

NAME OF WORK : Replacement of 3nos. 630KVA transformers with 3nos. 750KVA transformer at TE building, Haddows Road, Chennai.



BHARAT SANCHAR NIGAM LIMITED

(A Govt of India Enterprise)
(Electrical Wing)

**O/o The Executive Engineer (E)
BSNL Electrical Division-I**

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E-TENDER DOCUMENT

NAME OF WORK: Replacement of 3nos. 630KVA transformers with 3nos. 750KVA transformer at TE building, Haddows Road, Chennai.(Recall)

NIT No : 66/ EEE/ED-I/CH/2017-18

This tender document contains **39 (thirty nine)** pages only.

For E Tender Help Desk of M/s ITI Limited.Tel.No.011 49424365; or Shri. Dinesh , (Mobile: 9894191904), Shri Kirubakaran (Mobile No9962676264), Representatives of M/s ITI Limited & Mail Id : twhelpdesk680@gmil.com, bsnltwhelpdesk@gmail.com

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INFORMATION AND INSTRUCTIONS FOR BIDDERS FOR E-TENDERING FORMING PART OF NIT AND TO BE POSTED ON WEBSITE

The Executive Engineer (Elect), BSNL, **Electrical Division-III, Chennai** on behalf of the CMD, Bharat Sanchar Nigam Limited, invites online Item rate bids from eligible bidders in Single bid system for the following work:

1	Name of work	"Replacement of 3nos. 630KVA transformers with 3nos. 750KVA transformer at TE building, Haddows Road, Chennai."
2	Estimated cost put to tender (Rs.)	Rs.40,12,044/-
3	Earnest Money (Rs.)	Rs.80,241/-
4	Period of completion	Three months
5	Last date & time for downloading of tender document by bidder	Up to 14:55 Hrs. on 23-08-2017
6	Last date & time for online submission of tender	Up to 15:00 Hrs. on 23-08-2017
7	Last date & time for submission of original Tender cost and EMD	Up to 15:00 Hrs. on 23-08-2017
8	Date and time for opening of tender	15:30 Hrs. on 23-08-2017
9	Tender cost (Non refundable)	Rs.500/- (+) GST 5%
10	E-tender Processing fee (Non refundable)	0.05% of estimate cost subject to the minimum of Rs.500 and Maximum of Rs. 5000 plus GST

(a) Financial Norms:

Average annual turnover during the last 3 years, ending 31st March of the previous financial year, should be at least Rs. 12,03,613/- (30% of the estimated cost put to tender.)

(b) Physical Norms:

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

(OR)

2) Experience of having successfully completed similar works in Central Government / State Government /Central Autonomous Body / Central Public Sector Undertaking during last 7 years ending last day of the month previous to the one in which applications are invited should be either of the following :-

- Three similar successfully completed works costing not less than the amount equal to Rs.16,04,818/- (40% of the estimated cost put to tender) with transformer capacity not less than 600KVA (80% of individual capacity of the Transformer proposed in the NIT.)
(OR)
- Two similar successfully completed works costing not less than the amount equal to Rs.24,07,226/- (60% of the estimated cost put to tender) with transformer capacity not less than 600KVA (80% of individual capacity of the Transformer proposed in the NIT).
(OR)

NAME OF WORK : Replacement of 3nos. 630KVA transformers with 3nos. 750KVA transformer at TE building, Haddows Road, Chennai.

- One similar successfully completed work costing not less than the amount equal to Rs.32,09,635/- (80% of the estimated cost put to tender) with transformer capacity not less than 600KVA (80% of individual capacity of the Transformer proposed in the NIT).

Note:-Similar work means "Supply, installing, testing and commissioning of Transformer substation"

IMPORTANT NOTE:

1. The self-attested copies of the following documents shall be scanned and uploaded to the e-tendering website within the period of tender submission. Online bid documents submitted by intending bidders shall be opened only of those bidders, who have scanned and uploaded the following documents (and whose uploaded documents are found to be in order), otherwise the bid will not be opened and shall lead to disqualification.
 - a. Tender Fee in the prescribed format
 - b. EMD in the prescribed format
 - c. Certificate of Financial Turnover from Chartered Accountant (Not applicable for BSNL enlisted Electrical contractors)
 - d. Documents fulfilling Eligibility criteria (Please note that in case the bidder is authorised by the manufacturer, the original authorisation letter is to be scanned and uploaded)
 - e. Enlistment certificate issued by BSNL, if applicable
 - f. Electrical license issued by Govt. of Tamil Nadu
 - g. GST Registration Number Details, as applicable
 - h. PAN Card
 - i. EPF and ESI Registration certificate (if applicable)
 - j. Undertaking to abide by EW-6 and EW-8 (Form 'A')
 - k. Undertaking regarding EPF and ESI provisions (Form 'B')
 - l. Certificate of work experience issued by client department (Form 'C') if applicable
 - m. Undertaking regarding No Near relative working certificate (Form 'D')

Not uploading the above documents, (even if the documents are submitted physically) shall lead to disqualification.

2. The Physical Tender Fee, EMD, the original authorisation letter by the manufacturer (wherever applicable), (the scanned copies of which are uploaded) shall be deposited in the tender box available in the office of tender opening authority, by the bidder before 3:00 PM on the tender opening date, failing which the tender shall not be opened.

BSNL EW-6
Bharat Sanchar Nigam Limited
Electrical Wing

Electrical Division: ED-III, Chennai

Sub Division: II, Chennai

Item rate tenders on single bid system are invited on behalf of CMD, BSNL for the work **"Replacement of 3nos. 630KVA transformers with 3nos. 750KVA transformer at TE building, Haddows Road, Chennai."** from the eligible bidders as per NIT notification. The enlistment of the bidders should be valid on the opening date of tender. In case the date of opening of tender is extended, the enlistment of bidder should be valid on the original date of opening of tender.

1. Intending bidder is eligible to submit the bid provided that he has definite proof from the appropriate authority, which shall be to the satisfaction of the competent authority as per the eligibility conditions mentioned in the NIT notification page.
2. The work is estimated to cost **Rs. 40,12,044/-** This estimate, however, is given merely as a rough guide.
3. Agreement shall be drawn with the successful bidder on prescribed form as amended up to the date of opening of tender. Bidder shall quote his rates as per various terms and conditions of the said form which will form part of the agreement.
4. The time allowed for carrying out the work will be **three months** from the 10th day after the date of written order to commence the work.
5. The site for the work is available / or the site for the works shall be made available in parts. The successful bidder shall execute the work in coordination with other agencies working in the campus.
6. The bid documents consisting of plans, specifications, the schedule of quantities of various types of items to be executed and the set of terms and conditions of the contract to be complied with and other necessary documents can be seen and downloaded from website www.tenderwizard.com/BSNL at free of cost. The BSNL EW-8 document can be seen from the web site www.chennai.bsnl.co.in at free of cost.
7. After submission of the bid, the bidder can re-submit revised bid any number of times but before last time and date of submission of tender as notified. While submitting the revised bid, bidder can revise the rate of one or more item(s) any number of times (he need not re-enter rate of all the items) but before last time and date of submission of tender as notified.
8. The Tender Fee in the form of Demand Draft issued by the Nationalized / Scheduled bank authorized by the Reserve Bank of India, drawn in favour of BSNL, CHENNAI TELPHONES payable at CHENNAI shall be scanned & uploaded in the e-tendering website within the period of tender submission. The validity of the tender cost in the form of DD shall be **60 days** from the date of opening.
9. The Earnest money deposit (EMD) in the form of Demand Draft / FDR / BG (BG is only for Air Conditioning, Diesel Engine Alternator, Lifts, and Sub Station works wherever the amount of EMD is more than Rs.20,000)/ CDR of a nationalized / scheduled bank authorized by the Reserve Bank of India, drawn in favour of BSNL, CHENNAI TELPHONES payable at CHENNAI shall be scanned & uploaded in the e-tendering website within the period of tender submission. The validity of the EMD in the form of DD shall be **60 days** from the date of opening. If the EMD is in the form of CDR/FDR/BG, the validity shall be **180 days** from the date of opening. In case of L1 bidder, the validity of CDR/FDR/BG is to be extended up to the observation period as that of the Performance guarantee / Security deposit.

10. The Physical **TENDER COST** and **EMD** of which the scanned copy is uploaded shall be deposited by all the bidders before 3:00 PM on the tender opening date, failing which the tender shall not be opened.
11. Interested bidder who wishes to participate in the bid shall pay the e-tender processing fee to M/s. ITI Limited through their e-gateway by credit / debit card / internet banking / RTGS / NEFT facility.
12. All the documents as specified in the tender document shall be scanned and uploaded to the e-Tendering website within the period of bid submission.
13. Online bid documents submitted by intending bidders shall be opened only of those bidders, who have deposited e-Tender Processing Fee with M/s ITI Limited and Earnest Money Deposit and other documents fulfilling eligibility criteria, scanned and uploaded are found in order.
14. The last date for online submission of bid is **23-08-2017 up to 3:00 PM** and the bid submitted shall be opened at **03:30 on PM 23-08-2017**. If a holiday is declared on the tender opening day, the tender will be opened on the next working day.
15. The e-Tender processing fee is non-refundable.
16. **Performance Guarantee:** The bidder is required to furnish Performance guarantee for an amount equal to 5% of the contract value in the form of bank guarantee/CDR/FDR/DD (of a nationalized/ Scheduled Bank in a standard format) within two weeks from the date of issue of acceptance letter. This period can be further extended by the Engineer-in-charge up to a maximum period of two weeks on written request of Bidder. The validity period of the performance security in the form of performance bank guarantee shall be: Three Months from the date of actual completion of work, for AMC works; and One year from the date of actual completion of work for all other works. **In case the bidder fails to deposit the said performance guarantee within the stipulated period, including the extended period if any, the Earnest Money deposited by the bidder shall be forfeited automatically without any notice to the bidder and the bidder will not be allowed to participate in the re tendering for the same work.**
17. **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 contract value of the work. **The security deposit shall be released after an observation period as follows: Three Months from the date of actual completion of work, for AMC works; and One year from the date of actual completion of work for all other works.**
18. In case any discrepancy is noticed in the documents as uploaded at the time of submission of the bid online, then the bid submitted shall become invalid and the BSNL shall, without prejudice to any other right or remedy, be at liberty to forfeit 50% of the said earnest money as aforesaid. Further, the bidder shall not be allowed to participate in the retendering process of the work.
19. Intending bidders are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their tenders, the form and nature of the site, the means of access to the site, the accommodation they may require and in general shall themselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their tender. A bidder shall be deemed to have full knowledge of the site whether he inspects it or not and no extra charge consequent on any misunderstanding or otherwise shall be allowed. The bidder shall be responsible for arranging and maintaining at his own cost all materials, tools & plants, water, electricity access, facilities for workers and all other services required for executing the work unless otherwise specifically provided for in the contract documents. Submission of a tender by a bidder implies that he has read this notice and all other contract documents and has made himself aware of the scope and specifications

of the work to be done and of conditions and rates at which stores, tools and plant, etc. will be issued to him by the BSNL and local conditions and other factors having a bearing on the execution of the work.

20. The competent authority on behalf of the CMD does not bind itself to accept the lowest or any other tender and reserves to itself the authority to reject any or all the tenders received without the assignment of any reason. All tenders in which any of the prescribed condition is not fulfilled or any condition including that of conditional rebate is put forth by the bidder shall be summarily rejected. The competent authority on behalf of CMD reserves to himself the right of accepting the whole or any part of the tender and the bidder shall be bound to perform the same at the rate quoted.
21. Canvassing whether directly or indirectly, in connection with tenders is strictly prohibited and the tenders submitted by the bidders who resort to canvassing will be liable to rejection.
22. Agreement shall be drawn with the successful bidder on prescribed form. Bidder shall quote his rates as per various terms and conditions of the said form, which will form part of the agreement.
23. The bidder should give a certificate as per the following that none of his/her relative is employed in BSNL units as per **Form 'D'**. 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.
 - a. 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:
 - i. Members of a Hindu Undivided family.
 - ii. They are husband and wife.
 - iii. 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).
 - b. 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 bidder 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.
 - c. 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 bidder 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 bidders service.
24. The tender for the work shall remain open for acceptance for a period of ninety (90) days from the date of opening of tenders. If any bidder withdraws his tender before the said period or issue of letter of acceptance, whichever is earlier, or makes any modifications in the terms and conditions of the tender which are not acceptable to the BSNL, then the BSNL shall, without

prejudice to any other right or remedy, be at liberty to forfeit 50% of the said earnest money as aforesaid. Further the tenderer shall not be allowed to participate in the retendering process of the work.

25. The agency has to comply with the provisions of EPF and miscellaneous provisions Act-1952 and employees provident fund scheme-1952 as amended up to date in respect of labours/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 **Form 'B'**.
26. **Extension of Validity of tender:** In case, where the letter of award of work cannot be placed within the validity period of the tender, the BSNL can request the bidder 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.
27. Rates quoted by the contractor shall be firm and shall be valid for the currency of contract. No cost escalation shall be permitted during the currency of contract.
28. This notice inviting tender shall form a part of the contract document. The successful bidder, 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 part of the tender as uploaded at the time of invitation of tender, subsequent amendments issued and the rates quoted online at the time of submission of bid and acceptance thereof together with any correspondence leading thereto.
 - b. Standard BSNL EW-8 form.

GENERAL INSTRUCTIONS TO THE BIDDERS

1. The intending bidder must read the terms and conditions of BSNL-EW 6 carefully. He should only submit his bid, if he considers himself eligible and he is in possession of all the documents required.
2. Information and instructions for bidders posted on website shall form part of bid document.
3. Applicants are advised to keep visiting the above mentioned website from time to time (till the deadline for bid submission) for any updates in respect of the tender documents, if any. Failure to do so shall not absolve the applicant of his liabilities to submit the applications complete in all respect including updates thereof, if any. An incomplete application may be liable for rejection.
4. Those bidders not registered on the website mentioned above, are required to get registered themselves beforehand. The intending bidder must have valid class-III digital signature to submit the bid.
5. On opening date, the bidder can login and see the bid opening process. After opening of bids he will receive the competitor bid sheets.
6. Bidder can upload eligibility documents in the form of JPG format or / and PDF format. Documents uploaded in any other format, which could not be opened may result in non opening of the bids.
7. Bidder must ensure to quote rate of each item. The column meant for quoting rate in figures appears in yellow colour. In addition to this, while selecting any of the cells a warning appears that if any cell is left blank the same shall be treated as "0".Therefore, if any cell is left blank and no rate is quoted by the bidder, rate of such item shall be treated as "0" (ZERO)
8. Even though any bidder may satisfy the above requirements, he would be liable to disqualification if he has:
 - a. Made misleading or false representation or deliberately suppressed the information in the forms, statements and enclosures required in the eligibility criteria document.
 - b. Record of poor performance such as abandoning work, not properly completing the contract, or financial failures / weaknesses etc.
9. If any information furnished by the bidder is found incorrect at a later stage, he shall be liable to be debarred from tendering/taking up of works in BSNL. The BSNL reserves the right to verify the particulars furnished by the applicant independently.
10. GST and any other tax applicable in respect of this contract as applicable shall be borne by the bidder himself. The bidder shall quote his rates considering all such taxes. The TDS as per the Govt. regulations will be recovered from the contractor.
11. **Tender Evaluation :**
 - (a) The evaluation and comparison of responsive bids shall be done on the basis of Net cost to BSNL on the prices offered inclusive of packing, forwarding, freight and insurance charges etc., but excluding GST. The bid with lowest net cost as elaborated above will be the L1 bidder.
 - (b) Vendors should furnish the correct GST Rate in the price schedule. If the Input Tax Credit is found to be not admissible at any stage subsequently owing to wrong furnishing of GST Rate, then the vendors will be liable to refund such non-admissible amount, if already paid,

along with penalty if charged by the concerned authority.

12. However, pursuant to the constitution (Forty-sixth amendment) act, 1982, if any further tax or levy is imposed by statute, after the last date of receipt of tenders, and the contractors there upon necessarily and properly pays such taxes/ levies, the contractor shall be reimbursed the amount so paid, provided such payment, if any, is not in the opinion of Superintending engineer (whose decision shall be final and binding) be attributable to delay in execution of work within the control of contractor.

13. The Contractor shall, within a period of 30 days of imposition of any further tax or levy in pursuant to the constitution of (Forty sixth amendment) act 1982 give a written notice thereof to the Engineer-in-charge that the same is given pursuant to this condition, together with all necessary information relating thereto.

14. Bye laws Indemnity against liabilities:

- a. The bidder 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.
- b. The bidder 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.
- c. The bidder 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 bidder.
- d. All liabilities / penal recoveries on matters arising out of tax/levies such as incorrect deductions discrepancies in the filing of returns, revised assessments by the concerned authorities etc., shall be borne by the bidder.

15. 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.

16. Indulging 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 /GST/Central Excise/Custom Departments recommend such a course - Action will be taken as per the directions of CBI or concerned department.

17. As a general notion, the terms and conditions/instructions contained in various pages of this document are addressed assuming the bidder as 'Male'. However, the same shall remain and assumed to be addressed in case of 'Female' bidder also, except for the gender centric words, which shall be 'female' centric at appropriate places.

FORM 'A'

Undertaking to abide by EW 6 & EW 8

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

(Seal of the firm)

(Signature of Bidder)

FORM 'B'

Undertaking regarding EPF provisions

"I..... Son of
.....Resident of hereby give an undertaking that

* I/We have employed only ----- persons in our establishment and hence the EPF and Miscellaneous provisions Act, 1952 are not applicable to my / our establishment.

* I/ We have registered as per the EPF and Miscellaneous provisions Act, 1952 and our registration no is ----- . We undertake to keep it valid during the currency of contract.

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

* strike out whichever is not applicable

**Attach a self-attested photo copy of the above said EPF registration certificate.

(Seal of the firm)

(Signature of Bidder)

Undertaking regarding ESI provisions

"I..... Son of
.....Resident of hereby give an undertaking that

* I/We have employed only ----- persons in our establishment and hence the ESI and Miscellaneous provisions Act,1948 is not applicable to my / our establishment.

* I/ We have registered as per the ESI and Miscellaneous provisions Act, 1948 and our registration no is ----- . We undertake to keep it valid during the currency of contract.

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

* strike out whichever is not applicable

** Attach a self-attested photo copy of the above said ESI registration certificate.

(Seal of the firm)

(Signature of Bidder)

NAME OF WORK : Replacement of 3nos. 630KVA transformers with 3nos. 750KVA transformer at TE building, Haddows Road, Chennai.

FORM 'C'

Performance report of works

1. Name of work
2. Agreement no.
3. Final Value of Work Done
6. Date of start
7. Actual date of completion
8. Performance: Satisfactory / Not Satisfactory

Dated:

Executive Engineer or Equivalent /above

FORM 'D'

No Near relative working certificate

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

ANNEXURE I
MODEL FORM OF BANK GUARANTEE
(For submitting EMD)

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 it is due to it owing to the occurrence of one or both of the two conditions, specifying the occurred condition or conditions.

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

Signature of the Bank

Signature of the Witness
Name of Witness
Address of Witness

ANNEXURE II
PERFORMANCE SECURITY GUARANTEE BOND

In consideration of the CMD, BSNL (hereinafter called 'BSNL') having agreed to exempt _____ (hereinafter called 'the said bidder(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 bidder (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 _____ (bidder(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 Bidder(s) of any of the terms or conditions contained in the said Agreement.

2. We (name of the bank) _____ do hereby undertake to pay the amounts due and payable under this guarantee without any demur, merely on a demand from the BSNL by reason of breach by the said bidder(s)' of any of the terms or conditions contained in the said Agreement or by reason of the bidders(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 under take to pay to the BSNL any money so demanded notwithstanding any dispute or disputes raised by the bidder(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 bidder(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/BSNL) BSNL certifies that the terms and conditions of the said Agreement have been fully or properly carried out by the said bidder(s) and accordingly discharges this guarantee. Unless a demand or claim under this guarantee is made on us in writing on or before the expiry of TWO/TWO AND HALF/THREE YEARS (as specified in P.O) from the date hereof, we shall be discharged from all liabilities under this guarantee thereafter.

5. We (name of the bank)_____ further agree with the BSNL that the BSNL shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Agreement or to extend time of performance by the said bidder(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 Bidder(s) and to forbear or

NAME OF WORK : Replacement of 3nos. 630KVA transformers with 3nos. 750KVA transformer at TE building, Haddows Road, Chennai.

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 Bidder(s) or for any forbearance, act or omission on the part of the BSNL or any indulgence by the BSNL to the said Bidder(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 Bidder(s)/supplier(s).

7. We (name of the bank) _____ lastly undertake not to revoke this guarantee during its currency except with the previous consent of the BSNL in writing.

Dated the _____ day of _____

for _____ (indicate the name of bank)

IMPORTANT INSTRUCTIONS TO THE TENDERERS

Please note that the offers, which do not comply the following, will not be considered and will be totally rejected. These instructions supersede the BSNL/EW 8 clauses in case of any Disparity.

1 (i) INCREASE /DECREASE OF TENDERED QUANTITY

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

b) In exceptional situation where the requirement is of an emergent nature and it is necessary to ensure continued supplies from the existing vendors, the purchaser reserves the right to place repeat orders up to 50% of the quantity of goods and services contained in the running tender/contract within a period of 12 months from date of award of work at the same rate or a rate negotiated (downwardly) with the existing vendors considering the reasonability of rates based on prevailing market conditions and the impact of reduction in duties and taxes etc.

1 (ii) CURTAILMENT OF QUANTITY:-

BSNL reserves the right to enforce curtailment in the assigned quantum of work for any contractor on the grounds of defaults/delay in regard to execution of the individual work assigned.

2) COMPLETION OF WORK:-

At the time of issuing NIT for a particular work, the time allowed for completion of work consistent with magnitude and urgency of work is specified. The time allowed for carrying out the work as entered in the contract is reckoned from the tenth day after the date on which the orders to commence the work are given to the Contractor. 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 (except special jobs) to complete 1/8th of the whole of the work before 1/8th of the time allowed under the contract has elapsed, 3/8th of the work before half of the time has elapsed and 3/4th of the work before 3/4th of such time has elapsed. However, for special jobs, if a time schedule has been submitted by the Contractor and the same has been accepted by the Engineer-

in-charge, the contractor shall comply with such time schedule. For Substation, the work is deemed to have been completed after clearance by Electrical Inspector.

3) EXTENSION OF TIME:-

If the contractor shall desire an extension of time for completion of work on the grounds of his having been unavoidably hindered in its execution or on any other grounds, he shall apply in writing to the

Engineer in charge within 30 days of the hindrance on the account on which he desires such extension as aforesaid, and the Engineer in charge shall if in his opinion reasonable grounds to be shown therefore, authorize such provisional extension of time, if any as in his opinion be necessary are proper.

4) **COMPENSATION FOR DELAY :**

If the contractor fails to maintain the required progress or complete the work and clear the site on or before the contract or extended date of completion, he has to pay the compensation for delay which is limited to 0.5% per week of the tendered value for the first 10 weeks and 0.7% per week for next 10 weeks and thereafter subject to a maximum of 12% of the tendered value for the location where the work is delayed and the firm is found responsible for the same. The clause 2 of BSNL - 8 forms stands modified accordingly. Flow chart of the Procurement process/ contract shall be supplied by the contractor and approved by Executive Engineer concerned.

5) **TERMS OF PAYMENT:**

Quarterly Payment shall be made after completion of maintenance period. With each bill, a certificate from the Contractor that maintenance has been carried out properly and testing / drills etc. required during the period have been performed in addition to the penalty explicitly indicated under penalty clauses.

6) **EPF PROVISIONS:-**

The agency has to comply with the provisions of EPF and miscellaneous provisions Act-1952 and employees provident fund scheme-1952 as amended up to date in respect of labours /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.

Agency has to observe all the labour rules & regulation in force. Agency shall be fully responsible for any violation observed at any time.

7) **PROGRAMME FOR EXECUTION**

The firm shall supply detailed programme to Engineer-in-Charge for execution of contract within fifteen days of award of work. The programme shall contain details about submission of drawing, supply of materials, tentative dates for installation and commissioning.

8) **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 source. Space for storing the same materials may be provided on request from the contractor. However safe custody of the material stores at site will be responsibility of the contractor.

9) **CO-ORDINATION AT SITE**

At the site of work more than one agency may be working. Full cooperation shall be extended to other agencies during the 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 BSNL engaged in erection as well as to normal routine work.

10) **COMPLETION DRAWINGS**

The firm shall supply three sets of drawings/documents after completion of the work but before the proposed date of completion of work.

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

11) CHANGES IN SPECIFICATIONS

The BSNL reserves the right to make changes in respect of specifications of work if in its opinion same is found necessary. However such alterations shall be made after mutual discussions and agreement between the BSNL and the contractor. Any price implications in this regard shall be mutually discussed and agreed up on in terms of clause 12 of EW forms. The BSNL as matter of principle will not permit modifications by the contractor in design /specifications of any document /material. However the same can be agreed upon by the BSNL under exceptional circumstances where

a) The same is necessitated due to non-availability of material/components of certain specifications/make.

Or

b) Such alterations constitute an improvement in the opinion of BSNL.

Prior approval is necessary before undertaking any alteration/modification in the specifications of the equipment.

12) I.S. Standards:

The entire system shall conform to relevant BIS including safety standards as amended up to date. Where IS standards are not available the British standard(s) shall be followed. In case of conflict, the requirements of these specifications shall be given over-riding priority. The electrical and earthing work shall be carried out as per CPWD specifications for electrical works (internal) and electrical works (external) as amended up to date. A list of relevant standards, approved makes of equipment is furnished and forms part of the tender document.

SCHEDULE OF QUANTITIES

Name of Work: Replacement of 3nos. 630KVA transformers with 3nos. 750KVA transformer at TE building, Haddows Road, Chennai.

Sl. no	Description of items	Qty	Rate	Rate in words	Unit	Amount
	PART A (Supply)					
1	Sub Head-I (Transformer) Supplying of 750 KVA 3Phase, 50HZ, self cooled (air natural) cast resin dry type indoor transformer double wound for voltage ratio of 11KV / 433V, between phases, at no load and arranged for Delta / Star connection as per vector group DyN11 with the neutral brought out on star side with matching percentage impedance, voltage ratio and vector group etc., (details attached) with provision for connecting cable on HV side & bus duct on LV side with enclosure and all standard fittings etc.,as per attached specifications complete as required.	3 Jobs			Job	
1	Sub Head-II (HT Cable & Other items) Supplying of 3 core 185 Sqmm size,XLPE alluminium conductor cable of 11KV grade complete as per specifications/relevant IS standards	55 mtrs			mtr	
2	supplying indoor cable end termination with heat shrinkable jointing kit complete with all accessories including lugs suitable for following size of 3 core, XLPE aluminium conductor cable of 11 KV grade as required :					
a	185 sqm	6 Nos			each	
Total for Part-A (Supply)						
1	PART B (ITC) Installation, Testing & Commissioning of 750 KVA 3 phase, 50 HZ, self cooled (air natural) cast resin dry type indoor transformer double wound for voltage ratio of 11 KV / 433 V in item No.1 of Sub Head -I of Part-A above at the specified location complete as required as per specifications.	3 Jobs			Job	
2	Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 11 KV grade of following size in the existing masonry open duct as required.(Item No.1 of Sub Head -II of Part A)					
a	Above 120 sq. mm and upto 400 sq. mm	55 mtrs			mtr	

3	Making indoor cable end termination with heat shrinkable jointing kit complete with all accessories including lugs suitable for following size of 3 core, XLPE aluminium conductor cable of 11 KV grade as required.(Item No.2 of Sub Head -II of Part A)					
a	185 sq. mm	6 Nos			each	
4	Dismantling of Existing Transformers- 3 nos., HT cable from transformer to HT panel, shifting to the location indicated by the Engineer-in-charge within the building as required.	1 job			job	
Total for Part-B (ITC)						

ABSTRACT			
-	-	-	AMOUNT IN Rs.
Total for Part-A (Supply)-I			
Total for Part-B (ITC)-II			
Total (I+II).....(A)			
SGST Rate %		SGST Amount (B)	
CGST Rate %		CGST Amount (C)	
IGST Rate %		IGST Amount (D)	
Grand Total (A+B+C+D)			

IMPORTANT NOTE:

1. The firm shall be responsible to ensure that GST shown in the above columns is correct & Input Tax Credit for the amount shown above is admissible as per GST Act as amended up to date".
2. Invoice /Bill should be pre-printed as per the GST format.
3. The evaluation and comparison of responsive bids shall be done on the basis of **Net cost to BSNL** on the prices offered inclusive of packing, forwarding, freight and insurance charges etc., **but excluding GST**
4. 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 terms as specified in the scope of work.
5. No advance payments can be made. Stipulations like levy of interest if payment is not made in a specified time are also not acceptable and the payment is governed by the normal BSNL practice.

Contractor

Executive Engineer(E)

SPECIFICATION FOR WORK

General Specification for Substation

- 1) The equipments offered and the work shall be carried out as per current CPWD specifications and Indian Electricity rules amended from time to time. The specifications/conditions indicated here in under will be applicable to the extent of the details of item including the schedules of work.
- 2) The agency shall prepare the drawing for MV panels/Capacitor panel etc and get the approval from Engineer-in-Charge before execution of work.
- 3) Necessary materials for erection of the panels like foundation bolts, cement, angle iron supports if required shall be arranged by the contractor and nothing extra shall be paid. The contractor will be held responsible for any damage done to the building or equipment at the time of execution of work.
- 4) All necessary tools and plants shall be arranged by the contractor at his own cost and risk.
- 5) The earthing shall be done only in the presence of the Engineer-in-Charge.
- 6) Cable laying shall be as per CPWD specification and cable as per IS standards amended from time to time.
- 7) The firm shall carry out following tests at site at his own cost and risk for equipments /installations .and submit record to Engineer – in –charge
 1. Megger test between phases, neutral and earth
 2. Earth resistance test at all earth stations
 3. Relay test and their setting
 4. Functional test of all switch gears and circuit breakers
 5. Ratio test of transformer
- 8) Wherever two plates are joined like transformer body and cable end box etc., those have to be provided with 1"x1/4" copper earth continuity clips at interval without any extra cost.
- 9) The contractor shall submit completion plan and cable route diagram in triplicate at the time of completion of work itself, failing which he shall be liable to pay a sum equivalent to 2.5% of the value of work or as may be fixed by the Superintending Engineer (E) which shall be final and binding on the contractor as per clause of the conditions of contract.

Specification for Cast Resin dry type transformers

A- General Data		
1	No of Transformers Required	Three
2	Rated KVA	750 KVA
3	Rated Voltage	HV Side: 11KV MV Side: 433 Volts
4	Rated Frequency	50 HZ
5	Class of Insulation	Class "F"
6	Single phase or Poly phase	Poly Phase
7	No of phases on the system	Three Phases
8	Double wound or Single wound	Double wound
9	Vector Group	Dyn11
10	Winding Materials	Copper
11	Taps Required	+5% to -7.5% in steps of 2.5% each on HV side for variation with Off circuit tap links
12	Tapping	Off load type
13	Type of Cooling	Air Natural
14	Neutral	Neutral shall be brought out separately at the secondary side.
15	Parallel Operation	Shall be suitable for parallel operation among themselves
16	Diagram Required	Yes required
17	Reference Ambient temperature	50Deg C
18	Temperature rise of windings	90Deg C
B-Constructional data		
1	Type of Installation	Indoor
2	Enclosure Protection	IP-23 (Indoor)
3	Standard Fittings	<ol style="list-style-type: none"> 1) Rating & Technical plate 2) Earthing Terminals with lugs 3) 4Nos Flat, bi-directional rollers 4) Lifting lugs 5) Off circuit tapping links 6) Winding temperature indicator (Scanner type with operating voltage of 240Volts.) 7) HV Termination-Cable end box 8) LV termination-Bus duct flange
4	Testing	All routine tests as per IS 2026/1977 shall be conducted on the transformers and test report shall be submitted along with the delivery of the transformers. Nothing extra shall be paid on this account.

Detailed Specification for Dry Type (Cast Resin) Distribution Transformer

1. SCOPE

- i) These specifications cover the design, manufacture and delivery of dry type (Cast resin) distribution transformers with enclosures.
- ii) The dry type distribution transformer shall be complete with all the components and necessary accessories for the efficient and trouble free performance. The details of various parts have been indicated in general in these specifications. However, the parts not specified, included, but required otherwise should form part of the equipment.

2. GENERAL The average ambient temperature shall be taken as 50 degree Celsius. The transformers shall be suitable for installation in hot, humid monsoon area with seasonal dry, duty conditions at Chennai.

3. DESIGN DETAILS

(i) Type: Transformers shall be indoor, three phase Air cooled cast resin Dry type totally enclosed step down, copper wound. The transformer shall be as per ISS:2026 & 11171/1985 with up to date amendments.

(ii) Frequency/HT voltage variation:

- a) Frequency :50 HZ \pm 3%
- b) HT Voltage :11KV \pm 10%

(iii) Impedance: The impedance of the transformer shall be of such values, so that the transformers could be put to operate in parallel among themselves

(iv) Temperature Rise: The temperature rise of the transformer and the ceiling air temperature, when tested at the rated KVA shall not exceed the following limit as per ISS:2026 pt.II/77 as amended up to date:

- (a) **Winding:** Average temperature rise as measured by increased resistance of the winding connected between terminals 90°C.
- (b) **Hot spot:** Temperature rise as measured shall be 105°C.

(v) Insulation: Insulation class for winding and bushings of transformers shall be as under as per IS2026/1977 with up to date amendments.

vi) Test Voltage Withstand

Nominal voltage	Impulse withstand voltage	Power frequency withstand voltage
11KV	75KV	28KV

(vii) Parallel Operation: All the transformers as per detailed specifications shall be capable of operating in parallel satisfactorily among themselves with an anticipated 20% unbalanced load.

TRANSFORMER CONSTRUCTION DETAILS:

The transformer shall be glass fibre reinforced Epoxy insulated cast resin type. The features and construction details of the transformer shall be in accordance with the requirement detailed herein.

ENCLOSURES FOR EPOXY CAST RESIN TRANSFORMERS

- a. The epoxy cast resin transformers shall be housed in metal protective housing having a degree of protection of IP-23 with perforated louvers. The enclosure fabricated in two parts shall also accommodate cable terminations of 11 KV side. The sheet steel thickness of enclosure shall be at least 2.0mm.
- b. The housing shall be provided with a door, which shall be inter-locked such that it should be possible to open the door only when power supply to the transformer is switched off. A suitable danger plate shall be provided on the door.
- c. The enclosure shall be provided with suitable lifting lugs and necessary hardware for mounting on the floor.

MOUNTING ARRANGEMENTS:

For all transformers, suitable 4 Nos. bidirectional rollers shall be provided with the body for fixing the transformer on foundation. These rollers shall be such that the bottom of the body is at a sufficient height above foundation for cleaning purpose.

TEMPERATURE INDICATOR:

a) Winding temperature indicator (WTI)

A device for measuring the hot spot temperature of the winding shall be provided. The accuracy class of winding temperature indicator shall be ± 2 deg. C or better. It shall comprise of the following devices/features.

- (i) Temperature sensing element.
- (ii) Suitable local indicating instrument with maximum reading pointer mounted. It shall have two potential free contacts, one for winding temperature high alarm and one for trip when permitted temperature is exceeded.

EARTHING TERMINALS:

- (a) Two earthing ends suitable for connecting 25x5mm copper strip shall be provided at positions close to the two diagonally opposite bottom corner of body. These grounding terminals shall be suitable for bolted connection.
- (b) (i) The neutral terminal of solid earthed winding shall be brought to the ground level by MS grounding bar which shall be supported from the tank by epoxy insulators.
(ii) The end of grounding bar shall have two bolted neutral grounding terminals and necessary accessories for connecting to ground network through two copper strip.

CORE:

- (a) The core shall be constructed from high grade non-ageing cold rolled grain oriented silicon steel laminations and protected against corrosion by resin coat.
- (b) The design of the magnetic circuit shall be such so as to avoid static discharges, development of short circuit paths within itself or to the earthed clamping structure and the production of flux component at right angles to the planes of laminations, which may cause local heating.
- (c) Adequate number of core bandages shall be provided to ensure uniform compression of core laminations. The insulation of core clamp plates shall be able to withstand a power frequency voltage of 2 KV (RMS) for one (1) minute.

- (d) Cores and winding shall be capable of withstanding shocks during transport, installation, service and adequate provision shall be made to prevent movement of core and winding during these conditions.
- (e) All steel, sections used for supporting the core shall be thoroughly sand blasted after cutting, drilling and welding shall be hot dip galvanized/electro-galvanized.
- (f) Adequate provision shall be provided for lifting core and winding assembly.

WINDINGS:

- (a) The conductor shall be of electrolytic grade copper, free from scales & burrs.
- (b) The windings shall be insulated with material of 'F' class or better.
- (c) Both the windings shall be encapsulated with epoxy cast resin under vacuum.
- (d) The windings should be moisture proof and non-inflammable.

NEUTRAL TERMINATION ARRANGEMENT:

The neutral terminals of 433 V windings shall be brought out on a bushing one alongside the 433 V phase terminals to form a 4 wire system for the 433 V, the neutral shall be connected to the ground. The ground connection bushing should be connected to a copper flat of approved size up to 100mm from the ground level adequately separated by insulators from the transformer tank. A CT is to be provided for transformer LT winding earth fault protection.

OFF CIRCUIT TAPPINGS

The tapping shall be bolted link type of +5% to -7.5% in steps of 2.5% each on HV side for variation with Off circuit tap links with suitable arrangement for locked in position.

PAINTING: All the surfaces to be painted shall be thoroughly cleaned by solid shot blasting. Exterior surfaces shall be given two coats of light coloured paint with good heat reflecting, corrosion and abrasion resisting characteristics as per IS 5 shade 631.

ACCESSORIES:

The offer shall be inclusive of all the accessories as mentioned below.

- a) Winding temperature indicator with alarm and trip contacts.
- b) Rating plate
- c) Lifting lugs on the body
- d) Rollers & base with provision for skidding in any direction.
- e) One trifurcating cable end box complete with cable lugs for XLPE cable of 185 SQmm/3 core, on the HT side.
- f) LT side bus duct flange with 4 Nos. epoxy bushings (one for each phase and one for neutral for LT side connecting rods along with connecting copper plate of adequate capacity with nut and bolts for connecting the bus duct for 750KVA rating transformer.
- g) Earthing terminals 2 Nos.

TESTS on dry type Transformer:

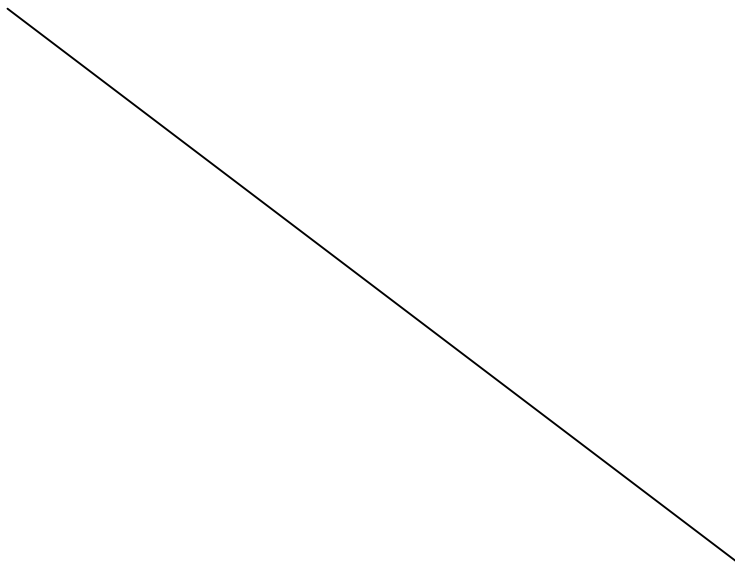
Routine tests of all the transformers shall be completely carried out in factory in accordance with the ISS:11171 and or any more tests, if considered necessary to ensure that all the equipment is in accordance with the specifications. BSNL reserve the right to witness such tests and the contractor give the Engineer-in-Charge, two weeks advance notice. No extra payment will be made for such tests. Routine tests shall include, but shall not be limited to:-

- a) Resistance measurement of all windings.
- b) Ratio tests for all sets of winding on each tap.
- c) Polarity and phase relation tests on the rated voltage connection.

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- d) No load (excitation) losses at rated voltage.
- e) Impedance and load losses at rated current.
- f) Exciting current at 100% and 110% pf the rated voltage
- g) Applied potential tests
- h) Induced potential tests
- i) Insulation resistance test.

Copies of original test certificates for the type tests along with certified drawings as per ISS of transformer shall be furnished by the tenderer along with the transformer.



Technical Particulars of Dry type Transformers (To be filled in by the Tenderer)

I	Cast Resin Dry type Transformer	
1	Make	
2	Model No	
3	Rated KVA	
4	Rated Voltage	HV Side: MV Side:
5	Rated Frequency	
6	Class of Insulation	
7	Single phase or Poly phase	
8	No of phases on the system	
9	Double wound or Single wound	
10	Vector Group	
11	Winding Materials	
12	Type of Tap Setting : On load/Off load	
13	Tap setting on HT or LT side	
14	No of Tap setting steps & % Variations	
16	Type of Cooling	
17	Whether Neutral brought out separately at secondary side	
18	Whether suitable for Parallel Operation among themselves and as well as with the existing 2 nos 500KVA oil immersed transformers having 4.35% impedance	
19	Reference Ambient temperature	
20	Temperature rise of windings	
21	Regulation at rated output and 0.8 Pf, 0.9Pf, and unity Pf.	
22	Impedance at rated KVA and at 75deg Centigrade	
23	Exciting current with rated voltage & frequency	
24	No load losses at 75Deg C, Rated voltage & frequency	
25	Total losses at 75 deg C, 0.8 Pf and 1/2, 3/4 & Full rated KVA.	
26	Efficiency at 75deg C, 0.8 pf and at 1/2, 3/4 and full rated KVA	
27	Efficiency at 75deg C, Unity pf and at 1/2, 3/4 and full rated KVA	
28	Load at which maximum efficiency occurs in % of full load	
29	Maximum efficiency in Percentage	
30	Type of Installation Indoor or Outdoor	
31	Enclosure Protection	
32	Enclosure sheet metal thickness	

33	<p>Whether the following standard Fittings are provided:</p> <p>01. Rating & Technical plate 02. Earthing Terminals with lugs 03. 4Nos Flat, bi-directional rollers 04. Lifting lugs 05. Off circuit tapping links 06. Winding temperature indicator (Scanner type with operating voltage of 240Volts.) 07. HV Termination-Cable end box 08. LV termination- Bus duct flange 09. Whether two nos potential free contacts for high temperature alarm and trip are provided</p>	<p>Provided/Not Provided Provided/Not Provided Provided/Not Provided Provided/Not Provided Provided/Not Provided Provided/Not Provided Provided/Not Provided Provided/Not Provided Provided/Not Provided</p>
34	<p>Outline dimensions of the transformer</p> <p>a) Length(End to End) b) Breadth(End to End) c) Height</p>	

Specifications for Cabling

- 1 HV cable shall be 3 core of size and grade as specified in the schedule. It shall conform to relevant IS standards amended up to date.
- 2 MV cable shall be of 3 ½ core PVC insulated PVC sheathed aluminium conductor armoured cable of size indicated in the specification.
- 3 All control wiring shall be of 1.1KV grade copper conductor PVC insulated wire of size not less than 1.5sqmm
- 4 Laying
 - a. All cables shall be laid in ground, trenches and on wall/trays as may be specified and as per schematic diagram.
 - b. The work shall be carried out strictly in accordance with latest CPWD specifications for Electrical works(Part 2 External)
 - c. All cables shall be clamped properly when laid along the wall/ceiling/Cable tray.
- 5 Jointing : The cable jointing work shall be carried out only by a licensed and experienced cable jointer and shall be in accordance with latest CPWD specification for Electrical works.
- 6 HV Cable Gland earthing: All HV cable shall be connected to the earth with 3 mm dia copper wires.

Testing: Testing of complete cable installation shall be done as provided in latest CPWD specifications for Electrical works.

SPECIAL CONDITIONS OF CONTRACT

1) General

1.1 The following special conditions shall be read in conjunction with general conditions of contract and amendments /correction there to. If there are any provisions in this conditions which are at variance with the provision in the above mentioned documents, the provisions in the special condition shall take precedence.

1.2 THE PRICE SHALL BE FIRM AND VALIDITY OF TENDERS SHALL BE 90 DAYS FROM THE DATE OF OPENING OF THE TENDER.

2) VARIATION IN QUANTITIES

Variation in quantities in respect of unit rated items will be governed by unit rates in the agreement. This applies to all variations ordered during the currency of the main contract regardless of the quantity of variations for any item of work not covered by the Schedule of work clause 12 of BSNL EW-8 shall apply.

3) SUFFICIENCY OF TENDER

3.1 The contractor shall be deemed to have satisfied himself before entering into the contract as the correctness and sufficiency of his offer for the work and of the rates and prices quoted in the schedule of works and items/quantities or in bills of quantities for the contract period. These rates and prices shall except as otherwise provided, cover all his obligations under the contract and all matters and things necessary for proper completion of works.

3.2 Currency of contract:

Rates quoted by the contractor shall be firm and shall be valid for the currency of contract. No cost escalation shall be permitted during the currency of contract.

3.3 The Clause 10CC of BSNL EW- 8 form is not applicable.

3.4 The tenderer shall stipulate no additional conditions.

4) PROGRAMME FOR EXECUTION

The firm shall supply detailed programme to Engineer-in-Charge for execution of contract within fifteen days of award of work. The programme shall contain details about submission of drawing, supply of materials, tentative dates for installation and commissioning.

5) STORES AND SAFETY

The contractor from his own source shall arrange all the stores and materials required for the satisfactory completion of the work at work site. Space for storing the same materials may be provided on request from the contractor. However safe custody of the material stores at site will be responsibility of the contractor.

6) CO-ORDINATION AT SITE

At the site of work more than one agency may be working. Full cooperation shall be extended to other agencies during the 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 BSNL engaged in erection as well as to normal routine work.

7) TEST CERTIFICATES

The firm shall submit following test certificate on supply of materials at site.

- a) Manufacturer test certificates of transformer.
- b) Primary injection test certificates of IDMT relay.
- c) Manufacturer test certificates of Capacitors.
- d) Manufacturer's type test certificate of Bus bar trunking.

8) COMPLETION DRAWINGS

a) The firm shall supply three sets of drawings/documents after completion of the work but

- before the proposed date of inspection by the electrical inspector.
- b) The installation drawing giving complete details of the equipments including foundation.
 - c) Line diagram of power supply/distribution through substation
 - d) Schematic diagram of LT Panel /HT panel ,Transformer ,Bus trunking indicating clearly the sizes of bus bars ,switch gears, circuit breakers ,metering and protection equipments, cable and bus trunking entry points,
 - e) Electrical drawing giving switch gear capacity, protective fuses control wiring
 - f) Schematic and connection wiring diagram of the dry type transformer. They shall also supply three sets of instructions manual for operating and maintenance of transformer.

9) **GUARANTEE & DEFECT LIABILITY**

The guarantee shall be valid for 12 months after successful commissioning. The contractor shall guarantee that all equipment i/c switchgears shall be free from any defect material or bad workmanship and also the same 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 contractors personnel if required during this period shall be made available free of cost to the BSNL.

In case the contractor fails to depute his representative within 24 hours of notification of the defect or fails to cause remedial measure within reasonable time as decided during joint inspection, the BSNL may proceed to do so at the contractors risk and expenses and without prejudice to any other risk.

10) **CHANGES IN SPECIFICATIONS**

The BSNL reserves the right to make changes in respect of specifications of work if in its opinion same is found necessary. However such alterations shall be made after mutual discussions and agreement between the BSNL and the contractor. Any price implications in this regard shall be mutually discussed and agreed up on in terms of clause 12 of BSNL EW-8. The BSNL as matter of principle will not permit modifications by the contractor in design./specifications of any document /material. However the same can be agreed upon by the BSNL under exceptional circumstances where

a) The same is necessitated due to non-availability of material/components of certain specifications/make.

Or

b) Such alterations constitute an improvement in the opinion of BSNL. Prior approval is necessary before undertaking any alteration/modification in the specifications of the equipment.

c) Prior written approval of the Department shall be obtained before execution of alterations / modifications.

11) **Packing, Forwarding, Storage at site.**

Before dispatch to the site, the equipment /components/materials shall be properly packed so as to afford protection against transit damages and damage against storage in open areas either at transporters premises or at work site. Special care shall be taken in respect of sensitive items. When storage in open areas is inevitable, proper waterproof covering shall be provided to protect damages on account of rainwater etc. However, damaged items should be replaced as per the directions of the Engineer –in-charge.

12) **Bye laws indemnity against liability**

1. The contractor shall comply with by laws and regulations of local and statutory authority having jurisdiction over the works and shall be responsible for payment of all fees and other charge giving and

receiving all necessary notices and keep the Engineer-in-Charge informed about the notices issued and received.

1. The contractor shall indemnify the BSNL against all claims in respect of patent rights, trade marks or name of other protected rights in respect of any plants, machine work or materials used for in connection with works or temporary works and from against all claims demands proceedings cost charge and expense whatsoever in respect of or in relation thereto. The contractor shall defend all actions arising from such claims and shall himself pay all royalties.
2. License fees, damages costs and charges of all and every sort that may be legally incurred in respect there of shall be borne by the contractor.
3. All liabilities /penal recoveries on matters arising out of tax/excise/levies such as incorrect deduction, discrepancies in the filing of returns revised assessment by concerned authorities etc. shall be borne by the contractor

13) I.S. Standards :

The entire system shall conform to relevant BIS including safety standards as amended up to date. Where IS standards are not available the British standard(s) shall be followed. In case of conflict, the requirements of these specifications shall be given over-riding priority. The electrical and earthing work shall be carried out as per CPWD specifications for electrical works (internal) and electrical works (external) as amended up to date. A list of relevant standards, approved makes of equipment is furnished and forms part of the tender document.

14) PRELIMINARY EVALUATION

The Dept may waive any minor infirmity or non-conformity or irregularity in a bid, which doesn't constitute a material deviation, provided such waiver, doesn't prejudice or affect the relative ranking of any bidder.

15) DATE OF COMPLETION

For Substation / Replacement of Transformers work, the date of clearance from Electrical Inspector is taken as Completion date. After completion of work and required tests carried out, It is agency's responsibility to offer the work carried out to the Electrical Inspector for inspection with required details/Test certificates.

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 / 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 / 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

- a. Any other approved makes as approved till the date of opening of tender shall be included in the approved make.

Contractor

Executive Engineer(E)

RELEVANT IS STANDARDS

<u>STANDARDS</u>	<u>TITLE</u>
IS 11171- 1985	Dry type transformer
IS 10028 (Part-I & III)	Installation & Maintenance of Transformers
IS 2099:1986	Bushings
IS 2705	Current transformers
IS 3961 (Part-II)-1967	PVC insulated PVC sheathed Heavy duty cables
IS 732-1989	Electrical wiring installation (system voltage not exceeding 650V)
IS 2675-1983	HRC cartridge fuse links
IS 13118:1991 IEC 60056	High voltage alternating circuit breaker
IS 9920:2002	High voltage switches-PART-I . switches for rated voltage above 1 KV and less than 52 KV
IS 3427:1997	Ac metal enclosed switch gear and control gear for voltages above 1 KV and upto and including 52 KV
IS 694- 1990	PVC insulated cables for working voltages upto and including 1100 Volts
IS 1248	Electrical measuring instruments and accessories
IS 8130:1984	Conductors for insulated electric cables & flexible cords

Executive Engineer(E)

Contractor

PROFORMA OF SCHEDULES (Operative Schedules to be supplied separately to each intending tenderer)	
<u>SCHEDULE 'A'</u> Schedule of quantities :	Attached
<u>SCHEDULE 'B'</u> Schedule of materials to be issued to the bidder:	Nil
<u>SCHEDULE 'C'</u> Tools and plants to be hired to the bidder:	Nil
<u>SCHEDULE 'D'</u> Extra schedule for specific requirements/documents for the work, if any:	Nil
<u>SCHEDULE 'E'</u> Schedule of components of Materials, Labour etc. for escalation:	Nil
<u>SCHEDULE 'F'</u> Reference to General Conditions of contract :	
Name of work:	As per NIT notification page No 3
Estimated cost of work:	
Earnest money:	
Security Deposit and performance Guarantee	
General Rules & Directions: Officer inviting tender:	Executive Engineer (E) Electrical Division-I Chennai
Definitions:	
2(v) Engineer-in-Charge	Executive Engineer (E) Electrical Division-III Chennai
2(vi) Accepting Authority	Executive Engineer (E) Electrical Division-I Chennai
2(x) Percentage on cost of materials and labour to cover all over heads and profits	10% (TEN)
CLAUSE 5	
Time allowed for execution	Three months
Authority to give fair and reasonable extension of time for completion of work:	SE(E),EC-II,Chennai
Competent Authority for deciding reduced rates:	SE(E),EC-II,Chennai
Clause 25	
Competent authority for conciliation:	SE (E) not in-charge of the work.

BSNL EW-8
Bharat Sanchar Nigam Limited
Electrical Wing

Electrical Division: I, Chennai

Sub Division: III, Chennai

1. I/we have read and examined the notice inviting tender, schedule, specifications applicable, Drawings & Designs, General Rules and Directions, Conditions of Contract, clauses of contract, special conditions, Schedule of 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 ninety (90) days from the due date of submission thereof and not to make any modifications in its terms and conditions.
4. If I/We, fail to commence the work specified, I/We agree that the said BSNL shall without prejudice to any other right or remedy, be at liberty to forfeit the said earnest money absolutely and the same may at the option of the competent authority on behalf of BSNL be recovered without prejudice to any other right or remedy available in law out of the deposit in so far as the same may extend in terms of the said bond and in the event of deficiency out of any other money due to me/us under this contract or otherwise.
5. Should this tender be accepted, I/We agree to execute all the works referred to in the tender documents upon the terms and conditions contained or referred to therein and to carry out such deviations as may be ordered up to maximum of percentage mentioned in clause 12.3 of the tender form and those in excess of that limit at rates to be determined in accordance with provisions contained in clause 12.2.
6. I/we agree to furnish to BSNL, Deposit at Call receipt/FDR/ Bank guarantee of a Nationalized/ Scheduled Bank for an amount equal to 5% of the 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 as per the BSNL terms and conditions.
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 therefrom 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.

<p>Signature of Witness (required in the case of bidder's thumb impression is given by the bidder in place of signature) Occupation of Witness :</p>	<p>(Signature of bidder) (Name & Postal address)</p> <p>Seal of Bidder</p> <p>Date:</p>
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Acceptance of Tender

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)

For & on behalf of BSNL

Dated

Signature :
Designation :