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PRESS NOTICE

Notice Inviting e- Tenders

NIT No. 07/EE/E/BSNL/ED/SML/NIT/2023-24

(To be filled by E.E (E))

The Executive Engineer (E), BSNL Electrical Division-1, First Floor, Block no. 35, SDA Complex, Kasumpti, Shimla-171009 Email: xenbsnlsml1@gmail.com invites Digitally online item rate e-tenders in two bid system on behalf of Bharat Sanchar Nigam Limited for the following work (s) :-- **SITC of 1 x320 KVA DEA set (at site conditions) with sound proof canopy and Manual Control Panel for CTO Bldg Shimla (H.P.)**

Estimated Cost - **Rs. 36,45,368/-** EMD-**Rs 72,907/-** Cost of Bid Document - **Rs 590/-**

Last date & time of submission of on line bid – **07.06.2023** (Up to 15.00 hrs).

For further details please visit our Web Site.

www.hp.bsnl.co.in/ and www.etenders.gov.in

Executive Engineer (E)
BSNL, Electrical Division-I
Shimla.

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

NOTICE INVITING TENDER (EW-6)

No:- 07/EE/E/BSNL/ED/SML/NIT/2023-24

Dated:-27.05.2023

- 1.0 The Executive Engineer (E), BSNL Electrical Division-1, First Floor, Block no. 35, SDA Complex, Kasumpti, Shimla-171009 Email : xenbsnlsml1@gmail.com on behalf of Bharat Sanchar Nigam Limited, invites online item rate e-tenders in Two Bid system from eligible contractors for the work and details given below:
- 2.0

(a)	NAME OF WORK :- SITC of 1 x320 KVA DEA set (at site conditions) with sound proof canopy and Manual Control Panel for CTO Bldg Shimla (H.P.)	
(b)	ESTIMATED COST: - Rs. 36,45,368.00 (Excluding GST & GST cess on Goods & Services)	
(c)	EMD: - Rs. 72,907/-	
(d)	COST OF TENDER DOCUMENT: - Rs. 590/= inclusive of all taxes.	
(e)	TIME FOR COMPLETION: - 2 months.	
(f)	Last date and time of submission of on line tender documents :	Up to 15.00 Hrs on 07.06.2023
(g)	Period during which EMD , Cost of Bid , e-tender processing fee receipt and other documents shall be submitted in hard copies	After the Date & time of Submission of Online Bid to Date of opening of tender Up to 12.00 Hrs on 12.06.2023
(h)	Time and date of opening of Hardcopies submitted as above at (g)	At 12.30 Hrs on 12.06.2023
(i)	Time and date of opening of Financial Bid	At 15.30 Hrs on 12.06.2023

The Firms who fulfill the following requirements shall be eligible to bid.

1.1. ELIGIBILITY CRITERIA :-

- 1.1.1 Average annual turnover during the last three years ending 31st march of the previous financial year should be at least 30% of the estimated cost put to tender.

AND

- 1.1.2 BSNL enlisted contractors in Electrical category of respective class as per their tendering limits.

OR

BSNL CO (Electrical) approved Engine manufacturer with the approved capacity of engine not less than the DG set capacity proposed in the NIT.

OR

OEM authorized by BSNL CO (Electrical) approved Engine manufacturer with the approved capacity of engine not less than the DG set capacity proposed in NIT. The letter of authorization in original from the Engine manufacturer will have to be produced by the OEMs.

OR

Experience of having successfully completed similar works in Central Government / State Government / Central Autonomous Body/ Central Public Sector Undertaking/other private telecom service providers during last 7 years ending last day of month previous to the one in which NIT's are invited, should be either of the following :-

Three similar successfully completed works costing not less than the amount equal to 40% of the estimated cost put to tender with DG set capacity not less than 80% of individual capacity of the DG set proposed in the NIT.

OR

Two similar successfully completed works costing not less than the amount equal to 60% of the estimated cost put to tender with DG set capacity not less than 80% of individual capacity of the DG set proposed in the NIT.

OR

One similar successfully completed work costing not less than the amount equal to 80% of the estimated cost put to tender with DG set capacity not less than 80% of individual capacity of the DG set proposed in the NIT.

(Similar work means: - SITC of DG set)

Note:- Contractor should be registered with Goods and Service tax Deptt. and should further have EPF and ESI registration certificates from appropriate Govt. authorities. The agencies who claim to be exempted from EPF/ESI registration should submit an affidavit on judicial stamp paper for the same.

2. The intending bidder has to fill all the details such as Banker's name, Demand Draft/Fixed Deposit Receipt /Pay Order/ Banker's Cheque/Bank Guarantee number, amount and date in the bid document. **The MSE units shall be exempted from submission of EMD & Tender Cost on production of requisite proof in respect of valid certification from MSME for the tendered item.**

(i) **Cost of Bid Document:** -Demand draft for tender fee drawn in favor of **AO (Cash), O/o GMTD Shimla** or For deposit of tender cost online the bank details are as under: -

- a) Account No.: - 510101005313782
- b) Account type: -current account
- c) IFSC Code: - UBIN0905755
- d) Bank Branch: - **KASUMPTI SHIMLA 171009**

(The MSE units shall be exempted from submission of Tender Cost on production of requisite proof in respect of valid certification from MSME for the tendered item)

E-tender processing fee – This is to be paid through online mode only at www.etenders.gov.in. (if applicable)

(iii) **EMD: -Rs.72,907/-** in the shape of FDR/DD/BG in favor of **AO (Cash), O/o GMTD Shimla** 'OR' online mode in the bank detail given above. **The MSE units shall be exempted from submission of EMD on production of requisite proof in respect of valid certification from MSME for the tendered item.**

3. The Bid documents consisting of the detailed plans, complete specifications, the schedule of quantities of the various classes of works to be done and the set of conditions of contract to be complied with and other necessary documents, can be seen and downloaded from website www.hp.bsnl.co.in and www.etenders.gov.in free of cost

4. a) The intending bidder must read the terms and conditions of tender documents carefully. He should only submit his bid if he considers himself eligible and he is in possession of all the documents required.
- b) In case of offline submission of financial instruments **the original financial instruments like Demand Draft against cost of Bid document and EMD shall be placed in a sealed envelope super scribed as "Cost of Bid, and EMD" mentioning name of work, due date and time of opening of bids, name of the bidder and shall be submitted in the tender box placed in the office of the Executive Engineer (E), BSNL Electrical Division-I, Shimla latest by 12.00 hours (as per date mentioned in 1(h) of above table.) failing which the price bid will not be opened. The documents sent through post/ courier shall not be entertained.**
- c) **If the bidder is a firm in partnership / Limited company or Corporation, then the hard copies of "FORM-A" and partnership deed / Memorandum of Articles of Association and power of attorney / Authorization to the person who signs the tender in case of companies etc. shall also be submitted along with hard copies of other documents as above.**
- d) Any other document in addition to EMD and Tender Cost can be demanded by the tender opening authority **of any participating bidder during the time after submission of technical bid and before opening of financial bid. The contractor is bound to produce the originals/attested copies of the documents on demand for verification at the date & time of opening mentioned by the tender opening authority. If agency fails to do so their tender shall be rejected and financial bid shall not be opened.**
- (e) Online bid documents submitted by intending bidders shall be opened only of those bidders, whose Cost of Bid Document and other documents uploaded/ hard copies submitted are found in order as per NIT.

The intending Tenderer must read the terms and conditions of tender document, BSNL EW-6 & EW-8 carefully which can be accessed from web site www.etenders.gov.in or www.hp.bsnl.co.in. He should only submit his tender if he considers himself eligible and he is in possession of all the documents required.

5. The intending bidders must have valid digital signature to submit e-Tender.
6. The e-Tender will be submitted online in two Electronic Envelope system.
- *Electronic Envelope No-I: - Eligibility documents & Technical Bid (e-Tender).*
 - *Electronic Envelope No-II: - Price Bid.*
7. Tender Cost, EMD & other documents are required to be submitted Online/offline in the o/o **The Executive Engineer (E), BSNL Electrical Division-1, First Floor, Block no. 35, SDA Complex, Kasumpti, Shimla-171009 Email : xenbsnlsml1@gmail.com** up to the Last date and time of submission of EMD, Tender Cost & Other documents. (For details refer EW-06)
8. On Line e-Tender can only be submitted after uploading following valid scanned documents (i.e. e-Envelope-I) related to eligibility conditions as per point no-1 above up to Last date and time of online submission/ uploading of E-tender.
- a. Documentary proof of satisfying the eligibility conditions as per **1.00 above** (Work completion certificate etc as required)

- b. CA certificate towards turn over & deposition of income tax.
 - c. PAN Card.
 - d. Goods & Service Tax Provisional/Permanent registration certificate.
 - e. EPF and ESI registration certificate.
 - f. Declaration of EW-6 / EW-8 & Relative Certificate
 - g. Undertaking -I & II by contractors
 - h. Demand draft towards Cost of Tender documents.
 - i. EMD/Bid security in prescribed form **or valid MSME certificate**
 - j. Power of Attorney & authorization for executing the power of Attorney.
 - k. Self-declaration by the firm for not blacklisted by GST authorities and mentioning of multiple GST numbers, if available
 - l. Tender cost and Earnest money deposit declaration in case of online submission of EMD/Tender Cost as per Annexure-II (Page no-19)
 - m. Copy of Valid Electrical License
9. Validity of tender shall be for 90 days from the date of opening of tender.
10. The bidding process will be accepted only through e-Tendering platform. As tenders are invited through e-Tendering process, physical copy of the tender document would not be available for sale. Contractor can upload documents in the form of JPG format, PDF format and any other format as permissible by the e- tendering portal.
- 11 i) **Performance Guarantee:** The contractor is required to furnish performance guarantee for an amount equal to 5% of the contract value in the form of CDR/FDR/DD or Bank guarantee (of a nationalized / Scheduled Bank in a standard format **Annexure-III**) within two weeks from the date of issue of award letter. This period can be further extended by the Engineer-in-charge up to a maximum period of 2 weeks on written request of Contractor. The validity period of the performance security in the form of performance bank guarantee shall be one year from the date of actual completion of work.
- ii) **Security deposit:** In addition to performance guarantee stated above, a sum @ 10% of the gross amount of the bill shall be deducted from each running bill of the contractor till the sum be deducted with the sum already deposited as earnest money, will amount to security deposit of 5% of the Tendered value of the work.
- 12 The acceptance of a tender will rest with the Superintending Engineer (E) BSNL Electrical Circle CHD 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. **Tenders with any condition including that of conditional rebates shall be rejected forthwith summarily.**
- 13 Canvassing in connection with tender is strictly prohibited and the tenders submitted by the contractors who resort to canvassing will be liable for rejection.
- 14 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.
- 15 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.
- 16 The tender for the works shall not be witnessed by the contractor who himself/themselves has/ have tendered or who may and has/have tender for the same

work. Failure to observe this condition would render tenders of the contractors tendering as witnessing the tender is/are liable for summarily rejection.

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

If any tenderer withdraws his tender before the above said period or makes any modification in the terms and conditions of the tender which is not acceptable to the BSNL shall, without prejudice to any other right of remedy be at liberty to forfeit 50% (fifty percent only) of the said earnest money absolutely and further he will not be allowed to participate in tender for the same work on further calls. .

18 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 and the Earnest Money deposit by a reasonable period. In such cases, extension of validity of Earnest Money deposit by 30 days beyond the extended validity date of tender should also be asked for. While BSNL can make the request for extension, the tenderer is free to either extend the validity or refuse the request to extend the validity.

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

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

21 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 form.

22 The documents sent through post/ courier shall not be entertained.

23 Contractor should be registered with Goods and Service tax Deptt. and should further have EPF and ESI registration certificates from appropriate Govt. authorities. The agencies who claim to be exempted from ESI registration should submit an affidavit on judicial stamp paper for the same.

24 The near relatives of any BSNL Employee either directly recruited or on deputation are prohibited from participation in tenders and execution of works in the different units of BSNL

i. 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 manners 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).

The company or firm or any other person is not permitted to tender for works in BSNL Unit in which his near relative(s) is/are posted. The Unit is defined as SSA/Circle/Chief Engineer/Chief Archt/Corporate Office for non-executive employees and all SSA in a Circle including Circle Office/Chief Eng./Chief Archt/Corporate office for executive employees (including those called as Gazetted Officers at present). The tenderer should give a certificate (Annexure-II) 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. 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 limited company by all the Directors of company. Any breach of these conditions by the company or firm or any other person, the tender/work will be cancelled and earnest money/Security deposit will be forfeited at any stage whenever it is so noticed. The department 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

25. **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.
26. **Indulging of contractor in criminal/anti social activities and cases under investigation/ charge sheeted by CBI or any Govt. Agencies etc:-** If the CBI/ Independent External Monitor (IEM)/ Income Tax/GST/ Custom Departments recommends such a course – Action will be taken as per the directions of CBI or concerned department

EXECUTIVE ENGINEER (E)

Vendor Contract Clauses		
S.No.	Contractual Clause	Clause description
1	Definition	The term " GST Act" shall include Central Goods and Service Tax Act 2017 (CGST), State Goods and Service Tax Act, 2017 (SGST) Integrated Goods and Service Tax Act, 2017 (IGST) Union Territory Goods and Service Tax Act 2017 (UTGST), Rules and any other GST related legislation in India.
2	Definition	For the purpose of this agreement, the term 'GST' shall include Central Goods and Service Tax, Act 2017 (CGST), State Goods and Service Tax Act, 2017 (SGST) Integrated Goods and Service Tax Act, 2017 (IGST) Union Territory Goods and Service Tax Act 2017 (UTGST), and any other taxes levied under the GST related legislation in India, as may be applicable.
3	Eligibility	For the purpose of this agreement, the Vendor should: <ol style="list-style-type: none"> 1. Have a valid PAN No. 2. Have a valid Goods and Service Tax Registration Certificate Number Eligible for rising GST Tax invoice to BSNL for claiming input tax credit 3. File a self-declaration along with the evidence that the Vendor is not black listed by GST authorities. 4. Intimate all GST registration number to BSNL, where Vendor holds multiple GST numbers.
4	Tax Clause	All taxes except CGST, SGST, UTGST and IGST if any, required to be paid on the invoices shall be borne by the Vendor.
5	Indemnity	<p>It is the responsibility of the Vendor to ensure that outward supply return (GSTR-1) is filed correctly and to declare correct information on the invoice and GST portal.</p> <p>In case of mismatch because of vendor's fault, prompt amendments must be made by the Vendor else Vendor shall be required to indemnify BSNL of the loss of credit due to mis-match and BSNL shall recover the said amount from vendor. The compliance to be adhered by Vendor includes (but is not limited to) the following:</p> <p>(i) Uploading appropriate invoice details on the GSTN (Goods and Services Tax Network) within the stipulated time:</p> <p>(ii) Issuing GST compliant invoice/CN/DN. PO issued by BSNL should be referred by Vendor for capturing information on the invoice:</p> <p>(iii) Acceptance of changes made by BSNL on GSTN on account of non upload or incorrect upload of details on GSTN. Such changes w.r.t the mis-match are required to be accepted by Vendor within the time limit prescribed under the GST law. It must be noted that in case Vendor does not accept such changes within the time limit prescribed under GST law the loss of input tax credit(it any) would be recovered from the Vendor.</p> <p>BSNL reserves the right to be indemnified for the credit loss and recover the said amount from the Vendor in case BSNL is unable to claim the input tax credit for any non-compliance or default or due to lack of diligence on the part of the Vendor. Further in case any credit</p>

		is not received or short credit is received or in case of any error because of which no credit is received then such equivalent amount is not liable to be paid by BSNL. Where, however the amount has already been paid by BSNL the same is liable to be recoverable or adjustable against subsequent payments
6	Indemnity clause	It is hereby agreed between both the parties that in case any GST and/or cess liability, interest, penalties or any other tax/ duty/ amount/ charge /liability/ professional costs related to litigation becomes payable by BSNL or input tax credit is denied to BSNL due to failure of the Vendor to comply with the relevant laws/regulations applicable in India or overseas. Vendor undertakes to indemnify BSNL for an amount equal to amount payable by BSNL and the same shall be recovered by BSNL.
7	Tax deducted at source	Nothing contained herein in the agreement shall prevent BSNL from deducting tax at source if required under GST Act and GST regulations, or under any law or any regulation
8	GST Invoice	<p>It shall be the responsibility of Vendor to raise appropriate tax invoice as per the provisions of GST Act. BSNL reserves the right to be indemnified for the credit loss in case BSNL is unable to claim the input tax credit for any non-compliance/ default in raising appropriate invoice by Vendor. Further all invoices should be sent to BSNL promptly.</p> <p>Further the Vendor is required to comply following requirements w.r.t issuance of invoice:</p> <ul style="list-style-type: none"> •All the details of Vendor(name, address, GSTIN No,) and other mandatory details shall be mentioned on the invoice: •Invoice/DN/CN need to be issued timely within the time prescribed under GST law: •In case of any deficient supply, BSNL shall convey the same in a reasonable time to enable the Vendor to issue credit note and take tax adjustment: <ul style="list-style-type: none"> •It would be the responsibility of the Vendor to declare correct information on invoice and GST portal 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 Vendor, the same would be recovered by BSNL from the Vendor •Registered location of both the parties ie. BSNL and Vendor should be mentioned in the agreement with GSTIN No. Further, Vendor should raise invoices at the registered premise of BSNL for availment of credit and ensure that the place of supply as per GST law is same as registered premise: •It shall be the responsibility of Vendor to raise invoice within the prescribed timelines: •E-way bill number should be mentioned on the invoices.
9	Debit Note	The Vendor acknowledges and agrees to issue appropriate debit note/ credit note as prescribed under GST Act and send to BSNL within the prescribed time. All documents should be received well in advance so as to enable BSNL to claim proper credit. Further it shall be the responsibility of Vendor to declare the details of such credit note in

		<p>the return for the month during which such credit note has been issued but not later than September following the end of the financial year in which such supply was made, or the date of furnishing of the relevant annual return, whichever is earlier.</p> <p>BSNL reserves the right to be indemnified for the credit loss by Vendor in case BSNL is unable to claim the input tax credit for any non-compliance or default or due to lack of diligence on the part of the Vendor</p>
10	Payment Terms	<p>BSNL will make payment to Vendor only after the invoice is uploaded by Vendor in GST outward return i.e.GSTR-1 and credit of GST is available (reflected in GSTR-2A) to BSNL.</p> <p>Further it is agreed that for claiming the payment the following documents are to be submitted by the Vendor to the paying state along with appropriate invoice:</p> <ol style="list-style-type: none"> 1. Invoice along with e-way bills. 2. Delivery challans (Wherever applicable) 3. Consignee Receipt(L R) (Wherever applicable) 4. Bill of materials. 5. Any other document as may be demanded by BSNL.
11	Payments Terms	<p>Vendor hereby agrees that they will be solely responsible for performing all compliances and making payments of GST, cesses, interest, penalties or any other tax/ duty/ amount/ charges / liability arising either out of laws/ regulations applicable in India and overseas or because of a demand/ recovery initiated by any revenue authority under laws/ regulations applicable in India or overseas</p>
12	Purchase order	<p>It is understood between the parties that Vendor raise invoice based on purchase order issued by BSNL. In case of any deviation or disagreement by Vendor on place of supply, billing location, HSN code/ SAC code stated on PO it shall be the responsibility of Vendor to intimate BSNL well in advance.</p> <p>Further, in case Vendor raises the invoice on an address other than agreed, it shall be the responsibility of the Vendor to modify the invoice</p>
13	Place of Supply	<p>For the purpose of this agreement, place of supply under GST Act shall be the place of supply as determined under purchase order raised by BSNL. It shall be the responsibility of Vendor to intimate BSNL well in advance in case of deviation/ disagreement with the place of supply as determined in PO</p>
14	Deficient supply/ Incomplete supply/ Rejected supply	<p>Each party to contract agrees that in case of any deficient supply or incomplete supply or rejected Vendor, it shall be the responsibility of Vendor to issue GST compliance credit not within the reasonable time and take tax adjustment. In case the Vendor fails to issue proper credit note within the time stipulated under the GST law the taxes charged and not adjusted would be borne by the Vendor.</p>
15	Compliance rating	<p>Vendor shall be liable to comply with all the compliances as may be prescribed to ensure that compliance rating is not reduced below the prescribed limit as laid down under GST Act and GST regulations. Vendor shall be required to submit a self-declaration from time to</p>

		time, that they are not black-listed on the GST portal. Notwithstanding anything contained in agreement. In the event of black listing of Vendor i.e compliance rating reduced below the prescribed limit, the amount related to tax shall be paid to Vendor only on receipt of input tax credit to BSNL
16	E-way bill	It shall be the responsibility of Vendor to obtain e-way bill in case of movement of goods exceeding limit as prescribed under the GST Act. Vendor would indemnify BSNL in case of any non-compliance or default or due to lack of diligence on the part of the Vendor to comply with the e-way bill requirement.
17	Penalty	It is agreed by Vendor that in case of any deviation, default or negligence on the part of Vendor due to which it is liable to pay penalty to BSNL, the same shall be recovered by BSNL from Vendor along with applicable GST tax (as may be applicable)
18	Liquidated Damages	GST (if applicable) on account of liquidated damages due to delay in supply of goods would be borne by Vendor
19	Set off	It is agreed that in case of set off of the security deposit against any claim of the purchase of 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 Vendor 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 Vendor.
20	Miscellaneous	1. Vendor agrees to share the monthly information with BSNL which would be uploaded by the Vendor in its GSTR-1 along with the information of input credit to be claimed by BSNL in such month. 2. It shall be the responsibility of vendor to provide reconciliation statement of all the supplies made by it including issuance of credit note, debit note or other documents as prescribed, within 30th September following the end of relevant financial year

The details of BSNL Chandigarh GSTN Registration are as follows:-

GSTIN	04AABCB5576G1ZT
PAN	AABCB5576G
Legal Name	BHARAT SANCHAR NIGAM LIMITED
Trade Name	BHARAT SANCHAR NIGAM LIMITED
ARN No.	AA040417001392R
Address of Principal place of Business	Plot No. 2 , Sanchar Sadan, Sector -34 A, Chandigarh.

BHARAT SANCHAR NIGAM LIMITED

(A) Tender for the work of: - SITC of 1 x320 KVA DEA set (at site conditions) with sound proof canopy and Manual Control Panel for CTO Bldg Shimla (H.P.)

UNDERTAKING

1. I /we have read and examined the notice inviting tender, schedules, Specifications applicable, Drawings & Designs, General Rules and Directions, Conditions of contract, clauses of contract, Special conditions, Schedule of Rate & other documents and Rules referred to in the conditions of contract and all other contents in the tender document for the work.

2. I/We hereby tender for the execution of the work specified for the BSNL within the time specified, schedule of quantities and in accordance in all respects with the specifications, designs, drawings and instructions and other documents and rules referred to in the conditions of contract and all other contents in the tender document for the work.

3. I/We agree to keep the tender open for ninety (90) days from the due date of submission thereof and not to make any modifications in its terms and conditions.

4. A sum of Rs..... is hereby forwarded in the form of Deposit at call receipt/FDR//Bank guarantee of a Nationalized/Scheduled Bank as earnest money. If I/We, fail to furnish the prescribed performance guarantee within prescribed period I/We agree that the said BSNL shall without prejudice to any other right or remedy, absolute EMD will be forfeited. Further if I/ We fail to commence work as specified, I/ We agree that the said BSNL shall without prejudice to any other right or remedy, be at liberty to forfeit the amount of PG with reference to LOI amount or absolute performance guaranty 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 letter of Acceptance. I/We agree to keep the performance bank guarantee valid as per the terms of the NIT.

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.

I/we here by agree to sign the:-

- (a) The original documents consisting of schedule and specification, important note to contractor, special conditions of contract etc as per original tender documents (applicable for bid received on web).
- (b) Latest EW -6 and 8 form shall form part of the agreement.

(The standard EW-8 form can be downloaded from http://electrical.bsnl.co.in/BSNL_EW-8.pdf for reference)

Dated _____

Seal Of Contractor

Signature of Witness:

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

Name of Witness :

Address:

Occupation:

ACCEPTANCE

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

(Rupees _____

_____)

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

a)

b)

Dated:.....

For & on behalf of BSNL

Signature

Designation

CONDITIONS OF THE CONTRACT

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

A) GENERAL

1. EARNEST MONEY

Firm has option to deposit Earnest Money in the form of CDR / FDR / DD or bank guarantee of a scheduled Bank or Nationalized Bank / State Bank guaranteed by Reserve Bank of India in department's attached format and manner (**Annexure-I**). If the firm fails to start or withdraws from agreement, then as per relevant clause of the agreement, EMD @ 2% of the amount of agreement shall be forfeited from EMD available with the agreement or from any money due to the firm by the department under this contract or on any other account. Validity period of earnest money deposit shall be 30 days beyond the tender validity. In case of MSME certificate If the firm fails to start or withdraws from agreement, then necessary action shall be taken as per MSME guidelines in this matter.

2. BID PRICES, TAXES AND DUTIES

The bidder shall give the total composite price inclusive of all Central and State's Levies & Taxes or any other taxes or duties like local area development tax on material, labour etc. **except GST. GST will be paid extra, as per actual, wherever applicable on production of proof of payment as per vendor contract clauses of this NIT.**

The price approved by BSNL for procurement will be inclusive of levies and taxes, Packing, Forwarding, Freight and Insurance etc. except GST.

The liability to pay all taxes, levies etc. shall be of contractor and BSNL will not entertain any claim whatsoever in this respect except GST.

(a) EVALUATION OF BIDS

The evaluation and comparison of responsive bids shall be done on the basis of **net cost to BSNL** on the prices of all items included in schedule of work offered inclusive of Duties and Taxes, Packing, Forwarding, Freight and Insurance charges etc but excluding GST.

3. INCREASE/DECREASE OF TENDER QUANTITY

BSNL will have the right to increase or decrease up to 25% of the quantity of goods and services specified in the schedules of items without any change in the unit price or other terms and conditions at the time of award of contract. In exceptional and unavoidable cases BSNL can increase the quantity of goods and services beyond 25% of the tendered quantity without any change in tendered and accepted unit price also other terms and conditions as applicable at the time of award of contract.

4. VARIATION IN Taxes/ Duties

In case of any statutory variation in regard to any taxes / duties, within the stipulated date of completion of individual agreement, the same shall be paid or recovered as per the actual against documentary proof. However, beyond this period department will take advantage of any duty reduction but will not pay extra on account of duty increase.

(Point no. 15B under general rules & conditions of EW 8 shall be governed by above Para i.e. no. 5).

5. Tendered rates are inclusive of all taxes and levies payable under the respective states except GST.

However, pursuant to the Constitution (Forty Sixth amendment) Act 1982, if any further tax or levy is imposed by statute after the date of receipt of tenders and the contractor(s) thereupon necessarily and properly pays taxes or levies the contractor(s) shall be reimbursed the amount so paid provided

such payment if any is not in the opinion of S.E (whose decision shall be final and binding) attributable to delay in execution of work within the control of the contractor(s).

- (a) The contractor(s) shall keep necessary books of accounts and other documents for the purpose of this condition as may be necessary and shall allow inspection of the same by a duly authorized representative of Government and shall furnish such other information's /documents as the Engineer-in-Charge may require.
- (b) The contractor(s) shall within a period of 30 days of imposition of any further tax or levy pursuant to the Constitution (Forty Sixth amendments) Act 1982 give a written notice thereof to the Engineer-in-Charge that the same is given pursuant to this condition together with all necessary information relating thereto.
6. A Compliance certificate, duly signed as per **Annexure-II**. (In case of deviations, a statement of the deviations and exception to the provision of the Technical Specifications and Commercial Conditions shall be given by the bidder).
7. The contractor shall ensure fulfillment/compliance of the provisions of EPF & Misc. Provisions Act 1952 & Employees Provident Fund Scheme 1952 in respect of labourers / employees engaged by them for performing the works of BSNL.
8. Each claim bill of the contractor must accompany the (i) List showing the details of labourers /employees engaged (ii) duration of their engagement (iii) the amount of wages paid to such labourers/employees for the duration in question (iv) amount of EPF contributions (both employers and employee's contribution) for the duration of engagement in question, paid to the EPF authorities (v) copies of authenticated documents of payments of such contribution to EPF authorities and (vi) a declaration from the contractor regarding compliance of the conditions of EPF Act, 1952.
10. Participation of near relatives of the BSNL Employees in the Tender / Execution of works in BSNL units - The near relatives of any BSNL Employee either directly recruited or on deputation are prohibited from participation in tenders and execution of works in the different units of BSNL
 - i. 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 manners 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).
 - ii. The company or firm or any other person is not permitted to tender for works in BSNL Unit in which his near relative(s) is/are posted. The Unit is defined as SSA/Circle/Chief Engineer/Chief Archt/Corporate Office for non-executive employees and all SSA in a Circle including Circle Office/Chief Eng./Chief Archt/Corporate office for executive employees (including those called as Gazetted Officers at present). The tenderer should give a certificate (**Annexure-III**) 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. 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 limited company by all the Directors of company. Any breach of these conditions by the company or firm or any other person, the tender/work will be cancelled and earnest money/Security deposit will be forfeited at any stage whenever it is so noticed. The department 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.
- 11 TENDERS SHOULD BE SUBMITTED IN SEALED CONDITION AND THE TENDERER SHOULD SIGN ALL THE PAGES OF THE TENDER DOCUMENTS.

12. Operation of Contract

The successful tenderer /contractor, on acceptance of his tender by the Accepting Authority, shall sign the contract within 15days consisting of the notice inviting tender, all documents including drawings,

if any, forming the tender as issued at the time of invitation of tender & acceptance thereof together with any correspondence leading there to.

- a. EE (E) shall draw the agreement for this work.
- b. The Time allowed for completion is 2months.
- c. S. D. and other deposits as per terms and conditions of agreement shall be kept with the concern EE (E) and refunded / adjusted as per relevant clause of agreement.

13. PROGRAMME FOR EXECUTION: -

The firm shall supply detailed programme to Engineer-in- Charge for execution of contract with in fifteen days of award of work. The programme shall contain details about submission of drawing, supply of materials. Tentative dates for installation, testing and commissioning shall also be submitted.

To ensure good progress of the work during the execution, the contractor is bound, in all cases, in which the time allowed for any work exceeds one month to complete 1/8 th of the whole of the work before 1/8th of the time allowed under the contract has elapsed, 3/8th of the work before 1/2 of the time has elapsed and 3/4th of the work before 3/4th of such time has elapsed.

Flow chart of the procurement process / contract shall be supplied by the contractor and approved by Executive Engineer concerned.

14. STORES AND SAFETY:-

All the stores and materials required for the satisfactory completion of the work shall be arranged at work site by the contractor from his own sources and safe custody of the material stored at site will be responsibility of the contractor.

15. COORDINATION AT SITE :-

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

16. TEST CERTIFICATES :-

The firm shall submit following test certificates on supply of the material at site.

- ❖ Manufacturer test certificates for Engine and Alternator.
- ❖ Type Approval certificate of testing of DG set and canopy as per latest CPCB Norms
- ❖ Routine test certificates for individual items.
- ❖ Department may test the DG set at factory without any extra payment.

17. DATE OF COMPLETION: - Date of Successful completion of **Acceptance Testing** as per Dept. Norms shall be taken as completion date of the work.

18. COMPLETION DRAWINGS : -

The firm shall supply three sets of drawings / documents immediately on completion of the work as detailed below.

- Plan layout & Installation details of DG set indicating various equipments.
- Schematic diagram of Control wiring.
- Operation and maintenance Manuals.

19. GUARANTEE AND DEFECT LIABILITY: -

The guarantee shall be valid for Twelve months after Date of completion i.e. successful completion of Acceptance Testing . The contractor shall guarantee that all equipments shall be free from any defect due to the defective material and / or bad workmanship and also the equipments shall work satisfactorily with performance and efficiencies not less than the guaranteed values. Any part found defective during this period shall be replaced free of cost by the contractor. The service of the contractor's personnel if required during this period shall be made available free of cost to the department.

20. PAYMENT TERM: -

The following terms of payment shall be adopted:

No advance payment will be made. The payment to the contractors during progress of work shall be regulated as under:

- (i) 80% of prorata of the approved price break up of contract value on receipt of material at site and after satisfactory physical inspection.
- (ii) 10% of prorata of the approved price break up of contract value after successful installation of equipment.
- (iii) 10% of the approved contract value after successful commissioning and acceptance testing and approval from the inspecting agency.

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.

The following documents may be supplied by the Firm/Supplier for release of payment:-

1. GST Invoice or equivalent document favoring BSNL
2. Delivery challan.
3. Consignee receipt.

21. BYE-LAWS, INDEMNITY AGAINST LIABILITIES

- a) The contractor shall comply with all bye-laws and regulations of local and statutory authorities having jurisdiction over the works and shall be responsible for payment of all fees and other charges and giving/ receiving all necessary notices and keep the Engineer-in-charge informed about the notices issued and received.
- b) The contractor shall indemnify the BSNL against all claims in respect of patent rights, design, trade mark or name of other protected rights in respect of any plant, machine, work or materials used for or in connection with the work 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.
- c) License fees, damages, cost and charges of all and every sort that may be legally incurred in respect thereof shall be borne by the contractor.
- d) All liabilities/ penal recoveries on matters arising out of tax/ excise/ levies such as incorrect deductions, discrepancies in the filing of returns, revised assessment by the concerned authorities etc. shall be borne by the contractor.
- e) It is contractor's liability to follow all safety procedures in accordance with relevant I.S. amended up to date during execution of work at site.

EXECUTIVE ENGINEER (E)

MODEL FORM OF BANK GUARANTEE FOR EMD

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

Whereas _____ (hereinafter called "The Contractor(s)") has submitted its Tender dated _____ for _____ (Name of work) _____ KNOW ALL MEN by these Presents that WE _____ OF _____ having our registered office at _____ (hereinafter called "The Bank") are bound unto A. O.(Cash),B.S.N.L. GMTD,Chandigarh. (hereinafter called " The Purchaser ") in the sum of _____ for which payment will and truly to be made of the said Purchaser, 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 Purchaser 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 Purchaser up to the above amount upon receipt of its first written demand, without the Purchaser having to substantiate its demand, provided that in its demand, the Purchaser will note that the amount claimed by it is due to it owing to the occurrence of one or both of the two conditions, specifying the occurred condition or conditions.

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

Signature of the Bank Authority

Signature of the Witness

Name of Witness

Address of Witness

COMPLIANCE CERTIFICATE

We _____ (name of the firm) state to comply in full manner with all the General, commercial, Technical, operating financial conditions of the Tender Document for the work “SITC of 1 x320 KVA DEA set (at site conditions) with sound proof canopy and Manual Control Panel for CTO Bldg Shimla (H.P).” without any reservation and deviation.

For and on behalf of (Name the company)

Signature of the authorized signatory of the bidder company.

CERTIFICATE REGARDING PARTICIPATION OF NEAR RELATIVES OF THE BSNL EMPLOYEES IN TENDER

I _____ S/o Sh. _____ Resident of _____ hereby certify that none of my relative(s) as defined in the tender document is/are employed in BSNL units 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 to absolute right to take any action as deemed fit/without any prior intimation to me.

Dated :

Signature(s)
Company Name & Seal
Type of Company

PERFORMANCE SECURITY GURANTEE BOND

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

Dated the ____ day of ____

for _____ (Indicate the name of the Bank)

Name of work: SITC of 1 x320 KVA DEA set (at site conditions) with sound proof canopy and Manual Control Panel for CTO Bldg Shimla (H.P.)

S.No.	DESCRIPTION OF ITEM	Qty		RATE (excluding GST)	Unit	Amount
1	2	3		4	5	
					Rs.	
1	Supplying of factory assembled and factory tested multi cylinder water cooled electric start Ready to Use (RTU) type DG set in a sound proof canopy complete with all accessories, batteries, fuel tank, Manual Control Panel etc. as per the specifications attached.					
i	Diesel Engine Capable of delivering minimum 399 BHP and suitable for delivering 320KVA coupled with alternator.					
ii	Three phase, 50HZ, 415Volts 1500 RPM Alternator capable of delivering 320 KVA at 0.8 p.f., at site conditions and coupled to diesel Engine mentioned above.					
iii	Sound proof canopy as per latest CPCB approved norms and duly having type certificate from authorized agencies suitable for above DG set. Complete unit as reqd as per specifications. The canopy is to have inbuilt tray at the base for oil spillage.	1	set		each	
NOTE:-						
a	The Price of above item no-1 shall be quoted inclusive of all the taxes and duties as applicable but excluding GST . The GST shall be paid as per vendor contract clauses of this NIT.					
b	The Agency shall furnish the manufacturer's test certificates for all major equipments at the time of supply					
c	The agency to furnish CPCB type approval certificate including approved drawing with the supply of silent genset at site					
d	Necessary documents of Engine, Alternator and Combined DEA set shall be furnished as a proof of factory assembled set by the agency					

e	The make of Engine , Alternator and all other accessories should be as per BSNL approved product directory					
f	All works shall be executed as per the drawings approved by Engineer- in - Charge.					
2	Installation, Testing and Commissioning of existing 320 KVA DG set i/c testing of DG set at site for atleast 7hrs on full load and 1 hr on over load by the competent authority.The DG set shall be put on exchange load and tested for atleast 30 minutes for trouble free operation. Note:- The necessary load and diesel for these shall be arranged by the agency.	1	job		each	
3	Dismantling of the existing 400 KVA DG set from the site i/c deassembling of canopy.engine alternator and accessories and shifting the same at suitable place as decided by the engineer incharge.	1	job		each	
4	Dismantling of the existing newly supplied 320 KVA DG set from nearest motorable road to the existing foundation i/c deassembling of canopy.engine, alternator and accessories and shifting the same at existing foundation i/c carriage from the downstairs by heavy labour at site and reassembling of complete DG set with canopy as per instructions of the engineer in charge. (Note:- The agency shall visit the site before quoting rates for assessing the situation. Nothing extra shall be paid on this account due to any reason whatsoever)	1	job		each	
5	Earthing with G.I. earth plate 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 meter long etc. with charcoal/ coke and salt as required.	4	Set		each	
6	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.	12	Meters		mtr	
7	Providing and fixing 25mmx5mm GI strip on surface or in recess for connections etc as required	8	Meters		mtr	

SPECIFICATIONS FOR E/A SET WORKS

The Engine Alternator set shall be suitable to generate **320 KVA** capacity at 50 °C & at P.F. not less than 0.8, 415 volts, 3 phase 4 wire, 50 Hz, AC supply and driven with diesel engine (minimum 399 BHP) at NTP. It shall be mounted on a common base frame through a suitable direct coupling. It will generate the required power at 1500 R.P.M. It shall be rated for constant speed and shall conform to ratings as per BS 5514 / ISO 3046 / IS 13018 and shall be complete with class A-I governing.

GENERAL SPECIFICATIONS

1.0 SCOPE:

- 1.1 This section sets out general requirements, methods and guidelines for installation of Engine Alternator sets and provisions of control panel distribution schemes.
- 1.2 The work shall be carried out as per current CPWD specifications for electrical works and Indian Electricity Rules as amended from time to time.
- 1.3 Any damage caused to the building during the course of execution of work by the contractor will have to be made good by the contractor at his risk and cost. If he fails to do so within a reasonable time as determined by Engineer-in-Charge, the same will be got done by the department at the risk and cost of the contractor.
- 1.4 The engine alternator and the other associated equipments used in engine alternator set shall not have been manufactured earlier than one year from the date of award of work.

2.0 ENGINE ALTERNATOR SET:

The scope of this section covers general requirements for reciprocating diesel engine and alternator complete with drive, safety controls, lubrication system, cooling system, instruments etc. i/c erection, testing & commissioning.

- 2.1 The set shall operate under the following site conditions:-

Altitude	2300 Meter or of Shimla whichever is higher
Dry Bulb	50°C (ambient temperature inside silent canopy)
Humidity	95% (Relative)
- 2.2 The set may be idle for a long time, except for periodical tests. Wherever there is electrical mains supply failure, the set may be required to run continuously for periods even exceeding 24 hours.
- 2.3 ***DIESEL ENGINE:***
 - 2.3.1 The Engine shall be capable of developing specified BHP (at NTP) as specified at 1500 rpm with overload capacity of ten percent for one hour in every twelve hours of continuous operation at full load.
 - 2.3.2 The Engine shall be equipped with the required standard accessories. Broadly these are as under:
 - (i) Flywheel.

- (ii) Flywheel housing.
- (iii) Air cleaner.
- (iv) Exhaust turbo charger & after coolers (whenever required)
- (v) Lubricating pump.
- (vi) Fuel injection pump.
- (vii) Nozzles.
- (viii) Electronic Governor.
- (ix) Fuel filter.
- (x) Corrosion resistor/inhibitor
- (xi) Self starter suitable for operation on D.C battery as per manufacturer recommendations
- (xii) Fuel tank
- (xiii) Fuel lines.
- (xiv) Engine starting relay (i.e. with start push button/starting key relay should energized to operate start solenoid of starter.).
- (xv) Others as may be provided / recommended by the manufacturers.
- (xvi) High enclosure temperature (for silent Genset).

2.3.3. The lubrication system shall consist of following major components:

- (i) Oil Pan
- (ii) Oil temperature gauge
- (iii) Oil Pumps
- (iv) Oil Pressure gauge
- (v) Oil Filter
- (vi) Bypass filter/Centrifuge
- (vii) Oil Cooler.

2.3.4 Lubricating oil filter shall be provided for operation of 250 hrs. without any necessity of replacement or cleaning.

2.3.5 All standard accessories in respect of radiator or heat exchanger like inlet, outlet connections, fill connection, drain plug etc. shall be provided / recommended by the manufacturers.

3.0 FUEL TANK:

3.1 Fuel tank shall be made of 2 mm thick M.S sheet steel with capacity minimum 480 ltrs or as per manufacturer recommendation having inlet, outlet connections air vent tap, drain plug and level indicator (linear scale type submerged in fuel tank) fuel piping from tank to engine with all accessories and floor mounting pedestals, twin fuel filters and fuel injectors is to be provided as per manufacturer recommendations. The location of the tank shall depend on standard manufacturers design.

3.0 EXHAUST PIPING & SILENCER:

3.1 The exhaust system shall consist of exhaust pipe, flexible pipe of minimum 200mm length, silencer with flanges on the both sides with support structure mounted on floor/ceiling.

3.2 The exhaust piping system shall have a provision of condensate trap with drain plug.

3.3 A plug in the exhaust piping as near to the engine as possible shall be provided for measuring exhaust back pressure.

3.4 The silencer shall be residential/domestic type of minimum insertion loss of 25 db(A).

Test certificate for the residential/domestic silencer shall be supplied.

5.0 SPECIFICATION FOR EXHAUST PIPE INSULATION:

- 5.1 The entire exhaust pipe shall be insulated with a 25 mm thick unbounded glass wool with minimum of 32 kg/cu. Mtr. Density.
- 5.2 The pipe surface where the insulation is to be provided shall be thoroughly cleaned with wire brush & rendered free from all dust & grease.
- 5.3 The insulation shall be covered with 0.63mm wire mesh with all the joints lashed. The GI wire shall be applied around the insulated pipe. The insulation of exhaust pipe shall be finished with 0.63mm (24guage) aluminum sheet cladding at the portion of exhaust pipe, outside the silent canopy.

6.0 SPEED GOVERNER:

The engine shall operate on 1500 RPM, and be able to meet site conditions with regard to Voltage, Speed, Frequency and regulation equipped with Electronic Governor of Class A1 accuracy.

7.0 BATTERY:

The battery of suitable voltage and AH capacity shall be provided as per manufacturer recommendations, copper conductor stranded, insulated battery leads in required length, sockets etc. i/c MS stand for battery , copper conductor stranded, insulated battery leads in required length, sockets etc..

8.0 SAFETY:-

- 8.1 The engine shall be fitted with following safety controls.
 - i) Cylinder Air temp safety control fitted/water temperature safety control fitted.
 - ii) Lubricating oil pressure safety control fitted in the main oil gallery.
- 8.2.1 Each engine shall be provided with an instrument panel having following mountings:
 - i) Starting switch key (for manually operated sets.)
 - ii) Lubricating oil temperature gauge.
 - iii) Lubricating oil pressure gauge.
 - iv) Hour meter cum speed (RPM) indicator.
 - v) Manual Start & Stop push button.
 - vi) Exhaust gas thermometer.
 - vii) Coolant Temperature Gauge.
 - viii) Emergency stop push button outside the enclosure.

9.0 ALTERNATOR:-

The Alternator shall be brush less type and shall be totally enclosed and screen protected, 'H' class insulation. It will be 3 phase 4 wires connected. Neutral shall be brought out suitably for independent earthing. The alternator will be star connected and suitable to generate specified capacity at site at 1500 synchronous R.P.M. The regulation of alternator shall be within 1.0% from no load to full load and from hot to cold at unity power factor and 0.8 power factor with damper windings. It shall be screen protected drip

proof with sealed antifriction ball/roller bearings. It will be suitable to take 10% overload for one hour in every 12 hours of continuous operation.

The Alternator shall be suitable for coupling with engine on a common base frame through a flexible coupling.

INTERCONNECTIONS: All the terminals points of the alternator shall be enclosed in a terminal box for connecting the load. The terminals shall be suitable for termination arrangement of suitable size solid conductor. The interconnections from alternator to DEA control panel is to be provided by the firm without any extra cost. Further in case of control panel is provided inside the canopy then the agency shall also extend connections for DEA control panel to outside canopy at a suitable location along with provision of terminals for suitable connection from outside the canopy.

10.0 NAME PLATE

A name plate showing rating and connection diagram shall be provided on the engine alternator. All major components shall have labeling in respect of their catalogue number etc.

11.0 INSTALLATION:

- 11.1 The engine and alternator shall be mounted on a specially designed common M.S. base plate and frame of extremely rigid construction so as to provide no deflections.
- 11.2.1 The engine and alternator set shall be installed over anti-vibration cushy foot mountings placed over the bottom most base frame in order to isolate the transmission of vibrations to the floor or building structure. AVM pads regarding quantity as per manufacturer recommendation shall be provided for this purpose.

12.0 Manual CONTROL PANEL:

- 12.1 This section lays down general requirements for medium voltage cubicle **Manual** control panel suitable for 415 volts, 3 phases, 50Hz, 4 wire system including installation testing and commissioning.
- 12.2 **DESIGN & CONSTRUCTION:**
 - 12.2.1 All panels shall be cubicle, indoor, free standing, fabricated in compartmentalized commissioning.
 - 12.2.2 The panel shall be totally enclosed and dust and vermin proof.
 - 12.2.3 The design shall include all provision for safety of operation and maintenance personnel.
 - 12.2.4 The panel shall be fabricated with steel sheet of not less than 1.6 mm (16 gauges) thickness. Adequate supports for heavy equipment like air circuit breakers etc. shall be provided with the help of 35mm x 35mm x 5mm angle iron in welded construction.
 - 12.2.5 A cork sheet or rubber gasket of 19mm width and 2 mm thickness shall be provided between all joints in adjacent units and beneath all the covers in order to render all the joints vermin proof. As an alternative to this U-shape rubber lining can be used for covers.
 - 12.2.6 Each module (cubicle) shall have sufficient working space for making connections and shall be fitted with individual dust proof hinged door provided with insulated thumb screw at two ends.
 - 12.2.7 The maximum height of the panel including base channel shall not exceed 2000 mm.

- 12.2.8 The steel work shall be of high quality. All openings and cutouts in the door shall be machine made and shall be free from burns. Weld rugs shall be grinding smooth.
- 12.2.9 The entire steel sheet surface shall be free from dents and hammer marks.
- 12.2.10 The panel shall have covering at bottom so that entry of dust and vermin is not possible.
- 12.2.11 A G.I. earth bus bar of minimum 32mm x 5mm shall be provided along the length inside of the panel for connecting to main earth points.
- 12.2.12 The panel shall be powder coated.

12.3 CONTROLLING DEVICES:

a) Microprocessor based or Digital Genset controller unit with minimum 2 x 16 character alphanumeric LCD display with LED backlit and with minimum following features –

- i) Engine run hour.
- ii) Engine oil pressure.
- iii) Water / Cylinder head temp.
- iv) Battery voltage.
- v) Alternator voltage [Phase to neutral & phase to phase]
- vi) Alternator current [R , Y, B Phases]
- vii) Frequency
- viii) KWH
- ix) Auto Mains Failure (auto/manual) (AMF)

PROTECTIVE FEATURES - LED indications , Alarm (Acknowledge & reset) & Trip for the following :-

- i) LLOP
- ii) HCT / HWT / High Engine temp.
- iii) Low fuel level.
- iv) Over / under speed

START / STOP Features

- i) Manual – Start / stop (through push buttons)

12.3.1 Manual Control Panel

(i) Minimum 630 A 4Pole MCCB 36 KA ($I_{cs}=100\%I_{cu}$) with adjustable thermal release range with earth fault release including necessary relay for tripping) = 1No. (Or as per manufacturer recommendations)

(ii) 1 number Digital Generator controller unit as provided by OEM with standard safety and protection features (as mentioned above in addition to following :

(iv) 6 potential free digital outputs with External relay card (6 relays).

(v) Potential free Digital input for LLOP , High cylinder temperature , Low fuel , Emergency stop & like (6 nos. minimum)with proper marking

(vi) Engine tripping in case any Engine safety protection unit operates.

(vii) LED's for annunciations.

(vii) Audio alarm for fault.

viii) RYB LED indications for mains and DG set.= 2set (3nos per set)

ix) Battery charger – Automatic trickle battery charger of SCR or SMPS type to charge the starting battery of DEA set. This charging shall be done through main supply for which a suitable incomer shall be provided in the panel – 1 no.

x) Recess type hooter – 1 no.

12.5. BUSBAR:

The busbar where required in the panel shall be as below:-

- i. Each set of busbar shall consist of 4 strips-3 for phase and one for neutral. Cross sectional area of neutral strip shall be not less than half of that of phase strip.
- ii. The busbar shall be made from rectangular sections of Aluminum alloy of high conductivity electrolytic quality used for busbars.
- iii. The amp. Rating of the Aluminum busbar shall be at least equal to the amp. Rating of the main MCCB/ACB. The size of the busbar shall be as in accordance with the table given below.

CROSS SECTION OF ALUMINIUM BUSBAR

Current ratings in amps up to	Recommended rectangular cross-section in aluminum	
	No. of strips per phase	Size in mm
100	1	20x5
200	1	30x5
300	1	50x5
400	1	50x6
500	1	75x6

Note:-

- i) With aluminum bus bars, only aluminum wire/solid bar connections shall be made for incoming/outgoing mountings on the switchboards.
- ii) With copper bus bars, only copper wire/solid bar connections shall be made for incoming/outgoing mounting on the switchboards.
- iii) The bus bars shall be suitably supported with the help of resin cast insulators of appropriate size and shape at an interval not exceeding 300mm.
- iv) The connections between horizontal bus bars & vertical bus bars shall be short and neat. All connections at bus bars shall be made with cadmium plated bolts, nuts & washers. Bus bars holes shall not be threaded for termination purpose.
- v) Means shall be provided to identify various phases of the bus bars.
- vi) The entire length of bus bars shall be insulated with PVC sleeve/2 layers of PVC insulating tape except on the joints which may be left for ease of maintenance.

12.6 CONTROL WIRING:

- i) The control wiring shall be done with PVC insulated copper wires of minimum 1.5 sq.mm. Size.
- ii) The control wiring shall be provided with identification ferrules at each end.
- iii) More than two wires shall not be terminated at any one terminal.

- iv) The wires shall be arranged and supported in such a manner that they shall be separately bunched.
- v) Runs of wires shall be neatly bunched and suitably supported and clamped. A.C and D.C wiring shall be separately bunched.
- vi) All control wiring meant for external connections are to be brought out on a terminal board.

12.7 ROUTINE TESTS:

The control panels shall be subjected to following routine tests before commissioning.
Insulation resistance test with 500 volts meggar.

- i) Polarity test.
- ii) Earth continuity test.
- iii) Control circuit wiring test.

12.8 TEST PROFORMA:

13.1 SCOPE:

This section lays down the procedure for conducting test on the installation. In general the procedure laid down here shall be followed, which is at variance, the same may be adopted.

13.2 CAPACITY:

The operating capacity of EA set shall be arrived, considering a load with power factor of 0.80 lagging and after taking into consideration suitable derating as per para 2 below.

1. OPERATING CONDITIONS: The engine alternator set shall be capable of working at any ambient temperature between 0 degree and 50 degree C and relative humidity upto 95%. Normally the set has to operate under the following site conditions:-

- i) Altitude _____ 3000 meter above sea level.
- ii) Maximum summer temp. _____ 40 degree C.
- iii) Relative humidity (range) _____ Normal %

2. PERFORMANCE REQUIREMENT: The working KVA rating at site condition after accounting for derating as under shall be obtainable at 0.8 power factor.

a. FOR NATURALLY ASPIRATED ENGINE

- i) For every 300 meters above 150 meters and upto 2500 mtr. _____ 3%
- ii) For every 5.5 degree C above 29 degree C _____ 2%

b. FOR TURBO CHARGED ENGINE

- i) For every 300mtrs. Above 1500 mtrs. Deration of 4%
 - ii) For every 11 degree C rise above 38 degree C deration of 2%
- No deration for humidity.

13.3 PHYSICAL CHECKS:

13.3.1 Particulars such as name plate details of all major components/equipments shall be recorded and compared with what has been offered by the contractor as per the concluded agreement.

13.3.2 Physical visual inspection of the installations especially on the following aspect shall be conducted.

- Firmness of mounting.

- Verticality of installed set.
- Tightness of nuts & bolts.
- Proper installation of exhaust pipe.
- Insulation of exhaust pipe.
- Provision of guards on EA set coupling joint.
- Proper location of fuel tank.
- Size of electrical cables as per approved plan.
- Termination of cables.
- Ratings of various fuses.
- Termination of earth leads on neutral & body.

13.4 EARTH RESISTANCE:

Measurements shall be taken in respect of earth resistance or earth stations provided for grounded of neutral and body. The resistance shall be measured by isolating the connecting earth lead in respect of all earth stations individually. The results shall be recorded as under:-

Sl. No.	Identification of earth station	Used for	Earth stations (ohms)
1	2	3	4

13.5 RUN TEST:

The engine shall be given a test run continuously for at least six hours with alternator supplying full rated load & one hours for 10% overload. During this run following observation shall be recorded.

S.No	Items	Time (After start of run test)						
		1Hr	2Hr	3Hr	4Hr	5Hr	6Hr	7Hr
1	Lubricating oil pressure.							

2	Exhaust gas color							
3	Speed of Engine							
4	Output Voltage							
5	Load Current							

13.6 STATOR TEMPERATURE RISE TEST:

The alternator shall be loaded at full rated and stator (alternator body) temp. be recorded as under at interval of 30 minutes till such time three consecutive readings are same. The temp. Rise shall be maintained within 60 Deg. C above the ambient

Sl. No.	Time (hrs.)	Ambient Temp. (Deg. C)	Stator temp. (Deg. C)

13.7 FUEL CONSUMPTION TEST:

- i) Fuel consumption for half an hour shall be measured after the full load operating conditions have stabilized.
- ii) During the measurement the load shall be maintained unchanged.
- iii) The fuel consumption shall be compared with values given in technical particulars.

13.8 OVERLOAD TEST:

- 13.8.1 Overload test to the extent of 10% over the rated load shall be conducted immediately after the full load run test.
- 13.8.2 The various parameters as in the case of run test shall regularly be monitored and recorded.
- 13.8.3 After the overload test the load shall be normalized to rated value and all parameters recorded accordingly in addition to recording stator body temp.

13.9 INSULATION TEST:

- i) Insulation test shall be conducted after testing the EA set out over load.
- ii) The insulation resistance between the stator coil and frame shall be measured with 500 volts megger.
- iii) The insulation resistance of alternator winding shall be not below:-

Rated output Voltage
 ----- +1Mega Ohm

1000+ Rated output in KVA

- iv) Insulation resistance of control wiring with 500V megger shall be Measured which shall not be less than one mega ohm.

13.10 REGULATION TEST:

- i) The voltage from no load to full rated load at 0.8 P.F and from no load to half the rated load at P.F shall be measured between phase & neutral under automatic and manual regulation mode which shall not exceed 5% of the nominal rated output voltages.
- ii) In automatic regulation made the recovery time shall be noted which shall not exceed 3 seconds. The frequency of output supply of various load conditions shall be noted and recorded. The variation shall be compared with the accuracy standards specified.
- iii) Change in speed of engine with change in load conditions shall be observed and compared with standards laid down for the speed governor.

13.11 FUNCTIONAL TEST:

Functional tests in respect of various components like controls, interlocks, measuring devices, battery charger and annunciation devices shall be considered.

13.12 BATTERY TEST:

The battery shall be tested for six successive attempts for starting of engine in order establish healthy condition of battery.

13.13 ENGINE GOVERNOR:

Suitable to meet requirement as given under Speed Governing of A/T Test

13.14 SPEED GOVERNING:

The Engine shall run steadily and load upto its maximum rated load to the standards given below:-

LOAD VARIATION	Maximum change of speed as a percentage of rated speed	
* Load variation on suddenly taking off or throwing on the rated load	Temporary change	10%
	Permanent Change	3%
* On change of load by any step of 20 percent of the rated load	Temporary change	3%
	Permanent change	2%

When the Engine Alternator is delivering 10% and 100% of the rated power output, the steady load speed band shall not exceed 1% of the rated speed.

The recovery time from temporary distribution to the steady load speed band at the new shall not exceed 3 second after taking off or throwing on the rated load.

14. TESTING AND A/T

The firm shall test the set itself as per the BSNL schedule and practice before offering for acceptance test by B.S.N.L. All the relevant tests to check the performance of the set shall be conducted (A/T) by T&D Circle at site after installation as per the decision of the Engineer-in-charge. Diesel and lubricant oil shall be supplied by the contractor for 8 hours

successful Acceptance testing of the set. The necessary artificial load and any other necessary manpower material consumables etc will be provided free of cost by the contractor at the time of testing/A/T.

15. SOUND PROOF ENCLOSURE (Canopy) FOR ENGINE ALTERNATOR SET

The canopy should be sound proof, weather proof & environment friendly, conforming to the latest environment (protection) act and rules framed there under by Govt. & authorities etc. Sound proof acoustic canopy suitable for 320 KVA set for the model of Engine and alternator as per schedule of work shall be supplied in accordance with latest Central Pollution Control Board norms and manufactured from duly approved OEM of DEA Set by the CPCB or its authorized agencies such as ARAI of Pune, NPL New Delhi, NSTL Visakapattanam, FCRI Palghat and NAL Bangalore etc for manufacture of such canopy. .

A copy of such approval as per above shall be submitted before supply of DEA set.

- The canopy shall be in modular construction with the provision of assembly at site. The acoustic panels shall be fabricated in 2mm thick CRCA sheet. The finished sheet metal component shall undergo seven tank treatment process for degreasing, derusting, phosphatising etc. for longer life and should be Polly polyester based coated inside & outside. The nuts bolts and other hardware shall be Zinc coated. The door shall be provided with high quality EPDM gaskets to avoid leakage of sound. The door handles and hinges shall be Zinc plated & lockable type.
- The Radiator fan of the water cooled Engine shall be used for ventilation. A pusher fan (for air cooled Engines) or in addition to Radiator fan, if required shall also be provided. The motor of this fan shall be of BSNL approved make.
- Adequate ventilation shall be provided to meet the air requirement for combustion & also to expel heat to maintain temperature inside the enclosure within 5 degree Celsius above ambient at 10% overload with tripping arrangement between (50 – 60) degree Celsius. Canopy should be provided with temperature safety device.
- An arrangement for adequate illumination inside the enclosure shall be provided
- Separate door with locking arrangement for easy access to D.G. set during operation & maintenance should be provided.
- The enclosure shall be guaranteed for a period of 12 months from the date of completion of work against defective materials & rust, welding, painting, smooth functioning of doors; inspection window etc. minor civil work is to be carried out without any extra cost.
- Small see through window for reading meters etc. made of transparent polymer sheet of thickness not less than 10mm shall be provided.
- Radiator bellows to be provided in case of Water Cooled Engines.
- Fuel Tank and Control Panel shall be incorporated inside the canopy.
- Two point lifting arrangement.
- Main base frame will be of size 200mm X 75mmX 5mm MS channel welded with 5mm thick MS sheet for bolting arrangement complete as required.
- Insulation on enclosure will be provided & fixed as per prevailing CPCB norms. Specially designed sound attenuators shall be provided to control sound at air entry & exit points i/c louvers.

- The canopy shall be provided with Emergency Stop Button easily approachable from outside.
- Suitable busbars have to be provided outside Canopy for Neutral/Body Earthing separately. The neutral terminals shall be connected to the neutral of Alternator with flexible copper wire braided strip. All the electrical equipments inside the Canopy shall be connected together with suitable size GI strip and then connected to the Body Earthing bus bars.
- The system shall be designed to provide air inlet / exhaust acoustic Louvers for efficient air circulation
- The canopy shall be provided with following meters (visible from outside): -
 1. Dial type fuel gauge with sensing arrangement.

PROFORMA OF SCHEDULES

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

SCHEDULE 'A'

Schedule of quantities (as per PWD – 3)

SCHEDULE 'B'

Schedule of materials to be issued to the contractor

NIL

Contractor

EE(E)

S.No.	Description of item	Quantity	Rates in figures & Words at which the Material will be charged To the contractor	Place of issue
1.	2	3	4	5

SCHEDULE 'C'

Tools and plants to be hired to the contractor **NIL**

Sr.No.	Description	Hire charges per day	Place of issue
1.	2	3	4

SCHEDULE 'D'

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

SCHEDULE 'E'

Schedule of component of Materials, Labour etc. for escalation

CLAUSE 10 CC **Not applicable**

Component of materials "X".....%
Expressed as per cent of total value of work

Component of labour "Y".....%
Expressed as per cent of total value of work

Component of P.O.L. "Z"%
Expressed as per cent of total value of work

SCHEDULE 'F'**Reference to General Conditions of contract.**

Name of work: **SITC of 1 x320 KVA DEA set (at site conditions) with sound proof canopy and Manual Control Panel for CTO Bldg Shimla (H.P.).**

Estimated Cost: Rs 36,45,368/-

Earnest Money Deposit: - Rs 72907/-

Security Deposit and Performance Guarantee Refer clause 8 of Special conditions of contract

GENERAL RULES

Contractor

EE(E)

DIRECTIONS :

Officer inviting tender EXECUTIVE ENGINEER (E)
Shimla

Maximum percentage for quantity of items of work to be executed Beyond which rates are to be Determined in accordance with Clauses 12 As per clause 8 of important note To contractor

DEFINATIONS

- 2(v) Engineer-in-Charge Executive Engineer (E)
- 2(viii) Accepting Authority SE (E) Shimla
- 2(x) Percentage on cost of materials And labour to cover all Overheads and profits 10%
- 2(xi) Standard Schedule of Rates DSR -2022 INTERNAL
DSR -2022 EXTERNAL
- 2(xii) Department BSNL
- 9(ii) Standard CPWD contract Form BSNL EW 8 as modified & corrected
Up to date

Clause 2
Authority for fixing Compensation under Clause 2 SE (E) Shimla

Clause 5
Time allowed for execution Of work. Two MONTHS

Authority to give fair And reasonable extension of Time for completion of work SE (E) Shimla

Clause 11
Specification to be followed For execution of work AS APPENDED WITH SCHEDULE

Clause 12
Sub clause
(iii) Schedule of rates for determining Rates for additional, altered or Substituted items that cannot be determined under 12 (i)&(ii) DSR -2022 INTERNAL
DSR -2022EXTERNAL

Clause 36(i)

Maximum qualifications & experience
Required for Principal Technical
Representative.

- | | | |
|------|--|---|
| a) | For works with estimated cost put
To tender more than | |
| (i) | Rs. 10 lakhs for civil work | Graduate or retired AE possessing |
| (ii) | Rs.5 lakhs for Elec/Mech
Works | at least recognized diploma |
| b) | For works with estimated cost
Put to tender | |
| (i) | More than Rs.5 lakhs but less than
Rs.10 lakhs for Civil Works | Recognized Diploma holder |
| (ii) | More than Rs.1 lakh but less
Than Rs.5 lakh but less than
Rs.5 lakh for Elect/Mech works | |
| c) | Discipline to which the Principal
Technical representative should
belong | Civil/Elec./Mech |
| d) | Minimum experience of works | Three years |
| e) | 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 |

LIST OF APPROVED MAKES – BSNL ELECTRICAL WING.

S. No.	Item	Makes
1	Engine	Ashok Leyland /Cummins/ Cater pillar / KOEL/ Volvo Penta / Mahindra & Mahindra (up to 40 KVA) /Escorts (up to 30 KVA)/ Eicher (up to 20 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
	a) Above 400 KVA	
	b) Up to 400 KVA	In addition to above makes, Uttam/Automatic Electric Gear(AEG)/Patson/Rajasthan Transformer and Switchgear
6	Air Circuit Breaker	L&T/ Schneider Electric / Siemens
7	MCCB(Ics=Icu)	L&T/ Schneider Electric / Siemens
8	SDF units	L&T/ Schneider Electric / Siemens/ HPL/Havells
9	Power Contactors	L&T/ Schneider Electric / Siemens/ Lakshmi(LECS)
10	Change Over Switch	HPL / Havells / H-H Elcon
11	Intelligent APFC Relay	L&T/EPCOS(Siemens)/ Schneider Electric / Neptune Ducati/Syntron/ABB
12	Bus Bar Trunking/ Sandwiched Bus Duct	Moeller/L&T/Schneider Electric/ABB/Legrand/Zeta
13	Power Capacitors (MPP/APP)	L&T/EPCOS(Siemens)/ABB/Crompton/ Schneider Electric/Neptune Ducati
14	Digital/ KWHr meter	Schneider Electric/ AE/ Digitron / IMP/ Meco / Rishabh / Universal/HPL/L&T/ABB
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 / Kirsloskar/ Puromatic/ Purafill/ Purolator / Tenacity
37	GI Sheet	HSU Jindal / National / Nippon Denro / Sail / Tata
38	Heat Detector	Appollo / Chemtron/ Edward / Fenwal/ Hochiki / Nitton /System Sensor/ Wormald/Honeywell Essar/Notifier
39	Ionization Detector	Appollo / Cerebrus / Edward/ /Fenwal / Hochiki / Nitton / System Sensor / Wormald
40	Photo Electric Smoke Detector	Appollo / Cerebrus / Edward / Fenwal/ Hochiki / Nitton / Wormald
41	Fire Panel (Microprocessor based)	Agni Instruments / Agni Devices/ Aruna Agencies/ Carmel Sensor / Ravel Elect./Honeywell Essar/Notifier/Navin Systems
42	Sprinkler/ Hose Reel & Hose Pipe	ISI mark
43	Fire Extinguisher	ISI mark
44	Lift	OTIS, Kone, Mitsubishi , Schindler, Johnson
45	Precision AC Packages 7 TR	M/s Sidwal Refrigeration Industries Pvt Ltd, New Delhi. M/s Uniflair India Pvt. Ltd, Gurgaon.

NOTE:

1. Any other make approved by BSNL EW, corporate office before opening of the Tender is also acceptable.
2. 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 to the above.