I/We have submitted tender documents after making any changes/additions/deletions in the tender documents from the web site, knowingly/by me/us my EMD shall be forfeited in addition I/We shall be liable for any other action as per prevalent rules.
3. I/We state to comply in full manner with all the General, Commercial, Technical, Operating, financial conditions of the Tender Document for the work "....." without any reservation and deviation.
4. In case of failure to comply as above, our offer will stand withdrawn and our tender documents may be returned in original at the time of opening of tender by the tender opening officer. 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**



**3. UNDERTAKING ‘C’**  
**(PROFORMA UNDERTAKING TO BE FURNISHED BY TENDERERS SUBMITTING TENDER DOCUMENT DOWNLOADED FROM WEB)**

This is to certify that:-

I / We have submitted the tender in the Proforma as downloaded directly from the website which is same as in the website and there is no change in the format number of pages etc.

I / We have not made any modification / corrections / additions etc in the tender documents downloaded from web by me / us.

I / We have checked that no page is missing and all pages as per the index are available & that all pages of tender document submitted by us are clear & legible.

I / We have read carefully & understood the instructions to Tenderers downloading the tender document from web.

In case at a later stage, 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 / Performance Guarantee, 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 Signature of Contractor)

(Seal of the firm)

**4. UNDERTAKING ‘D’**  
**(PROFORMA FOR UNDERTAKING REGARDING EPF / ESI PROVISIONS )**

I ..... son of ..... Resident of ..... hereby give an undertaking that:

(I) \* I / We have registered as per the EPF and Miscellanies provisions Act, 1952 and our Registration no is ..... We undertake to keep it valid during the currency of contract.

(II)\* I / We have registered as per the ESIC Act, 1948 (amended upto date) and our Registration no is ..... We undertake to keep it valid during the currency of contract.

In case at my 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)

(Dated Signature of Contractor)

(Seal of the firm)

**SECTION 7**  
**PROFORMAS**

**1. MODEL FORM BANK GUARANTEE**

Whereas ..... (hereinafter called “the contractor(s)”) has submitted its Tender dated ..... for the work .....

KNOW ALL MEN by these presents that WE ..... of ..... having our registered office at ..... (Hereinafter called “the bank”) are bound unto .....

(hereinafter called “the BSNL”) in the sum of ..... for which payment will

And truly to be made of the said BSNL, the Bank binds itself, its successors and assigns by these presents.

THE CONDITIONS of the obligation are:

1. If the Contractor(s) withdraws its Tender during the period of Tender validity specified on the Tender Form: or
2. If the contractor(s) having been notified of the acceptance of its Tender by the BSNL during the period of Tender validity.

a) Fails or refuses to execute the contract.

b) Fails or refuses to furnish security Deposit in accordance with the conditions of Tender document.

We undertake to pay to the BSNL up to the above amount upon receipt of its first written demand, without the BSNL having to substantiate its demand, provided that in its demand, the BSNL will note that the amount claimed by its is due to it owing to the occurrence of one or both of the two conditions, specifying the occurred condition or conditions.

This guarantee will remain in force as specified in the Tender Document up to and including Thirty (30) days after the period of the Tender validity and any demand in respect thereof should reach the Bank not later than the specified date / dates.

Signature of the Bank

Signature of the Witness

Name of Witness

Address of Witness

**CONDITION OF BANK GUARANTEE FOR EMD IF IT IS MORE THAN Rs. 20,000/-**

- The BG shall be from a schedule bank or a Nationalized Bank guaranteed by Reserve Bank of India, in enclosed Performa for the prescribed value mentioned in NIT.
- The Bank guarantee shall remain in force for 30 days after the period, for which the tenders are valid.
- The B.G shall be furnished duly stamped at the rate of Rs.5/- for every 1000/- or part there of as per Indian Stamps Act 1899.
- The BG may be got extended if required.
- If the firm belongs to other state and stamp duty is lower in that state then it will require to be stamped with the excess amount so that total stamp duty is not less in accordance with the requirement of Arunachal Pradesh state. If the BG is not in prescribed Proforma duly stamped with the requirement of Arunachal Pradesh state, tender shall not be opened.

Note: All the required details such as Name of work etc. for which BG is produced must to be filled in the BG itself.



Annexure – II

**2. PERFORMANCE 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 & conditions of an agreement / Advance .....Purchase.....order No. .... Dated ..... made between ..... and ..... for the Supply / ITC of ..... hereinafter called 'the said Agreement'), of security deposit for the due fulfillment by the said Contractor(s) of the terms & conditions contained in the said Agreement, on production of the bank Guarantee for ..... We, (name of that 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 & payable under this guarantee without any demure, 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 said contractor(s)' of any of the terms or conditions contained in the said Agreement or by reasons of the contractor(s)' Failure to perform the said Agreement. Any such demand made on the bank shall be conclusive as regards the amount due & payable by the Bank under this guarantee where the decision of BSNL in these counts shall be final & 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 not withstanding any dispute or disputes raised by the contractor(s) / Supplier(s) in any suit or proceeding pending before any court or tribunals relating thereto our liability under this present being absolute & unequivocal. The payment so made by us under this bond shall be valid discharger of our liability for payment there under & the contractor(s). / Supplier 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 & effect during the period that would be taken for the performance of the said agreement & 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 & its claims satisfied or discharged or till .....(office / Department) BSNL certified that the terms & conditions of the said Agreement have been fully or properly carried out by the said contractor(s) & 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/FIVE YEARS (as specified in the agreement) 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 & without affecting in any manner our obligation hereunder to vary any of the terms & 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) & to forbear or enforce any of the terms & conditions relating to the said agreement & 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.

Dated the \_\_\_\_\_ day of \_\_\_\_\_ for \_\_\_\_\_  
(indicate the name of the bank)

### 3. PROFORMA OF SCHEDULES

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

#### SCHEDULE 'A'

Abstract of Cost and Schedule of quantities: As appended

#### SCHEDULE 'B'

Schedule of materials to be issued to the contractor,

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

#### SCHEDULE 'C'

Tools and Plants to be hired to the contractor

| SL.No. | Description of item | Hire Charges per day | Place of Issue |
|--------|---------------------|----------------------|----------------|
| 1      | 2                   | 3                    | 4              |
| NIL    |                     |                      |                |

#### SCHEDULE 'E'

Schedule of component of materials, Labour etc for escalation - Not Applicable

#### **SCHEDULE "F"**

Reference to General Conditions of contract.

Name of work:

**As per page no: 3**

Estimated cost of work:

**As per page no: 3**

(i) Earnest money :

**As per page no: 3.**

(ii) Performance Guarantee:

As per para 8(a) of the NIT

a. Security Deposit:

As per para 8(b) of the NIT. General rules & directions:

b. Officer inviting tender:

AGM(Planning), BSNL, Arunachal Pradesh BA, Itanagar.

c. Definitions:

d. Engineer-in-charge :

SDE(E), BSNL Electrical Division, Itanagar.

i. Accepting Authority:

General Manager, BSNL, Arunachal Pradesh BA, Itanagar.

ii. Percentage on cost of materials and labour to cover all overheads and profits. 10%

#### **Clause 5**

(i) Period of contract:

12 months.

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

General Manager, BSNL, Arunachal Pradesh BA, Itanagar.

#### **Clause 7**

Gross work to be done together with net payment/ adjustment of advance for materials collected, If any, since the last such payment for being eligible to interim payment.

AS PER PAYMENT TERMS

#### **Clause 10C, 10CC**

-----

**THIS CLAUSE IS NOT APPLICABLE FOR THIS CONTRACT**

#### **Clause 11**

Specifications to be followed for execution of work.

AS PER SPECIFICATION ATTACHED & CPWD

#### **Clause 12**

**12.1(i)**

Schedule of rates for determining rates for additional, altered or substituted items that cannot be determined under 12.1(i) & (ii)

DSR-2022for Internal  
DSR-2022 for External

**12.1 (ii)**

Plus/minus the % over the rate entered in the schedule of rates.

-----do-----

**12.1(iii) A**

Deviation Limit beyond which sub-clauses (i) to (v) shall not apply and clauses 12.2 & 12.3 shall apply

50%

**12.1(iii) B**

Limit for value of any item of any individual trade beyond which sub-clauses (i) to (v) shall not apply and clauses 12.2 & 12.3 shall apply

-----do-----

**Clause 16**

Competent Authority for deciding reduced rates.

GM, BSNL, Itanagar

**Clause 36(i)**

Minimum Qualification & experience required for Principal Technical Representative.

- b. For works with estimated cost put to tender more than  
(i) Rs. 10 Lacs for Civil work  
(ii) Rs. 5 Lacs for Elect./Mech. Works

Graduate or retired AE possessing at least recognized diploma.

- c. For works with estimated cost put to tender  
(i) More than Rs. 5 Lacs but less than Rs. 10 Lacs for Civil Works.  
(ii) More than Rs. 1 Lacs but less than Rs. 5 Lacs for Elect./Mech. Works.

Recognized Diploma holder.  
Elect / Mech

- d. Discipline to which the Principal Technical Representative should belong.

Elect. / Mech

- e. Minimum experience of works.

3 years.

- f. Recovery to be effected from the contractor in the event of not fulfilling provision of clause 36(i)

Rs. 4,000/- p.m. for Graduate  
Rs. 2,000/- for diploma holder

**Clause 25:-**

Competent authority for conciliation

GM, BSNL, Itanagar



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 whereof 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  
BSNL

Signature and delivered for and on behalf of 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

**3. INDEMNITY BOND OF ABOVE AGREEMENT**

This deed of indemnity Bond executed on this \_\_\_\_\_ day of -----Two thousand and -----by (Name of sole proprietor/ partner/ Director / authorized representative, the Firm, Company, Trust, Society etc.).....S/O.....  
.....Residing at.....on behalf of said M/s.....  
----- (Name of the Firm, Company, Trust, Society, etc.) having its office at  
----- and duly authorized to sign, this bond by the said  
.....(Name of the Firm, Company, Trust, Society, etc.)  
in favour of Bharat Sanchar Nigam Limited, a Government of India Undertaking having its Registered Office at Bharat Sanchar Bhawan, H.C. Mathur Lane, Janpath, New Delhi-110001 and local office at -----  
----- hereinafter called BSNL)(which terms shall mean and include its successors, administrators, heirs and assigns.

Whereas M/S BSNL invited bids for -----, I/We participated in the bidding process and emerged as successful bidder with respect to Tender No.-----

..... I/ We.....acknowledge that

I/We -----have fully understood and are aware of the terms & conditions of the Tender/ Contract and do hereby unequivocally and unconditionally abide by the terms and conditions of the Tender and Contract in the eventuality of imposition of any penalty or monetary loss /penalty by instrumentalities of State ie Government of India or for that matter State Governments within its jurisdiction, the bidder remains liable to keep BSNL indemnified and fully protect, indemnify and hold harmless BSNL and

its employees, officers, Directors, agents or representatives from and against any and all liabilities, losses, actions, judgments, damages, fines, penalties and costs (including legal costs and disbursements ) arising from or relating to:

- Any breach/ violation of any direction, order from any governmental authority any provisions of the labour laws or any other laws, statute or regulation that are 'or' will be aimed to protect the interest of the workers/ laborers engaged by the Service Provider in past and during the course of this contact

OR

- Any other payments, claims 'or' liability that may arise for ensuring compliance of the provisions of any of the labour laws or any other laws, etc.

OR

- Any other claim made by any third party in connection with any violation of any of the laws, guidelines, instruction, etc.

In witness whereof this undertaking has caused on the -----Day, \_\_\_Month of ..... Year.

Date:

Place:

(Signature:.....) Name:..... Designation:.....

WITNESS :1. ....

2. ....

**5. LETTER OF AUTHORISATION FOR ATTENDING BID OPENING**  
**(To reach before Date of Bid opening)**

No. **WG-633/PLG/2023-24/03**

**Dated:17-11-2023**

Subject: Authorization for attending bid opening on \_\_\_\_\_ in the tender of  
 .....

Following persons are hereby authorized to attend the bid opening for the tender mentioned above on behalf of.....

(bidder) in order of preference given below.

| Order of preference      | Name | Specimen Signature |
|--------------------------|------|--------------------|
| I)                       |      |                    |
| II)                      |      |                    |
| Alternate Representative |      |                    |

Signature of bidder  
 or  
 Officer authorized to sign the bid documents on behalf of the bidder.

- No. 1. Maximum two representatives will be permitted to attend bid opening. In cases where it is restricted to one, first preference will be allowed. Alternate representative will be permitted when regular representatives are not able to attend.
- No. 2 . Permission for entry to the hall where bids are opened may be refused in case authorization as prescribed above is not recovered.

**6. NEAR RELATIVES CERTIFICATE IN BSNL**

**DECLARATION**

Certificate to be given by the contractor in respect of no near relative (s) in BSNL of the contractor.

I,  
.....S/o.....  
.....resident of -----

.....hereby certify that none of my near relative(s) as defined below is/are employed anywhere in BSNL as defined below. 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.

Signature of the tenderer with seal

Note: In case of proprietorship firm, certificate will be given by the proprietor, for partnership firm, certificate will be given by all the partners and in case of Private Ltd. Company, by all the directors of the company.

**Definition of Near Relative:** 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).



**SECTION-8 : Item Rate BoO**  
**FINANCIAL BID DOUMENT**  
**(ZONE-1 Sample) (Same for Other Zone)**

**Tender Inviting Authority: General Manager BSNL, Arunachal Pradesh BA, Itanagar.**  
**Name of Work: Providing of equipment earthing, repairing or replacement of aviation light and lightning arrestors in BSNL Arunachal Pradesh BA (Zone-1)**

**Tender Enquiry No:- .....**

**Name of the Bidder/ Bidding Firm / Company:-.....**

**(DOMESTIC TENDERS - RATES ARE TO GIVEN IN RUPEES (INR) ONLY)**

**(This BOQ template must not be modified/ replaced by the bidder and the same should be uploaded after filling the relevant columns, else the bidder is liable to be rejected for this tender. Bidders are allowed to enter the Bidder Name and Values in colored cells only )**

| Sl. No.  | Description of Item   | Total Quantity | Unit | Basic Rate (per UNIT) in Figures to be entered in (Rs.) | Total Amount Without Taxes (in Rs.) |
|----------|---|----------------|------|---|-------------------------------------|
| A        | B   | C              | D    | E   | F                                   |
| <b>1</b> | <b>(SUB HEAD-I:- EQUIPMENT EARTHING)</b>  |                |      |   |                                     |
| 1.01     | Providing DC equipment earth with 4Nos GI plates by observing the following procedure.<br>a) Digging of earth pit of size 6' x 6' x 10' deep and refilling the same after installing the earth plate system.<br>b) Supplying and installing 4 Nos GI earth plates of size 600mm x 600mm x 6mm thick.<br>c) Drilling holes to the plates, making connections to all the four plates for extending earth using GI bolts and nuts, washers, spring washers, strip etc.<br>d) Supplying and fixing of 50mm x 3mm thick GI strip for interconnecting all the four strips horizontally and diagonally to the plates including drilling holes etc.<br>e) Supplying and filling the following artificial soil treatment materials in the earth pit. Charcoal - 500kgs, saw dust - 50kgs, salt - 20kgs, supplying and filling the balance pit with black cotton soil etc.,as required. f) Providing 1/2" dia GI water pipe (B-class) of approximately length 10' with suitable GI sheet funnel and mesh with necessary threading etc. g) Providing necessary enclosure for earth pit with cast Iron cover plate having locking arrangement and white washing of the masonry enclosure (Approx. size of masonry enclosure is 30"x30") h) Initial watering of the earth pit, arranging manpower for testing the earth resistance of the earth and furnishing the test results, sign writing and clearing the debries from site, making good etc., as required. | 40             | Jobs |   |                                     |
| 1.02     | Providing and fixing 25 mm X 5 mm G.I. strip in 40 mm dia G.I. pipe from earth electrode including connection with G.I. nut, bolt, spring, washer excavation and re-filling etc. as required.   | 400            | Mtr  |   |                                     |
| 1.03     | Providing and fixing 25 mm X 5 mm G.I. strip on surface or in recess for connections etc. as required.  | 600            | Mtr  |   |                                     |
| 1.04     | Supplying and laying of 25 mm X 5 mm G.I strip at 0.50 metre below ground as strip earth electrode, including connection/ terminating with G.I. nut, bolt, spring, washer etc. as required. (Jointing shall be done by overlapping and with 2 sets of G.I. nut bolt & spring washer spaced at 50mm)   | 200            | Mtr  |   |                                     |

|                             |   |     |      |  |  |
|-----------------------------|---|-----|------|--|--|
| 1.05                        | Supplying and laying of 35 sqmm multistrand single core PVC insulated copper cable from Main earth electrode to DC earth busbar i/c terminations with cu lugs etc.,as required  | 200 | Mtr  |  |  |
| 1.06                        | Measurement of earth resistance of existing earth pits at site in the presence of site incharge and submitting report etc.,as required.   | 40  | Jobs |  |  |
| 2                           | <b>SUB HEAD-II:- (LIGHTENING ARRESTOR)</b>  |     |      |  |  |
| 2.01                        | Providing Earthing with G.I. earth plate of 600 mm X 600 mm X 6 mm thick including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7 metre long etc. with charcoal/ coke and salt as required.  | 15  | Sets |  |  |
| 2.02                        | Providing and fixing 25 mm X 3 mm G.I. strip along the tower/Wall with suitable insulators /clamps fixed at suitable interval etc.,as required.(For Vertical Run)   | 675 | Mtr  |  |  |
| 2.03                        | Providing and fixing of lightning conductor finial made of 25mm dia 900 mm long GI pipe ( B-class) having single prong at top of the tower with suitable size GI base plate including holes etc.complete as required.   | 15  | Sets |  |  |
| 3                           | <b>SUB HEAD-II:- ( AVIATION LIGHTING)</b>   |     |      |  |  |
| 3.01                        | Supplying and fixing of low intensity high power LED type RED colour Aviation Obstruction Light(AOL) with cast Alluminium housing suitable for operation on 230 V AC supply on existing GBT of 60/40mtrs/30mtrs mtrs height as per site conditions.The fitting shall have day light sensor and provision for cable entry and termination etc.,as required.The agency shall replace the existing faulty AOL and fix the new one including all minor modifications if any required.(Degree of protection IP:65) | 15  | Sets |  |  |
| 3.02                        | Supplying and laying 2 core 1.5 sqmm XLPE insulated Armoured copper conductor cable of 1.1 KV Grade on the existing cable tray/on surface of wall with locking tags/clamps etc.,as required.  | 900 | Mtr  |  |  |
| 3.03                        | Supply and making end termination with brass compression gland and lugs for following size of XLPE insulated cable of 1.1 KV grade etc.,as required.<br>A) 2x1.5 Sqmm copper armoured cable   | 30  | Sets |  |  |
| 3.04                        | Supplying and fixing 6 amps to 32 amps rating, 240/415 volts, "C" curve, miniature circuit breaker suitable for inductive load of following poles in the existing MCB DB complete with connections, testing and commissioning etc. as required.<br>a) 6A to 32 A Single pole .  | 15  | Nos  |  |  |
| 3.05                        | Supplying and fixing of 10 Amps 2 way bakelite connector in the suitable size MS box i/c interconnections of existing cables as per site requirement etc.,complete as required.   | 15  | Jobs |  |  |
| <b>TOTAL IN FIGURES</b>     |   |     |      |  |  |
| <b>QUOTED RATE IN WORDS</b> |   |     |      |  |  |

Declaration by bidder

We hereby declare that in quoting the above prices, we have taken into account the entire credit on inputs available under the GST Act introduced w.e.f. 1 July 2017 and further extended on more items till date.

## SECTION – 9

### LIST OF APPROVED MAKES- BSNL ELECTRICAL WING (AS ON 29.02.2016)

| S. No | ITEMS                                      | MAKES   |
|-------|--|---|
| 1.    | Engine                                     | Ashok Leyland /Cummins/ Cater pillar / KOEL/ Volvo Penta /Mahindra & Mahindra (up to 200 KVA) /Escorts (up to 30 KVA)/ Eicher (up to 35 KVA)                                      |
| 2.    | Alternator(Brushless)                      | Crompton Greaves (AL.series)/KEC/Leroy Somer / Stamford/Jyoti Ltd   |
| 3.    | Battery (Lead Acid / Mntc. Free)           | Amara Raja / AMCO / Farukawa / Hitachi / Exide/ Prestolite / Standard   |
| 4.    | HV Switchgear(Vacuum Circuit Breaker/SF6 ) | Biecco Lawrie/Crompton / Kirloskar / MEI / Jyoti Ltd  |
| 5.    | Transformer (Oil filled/ Dry type)         | ABB / Schneider Electric /Andrew Yule / Bharat Bijlee / Crompton / EMCO / Kirloskar / Siemens<br><br>In addition to above makes,Uttam/Patson/Rajasthan Transformer and Switchgear |
|       | a) Above 400 KVA                           |   |
|       | b) Up to 400 KVA                           |   |
| 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/ C&S/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 / Kirloskar/ 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 / System Sensor / 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, ThyssenKrupp Elevator(India)  |

**NOTE:** The accessories such as CT/PT/measuring instrument/relays provided by approved make in respect of Transformer/HT Panel/DG /AC Package Units as supplied by approved manufacturer along with the equipments are also acceptable in addition.