T E N D E R D O C U M E N T

F O R T H E W O R K

Name of work: SITC of 5 Nos wind operated roof top Turbo Air Ventilator Systems for various BTS stations under BSNL Sanga Reddy SSA

ELECTRICAL DIVISION - I

HYDERABAD-63

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Certified that this tender document contains (31) pages only.

EXECUTIVE ENGINEER (E)
BSNL Electrical Division-I
Hyderabad.

BHARAT SANCHAR NIGAM LIMITED
(A Govt. of India Enterprise)
(Electrical Wing)
% EXECUTIVE ENGINEER (E), BSNL Electrical Division-I,
6th floor, NW wing, BSNL Bhavan, 5-9-25, Hill Fort Road,
Adarsh Nagar, Hyderabad. -500063
Tel No: 040- 23224344.

NOTICE INIVING TENDER

NIT No. : 63/BED-I/HYD/2019-20 Dated: 02-03-2020

The Executive Engineer (Electrical), BSNL Electrical Division – I, Hyderabad invites on behalf of BSNL sealed item rate tenders for the work of

S. No	Name of work	Estimated cost Rs.	EMD Rs.	Tender cost (non refundable)	Time for completion
1	**SITC of 5 Nos wind operated roof top Turbo Air Ventilator Systems for various BTS stations under BSNL Sanga Reddy SSA**	59,985/-	1,200/-	177/-	01 Month.

From the contractors who are satisfying the following eligibility conditions:

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

   AND

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

   OR

2. The manufacturer/ authorized dealer/ OEM of any of the makes of turbo ventilator. The letter of authorization from manufacturer in original/ photocopy attested by BSNL Executive shall be submitted.

   OR

3. Experience of having successfully completed similar works (SITC of Turbo Air Ventilator/ Free cooling systems with DC Fans/Free cooling systems with Exhaust fans) in Central Government / State Government/ Central Autonomous body/Central Public Sector Under taking during last 7 years ending last day of month previous to the one in which Applications are invited, should be either of the following:-

   a) Three similar successfully completed works costing not less than the amount equal to 40% of the estimated cost put to tender.

   OR

   b) Two similar successfully completed works costing not less than the amount equal to 60% of the estimated cost put to tender.

   OR

   c) One similar successfully completed work costing not less than the amount equal to 80% of the estimated cost put to tender.

GENERAL CONDITIONS

(a) Valid Chartered Accountant Certificate with latest returns& Registration certificate with attested copies as applicable along with application on their printed letterheads for purchase of Tenders.

(b) List of works completed of the requisite magnitude along with attested copies of certificate, testimonials of the satisfactory certificate from the department concerned obtained from an officer not below the rank of Executive Engineer.

(c) Copy of PAN card

(d) The Tenderer should submit the valid GST registration certificate, EPF Registration Certificate & ESI Registration certificate (As applicable)

(e) The Tender shall be submitted in **two sealed covers marked as cover 1st and Cover 2nd, with mention of Name of work, date of opening of bids on both the covers**. The First cover shall contain Tender cost, Earnest Money Deposit in the form of **Demand Draft/Pay Order** of a Scheduled Bank or Nationalized Bank/State Bank guaranteed by Reserve Bank of India drawn in favour of **Accounts Officer (Cash), O/o GMTD, BSNL, Sanga Reddy** and the second cover should *contain* the tender document. In case the first cover is not annexed or Earnest Money is not in proper form the second cover containing tenders shall not be opened at all.

(f) The tender will be received up to 3.00 P.M. on **10/03/2020** and opened at 3.30 P.M. on the same day.

(g) In case holiday is declared on the opening day, the tenders will be opened on the next working day.

Note:-Tender documents & BSNL EW-8 General conditions of contract work for electrical works can also be downloaded from the website http://www.telangana.bsnl.co.in/tenders_active.php

The firm who quotes on the tender downloaded from the web site shall strictly follow the following procedure:

1) Two sealed covers marked as cover 1st and Cover 2nd, with mention of Name of work, date of opening of bids.
2) The First envelope containing tender application, tender fee (non-refundable) in the form of separate DD, credentials of the tenderer which also includes authorization letter from dealer if any, self-attested **and** certified by the BSNL Executive. If not certified by the BSNL Executive then original document shall be produced at the time of opening and EMD in the shape of DD/PO of scheduled bank, separate DD shall be attached for tender fee and EMD.
3) Second Envelope shall contain duly filled tender document.
4) First envelope containing tender fee, attested document providing fulfillment of eligibility criteria and EMD in proper form shall be opened first
5) The second envelope shall not be opened in case
   i) Tender fee is not submitted in proper form
   ii) EMD is not in proper form
   iii) Firm fails to fulfill eligibility criteria on the basis of document submitted in the first envelope
6) If any found/discrepancies found in the downloaded tender form, the contents in the hard copy issued from division office shall be final and binding.
7) Tenders received by post / courier shall not be accepted.

Executive Engineer (E)

No. NIT/BED-I/HYD/2019-20/359 Dt. 02-03-2020

1) The Sr. Chief Engineer (E), BSNL AP Zone, Hyderabad.
2) The Superintending Engineer (E), BSNL Electrical Circle, Hyderabad/Vijayawada.
3) The Executive Engineer (E), BSNL, Electrical Div. No.II, Hyd/Vijayawada, VSP/TPT/WGL/ATP.
4) SDE (E) Electrical Sub Division IV, Hyderabad, NZB, MDK, MBNR, KHM, NGD.
5) All Eligible Contractors.
6) SR SS/SDE (EP)/AO/Cashier/Auditor/Notice Board.

Executive Engineer (E)
BSNL Electrical Division – I
HYDERABAD.

SCHEDULE OF QUANTITIES

Name of work:- SITC of 5 Nos wind operated roof top Turbo Air Ventilator Systems for various BTS stations under BSNL Sanga Reddy SSA

S	DESCRIPTION OF ITEM	Qty		Rate	Unit	Amount
1	SITC of wind operated roof top Turbo Ventilator with Aluminum sheet base plate on BTS Site Shelter/room cabin, having Throat dia of 24", body dia 30" and height 18" with aluminum vanes /Blades of suitable thickness, width and quantity to sustain the bird Hits. The shaft shall be made of hardened steel without bearing and single point rotation type having consistent RPM i/c cutting the shelter / room cabin, proper sealing with sealant and riveting the system with Aluminum Rivets, i/c providing FRP Sheet not less than 2mm thick, for mounting the turbo ventilator (12 SFT area approx..) etc. as reqd..	5	Jobs		Job	
2	Supplying and Fixing ventilating Louvers made of 2.0 mm thick MS Sheet i/c providing mosquito Mesh (1mm x 1mm hole size) along with suitable accessories at the location specified by Engineer-in-charge i/c cutting the container / shelter / wall / door, welding, powder coating, riveting, proper sealing with sealant etc. as required.	5	Sq.Mtrs		Sq.Mtr	
				Total Value of work:	**(A) =**	
				CGST Payable extra on above Value (A) @ _____%	**(B) =**	
				SGST Payable extra on above Value (A) @ _____%	**(C) =**	
				IGST Payable extra on above Value (A) @ _____%	**(D) =**	
				Total inclusive of Taxes: (A)+(B)+(C)+(D) =		

TECHNICAL SPECIFICATION FOR TURBO VENTILATORS

- Size (Throat dia): 24" (610 mm)
- Body dia : 30'' (740mm)
- Height : 18'' (460mm)
- Vanes / blades: Aluminium; 100/1000. 0.4mm thickness 39 nos (aluminium 0.40mm & width is 65mm with crimping on edges (0.8mm) for strength against bird hits without much increase in weight on moving part
- Top cover (inner) : Inner Galvalume 0.50mm thickness, Outer Alluminum zinc coated steel 0.35 mm thickness
- Shaft : Zinc coated steel
- Rotation Technology : Bearing free Hardened Steel Shaft with rotation on Single Point Steady and consistent RPM even after significant passage of Time Unlike ventilators using ball bearings
- Support : Galvalume
- Rivets : 5/32" X 3/8" Aluminium
- Suction Capacity : 184,000 CFH (Cu Ft per Hour) or 3066 (CFM)

I. GENERAL:

1) The workers engaged by firm should maintain proper discipline and good behavior with occupants. Agency has to observe all the labour rules and regulations in force and indemnify BSNL against any claims whatsoever, either from this clause or any other clause in the contract.

2) The agency should provide the workers with proper Tools & Plant, Testing and safety equipment.

3) Firm should have round the clock contact telephone number. In case of Emergency, the contractor and authorized engineer supervisor shall be available at site on short notice from engineer-in-charge and make all efforts to make the situation normal at the earliest.

II**. PACKING, FORWARDING AND STORAGE AT SITE:-**

Before dispatch to site, the equipment / component / materials shall be properly packed to have protection against transit damages and damages against storage at transporter's premises or at work site. However, damaged items shall be replaced as per the direction of Engineer-inCharge. All the stores and materials required for satisfactory completion of the work shall be arranged at work site by the contractor from his own sources. However, safe custody of the material stored at site will be the responsibility of the contractor.

III. PROGRAMME FOR EXECUTION:-

The firm shall supply detailed program to Engineer-in-charge for execution of contract within 15 days of award of work. The program shall contain details about submission & approval of drawing, supply of materials etc. Tentative dates for installation and testing shall also be submitted.

IV. INSTALLATION

1) Opening on shelter for fixing Ventilator and Supply air grill shall be done by the contractor / agency. The opening shall be made in the required size and finishing shall be done to avoid further damage / tear of shelter material.

2) Generally the turbo air ventilator systems shall be installed on roof and the fresh air inlet arrangement at the bottom of cabin. The Turbo Air Ventilator and fresh air inlet arrangement may be fixed on side wall also based on site conditions.

3) The joint between shelter and ventilator / Supply air grill assembly shall be made water proofing in order to avoid entry of seepage water.

4) Any damage to the Shelter / Room due to the carelessness on the part of firm's staff shall be the responsibility of firm and shall be replaced / rectified without any extra cost.

5) Any accident or damage will be the responsibility of contractor and the BSNL will not entertain any claim, compensation, penalty etc. on this account or on account of nonobservance of any other requirement of law relevant to this work.

V. DATE OF COMPLETION:

The work shall be deemed to have been completed after the fulfillment of the following:

a). Physical installation of Wind operated Turbo Ventilator.

b). Successful completion of testing & commissioning of Wind operated Turbo Ventilator in presence of representative of Engineer-in-Charge.

VI. COMPLETION PLAN:

Contractor shall submit a set of Drawings showing location of each installation.

WARRANTEE:- The agency shall offer warrantee for the system for one year from the date of commissioning including replacement of all faulty components at free of cost to BSNL.

IMPORTANT INSTRUCTIONS TO TENDERERS DOWNLOADING THE TENDER DOCUMENT FROM WEB SITE

The Tenderers, who have down loaded the tenders from the web site, shall read the following important instructions carefully before quoting the rates and submitting the tender documents:-

1. The tenderer should see carefully and ensure that the tender document containing all the pages as per the index has been down loaded for making required entries. The balance pages of Standard BSNL EW 8 forms will be attached with the agreement after the award of work. The contractor shall read the BSNL EW 8 and keep themselves aware of the said Clauses.

2. A clear print out of tender document shall be taken on good quality A4 size paper and the printer settings, etc., shall be such that the document is printed as appearing in the web and without any change in format, number of pages, etc., and shall also ensure that no page is missing. Only original computer printout of the document shall be used. Photocopy shall not be accepted.

3. In case of any doubt in the downloaded tender, the same shall be got clarified from the Engineer in charge calling the NIT before submission of tenders.

4. The name of the tenderer shall be filled on the relevant pages of BSNL EW 6 form etc., and all the pages shall be invariably signed and seal affixed.

5. The tenderer shall ensure that the downloaded tender document is properly stitched and sealed with sealing wax before submitting the document. Loose / spiral bound tenders shall not be accepted. Sealing of the tenders with adhesive tapes is not acceptable and the tenders are liable to be summarily rejected.

6. There shall be no correction / addition / alteration / omission made in the text of the downloaded tender document. If found otherwise, the same shall be treated as non-responsive and summarily rejected.

7. The tenderer shall sign the declaration enclosed before submitting the tender.

8. Tenders received by post/courier shall not be entertained.

CONTRACTOR **ENGINEER IN CHARGE**

IMPORTANT INSTRUCTIONS TO THE TENDERERS

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

1. **Tenders with any condition including that of conditional rebates shall be rejected forthwith summarily.**
2. Insurance, loading, unloading, transportation etc., should be included on works contact basis.
3. No Octroi exemption certificate shall be issued by the department nor will the Octroi duty paid by the contractor be reimbursed. Hence Octroi charges shall be included in the offer.
4. The price shall be firm and fixed during the currency of the contract. No cost escalation is permitted. Clause10CC is not applicable.
5. The Extension of time for completion of the works is governed by clause 5 of the tender documents.
6. No advance payments can be made. The payment is governed by the normal department practice. Stipulations like levy of interest if pay mention to make in specified time is not acceptable.
7. The firm should deposit EMD before submission of their offer. The EMD of other works refundable to them cannot be adjusted against this work. The firm's offer shall be liable for rejection without EMD for this particular work.

8) **TAXES AND DUTIES**

The firm shall quote rates for all the items inclusive of all taxes and duties, inclusive of Octroi, entry tax, work contract tax, Service tax/ GST. No concession form will be issued by the Department. **However the agency shall clearly indicate the GST/ Service portion in case of composite works at the time of submission of tender itself for the purpose GST/ service tax calculation.**

Tendered rates shall be inclusive of all taxes and levies payable under the respective statutes. However pursuant to the constitution (Forty sixth amendment) Act, 1982, If any further tax or levies imposed by statute, after the 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 in the opinion of Superintending Engineer whose decision shall be final and binding is not attributable to delay in execution of work within the control of the contractor.

The contractor 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 further shall furnish such other information/documents as the Engineer-in-Charge may require.

The contractor shall within a period of 30 days of imposition of any further tax or levy pursuant to the constitution (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.

Note: No additional condition whatsoever will be accepted for turnover tax/ sale tax on works contract. In case of additional conditions for the payment of such claims by the contractor, the tender may be summarily rejected by the accepting authority.

9) **INCREASE /DECREASE OF TENDERED QUANTITY**

a) BSNL will have the right to increase or decrease upto 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.

10) ***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.

11) **COMPLETION OF WORK**:-

11.1 The time period will be reckoned from the 10th day after the date on which the order of commence the work issued to the contractor. The time allowed for completion of work is 01 Month as per the directions of the Engineer-in-charge.

12) **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.

13) **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 EW - 8 forms stands modified accordingly. Flow chart of the procurement process/ contract shall be supplied by the contractor and approved by Executive Engineer concerned.

14) **Payment Terms:**

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

a. **80% of the price shall be paid on the receipt of goods at site by the consignee (for major items only).**
b. **The balance 10% payment shall be released after satisfactory instillation.**
c. **The balance 10% payment shall be released after satisfactory commissioning, Testing and handing over of the work.**

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.

15) **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 upto 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.

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

16 **Inspection of Site and Contract Documents**

For the purpose of inspection of site and relevant documents, the contractor is required to contact E.E (Elect) concerned who shall give reasonable facilities for Inspection of the same. The contractor shall inspect and examine the site and its surroundings and shall satisfy himself before commencement of work as to the form and nature of the site, the quantities and nature of work, materials necessary for completion of the works, the means of access to the site, the accommodation he may require and in general shall himself obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect his work. No extra charges consequent on any misunderstanding or otherwise shall be allowed.

17 Variation in quantities in respect of unit rates 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 variation. For any item of work not covered by the schedule of work Clause12 of BSNL EW - 8 shall apply.

18. **I.S. Standards:**

The entire system shall conform to relevant Bureau of Indian 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 upto date.

19. **Modifications/Alterations.**

19.1 Modifications or alterations in the design/specifications of any equipment/material will not be permitted by the department as a matter of principle.

19.2 However, the department may relax the above stipulation in exceptional circumstance where:

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

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

19.3 Prior written approval of the department shall be obtained before execution of such alterations/modifications.

20. **Quality Assurance**

The EI works are to be executed in accordance to the CPWD specifications. The work is considered to be completed only after the successful completion of testing.

21. **Procedure for submission of bills:**

The agency shall clearly indicate the GST/ **service tax number** on the bill copy / invoice. The bill shall contain measurement (work done / supplies) portion and the GST/ service tax portion separately. Bills received without these particulars will not be considered.

22. **Termination of contract on death of contractor**

Without prejudice to 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.

23. **Indulging of contractor on criminal / anti-social activities and cases under investigation/ charge sheeted by CBI or any other Government agencies Etc**

If the CBI/ Independent External Monitor (IEM) / Income tax/Sales tax/Central Excise /Customs Departments recommends such a course – action will be taken as per the directions of CBI or concerned department.

Contractor

Executive Engineer (E)
BSNL Electrical Division - I
HYDERABAD

PROFORMA OF SCHEDULES

SCHEDULE 'A'

Schedule of quantities: Appended from page **5 - 6**

SCHEDULE 'B'

Schedule of materials to be issued to the contractor.

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

SCHEDULE 'C'

Tools and plants to be hired to the contractor

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

SCHEDULE 'D'

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

I. Model form of bank guarantee: Appended from **page 15**

SCHEDULE 'E'

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

NIL

CLAUSE 10 CC

Component of Cement expressed as per cent of total value of work	Xc	____ %	Not Applicable
Component of Steel expressed as per cent of total value of work	Xs	____ %	
Component of civil(except cement and steel) / Electrical construction Materials expressed as per cent of total value of work	Xm	____ %	
Component of Labour expressed as per cent of total value of work	Y	____ %	

SCHEDULE 'F' Reference to General Conditions of contract.	
Name of work:	**SITC of 5 Nos wind operated roof top Turbo Air Ventilator Systems for various BTS stations under BSNL Sanga Reddy SSA.**
Estimated cost of work:	**Rs. 59,985/-**
i) Earnest money :	**Rs. 1,200/-**
ii) Performance Guarantee : iii) Security Deposit :	5% of tendered value of work. 5 % of the tendered value of the work.
GENERAL RULES and DIRECTIONS:	
Definitions:	See below
2(v) Engineer-in-Charge	Executive Engineer (E) – BSNL Electrical Division- I, Hyderabad.
2(viii) Accepting Authority	Executive Engineer (E), BSNL Electrical Division-I, Hyderabad.
2(x) Percentage on cost of materials and labour to cover all overheads and profits.	10%
2(xi) Standard Schedule of Rates	-----
2(xii) Department	BSNL
9(ii) Standard contract Form	BSNL EW-8 as modified and corrected upto date.
Clause 1 i) Time allowed for submission of Performance Guarantee from the date of issue of letter of acceptance, in days. ii) Maximum allowable extension beyond the period provided in I) above in days	15 Days (As per Tender)
Clause 2 Authority for fixing compensation under Clause 2.	Superintending Engineer (E), BSNL Electrical Zone, Hyderabad.

<table>
<tr><td colspan="3">Clause 5
Number of days from the date of issue of award letter of acceptance for reckoning date of start Milestone(s) as per table given below:-</td><td>10 days</td></tr>
<tr><td colspan="4">Table of Mile Stone(s)</td></tr>
<tr><td>Sl. No.</td><td>Description of Milestone (Physical)</td><td>Time allowed in days (from date of start)</td><td>Amount to be with-held in case of non-achievement of milestone</td></tr>
<tr><td>1</td><td colspan="3" rowspan="2">Not Applicable</td></tr>
<tr><td>2</td></tr>
<tr><td colspan="4">OR</td></tr>
<tr><td>Sl. No.</td><td>Financial Progress</td><td>Time allowed (from date of start)</td><td>Amount to be with-held in case of non-achievement of milestone</td></tr>
<tr><td>1</td><td>1/8th (of whole</td><td>1/8th (of whole</td><td rowspan="4">Not Applicable</td></tr>
<tr><td>2</td><td>3/8th (of whole work)</td><td>1/2 (of whole work)</td></tr>
<tr><td>3</td><td>3/4th (of whole work)</td><td>3/4th (of whole work)</td></tr>
<tr><td>4</td><td>Full</td><td>Full</td></tr>
<tr><td colspan="3">Time allowed for execution of work.

Authority to give fair and reasonable extension of time for completion of work.</td><td>1 Month

EE(E), SE(E)</td></tr>
<tr><td colspan="3">Clause 7
Gross work to be done together with net payment/ adjustment of advances for material collected, if any, since the last such payment for being eligible to interim payment.</td><td>As Applicable.</td></tr>
<tr><td colspan="3">Clause 10CC
Clause 10CC to be applicable in contracts with stipulated period of completion exceeding the period shown in next column.</td><td>NOT APPLICABLE</td></tr>
<tr><td colspan="3">Clause 11
Specifications to be followed for execution of work (separately for each component of work)</td><td>Specifications as appended with Schedule of work.</td></tr>
<tr><td colspan="3">Clause 12
12. 2& 12.3 Deviation Limit beyond which clauses 12.2 and 12.3 shall apply</td><td>50%</td></tr>
<tr><td colspan="3">12.5 Deviation Limit beyond which clauses 12.2 and 12.3 shall apply for foundation work</td><td>NOT APPLICABLE</td></tr>
<tr><td colspan="3">Clause 16
Competent Authority for deciding reduced rates.</td><td>Superintending Engineer (E), BSNL Electrical Zone, Hyderabad.</td></tr>
</table>

Clause 30 (i) Minimum Qualifications and experience required for Principal Technical Representative.	
a) For works with estimated cost put to tender more than Rs. 5 Lakhs for Elect/ Mech. Works	Graduate Engineer(Electrical) or Diploma Holder in Electrical With 3 Years Experience.
b) For works with estimated cost put to tender more than Rs. 2 lakh but less than Rs.5 Lakhs for Elect/ Mech. Works	NA
c) Discipline to which the Principal Technical Representatives should belong.	Elect./Mech.
d) Minimum experience of works	Three (3) years
e) Recovery to be effected from the contractor in the event of not fulfilling provision of clause 30(i)	Rs.4,000/- p.m. for Graduate Rs.2,000/- p.m. for Diploma holder

MODEL FORM OF BANK GUARANTEE

(Bank Guarantee bond for EMD for Air Conditioning, Diesel Engine Alternator, Lifts and Substation works, Wherever the amount of EMD is more than Rs.20,000/=)

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

UNDERTAKINGS TO BE FURNISHED BY THE TENDERER

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.

- **In case of proprietorship firm, certificate will be given by the proprietor & for partnership firm certificate will be given by all the Directors of the company**

(Seal of the firm) (Signature of Bidder)

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 is 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".
* Strikeout 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".

* Strikeout whichever is not applicable
** Attach a self-attested photo copy of the above said ESI registration certificate.

(Seal of the firm) (Signature of Bidder)

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)

COMPLIANCE SHEET

I/We..... (Name of firm) have read/Understood all the terms and conditions as mentioned in bid Document and accept the same unconditionally.

I/We state to comply in full manner with all the General, Commercial, Technical and Operating financial conditions of the tender document for the work **"SITC of 5 Nos wind operated roof top Turbo Air Ventilator Systems for various BTS stations under BSNL Sanga Reddy SSA."** without any reservation and deviation.

(Seal of the firm) **(Dated Signature of Contractor)**

IMPORTANT NOTE: The BSNL EW 8 Form is available at http://www.telangana.bsnl.co.in for ready reference and download.

Declaration by Contractor

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

This is to certify that:

1) I / We have submitted the tenders in the proforma as downloaded directly from the web sites which are same as available in the web site and there is no change in the format, no. of pages, etc.

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

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

4) I / We have signed (with stamp) all the pages of tender document before submitting the same.

5) I / We have stitched and wax sealed the tender documents properly before submitting the same.

6) I / We have submitted the cost of the tender along with EMD in the first cover as prescribed.

7) I / We have read carefully and understood the 'Important instructions to contractors', 'important instructions to tenderers downloading the tender documents from web site' and entire standard BSNL EW 8 clauses and proforma form available in division office.

8) In case at later stage, it is noticed that there is any difference in my / our tender documents with the original documents, BSNL shall have the right to cancel the tender / work, forfeit the Earnest Money / Security Deposit, take appropriate action as per the prevailing rules in force and BSNL shall not be bound to pay any damages to me / us on this account.

Dated…….. (CONTRACTOR)
(SIGN WITH SEAL)

COMPUTERISED MEASUREMENT BOOK

CLAUSE 6A

Engineer-in-Charge shall, except as otherwise provided, ascertain and determine by measurement the value of work done in accordance with the contract.

All measurements of all items having financial value shall be entered by the contractor and compiled in the shape of the Computerized Measurement Book having pages of A-4 size as per the format of the department so that a complete record is obtained of all the items of works performed under the contract.

All such measurements and levels recorded by the contractor or his authorized representative from time to time, during the progress of the work, shall be got checked by the contractor from the Engineer-in-Charge or his authorized representative as per interval or program fixed in consultation with Engineer-in-Charge or his authorized representative. After the necessary corrections made by the Engineer-in-Charge, the measurement sheets shall be returned to the contractor for incorporating the corrections and for resubmission to the Engineer-in-Charge for the dated signatures by the Engineer-in-Charge and the contractor or their representatives in token of their acceptance.

Whenever bill is due for payment, the contractor would initially submit draft computerized measurement sheets and these measurements would be got checked/test checked from the Engineer-in-Charge and/or his authorized representative. The contractor will, thereafter, incorporate such changes as may be done during these checks/test checks in his draft computerized measurements, and submit to the department a computerized measurement book, duly bound, and with its pages machine numbered. The Engineer-in-Charge and/or his authorized representative would thereafter check this MB, and record the necessary certificates for their checks/test checks.

The final, fair, computerized measurement book given by the contractor, duly bound, with its pages machine numbered, should be 100% correct, and no cutting or over-writing in the measurements would thereafter be allowed. If at all any error is noticed, the contractor shall have to submit a fresh computerized MB with its pages duly machine numbered and bound, after getting the earlier MB cancelled by the department. Thereafter, the MB shall be taken in the Divisional Office records, and allotted a number as per the Register of Computerized MBs. This should be done before the corresponding bill is submitted to the Division Office for payment. The contractor shall submit two spare copies of such computerized MB's for the purpose of reference and record by the various officers of the department.

The contractor shall also submit to the department separately his computerized Abstract of Cost and the bill based on these measurements, duly bound, and its pages machine numbered along with two spare copies of the bill. Thereafter, this bill will be processed by the Division Office and allotted a number as per the computerized record in the same way as done for the measurement book meant for measurements.

The contractor shall, without extra charge, provide all assistance with every appliance, labour and other things necessary for checking of measurements/levels by the Engineer-in-Charge or his representative.

Except where any general or detailed description of the work expressly shows to the contrary, measurements shall be taken in accordance with the procedure set forth in-the specifications notwithstanding any provision in the relevant Standard Method of measurement or any general or local custom. In the case of items which are not covered by specifications, measurements shall be taken in accordance with the relevant standard, method of measurement issued by the Bureau of Indian Standards and if for any item no such standard is available then a mutually agreed method shall be followed.

The contractor shall give not less than seven days' notice to the Engineer-in-Charge or his authorized representative in charge of the work before covering up or otherwise placing beyond the reach of checking and/or test checking the measurement of any work in order that the "Same may be checked and/or test checked and correct dimensions thereof be taken before the same is covered up or placed beyond the reach of checking and/or test checking measurement and shall not cover up and place beyond reach of measurement any work without consent, in writing of the Engineer-in-Charge or his authorized representative in charge of the work who shall within the aforesaid period of seven days inspect the work, and if any work shall be covered up or placed beyond the reach of checking and/or test checking measurements without such notice having been given or the Engineer-in-Charge's consent being obtained in writing the same shall be uncovered at the Contractor's expense, or in default thereof no payment or allowance shall be made for such work or the materials with which the same was executed.

Engineer-in-Charge or his authorized representative may cause either themselves or through another officer of the department to check the measurements recorded by contractor and all provisions stipulated herein above shall Inapplicable to such checking of measurements or levels.

It is also a term of this contract that checking and/or test checking the measurements of any item of work in the measurement book and/or its payment in the interim, on account of final bill shall not be considered as conclusive evidence as to the sufficiency of any work or material to which it relates nor shall it relieve the contractor from liabilities from any over measurement or defects noticed till completion of the defects liability period.

1. As per the CPWD Works Manual 2014

7.1Computerised Measurement Books (CMB's) and Bills to be submitted by the contractor

7.2 Application and format of the Computerized M.B.

(1) Irrespective of value of the work the conventional Measurement Books shall be replaced by a bound volume of computerized measurements to be furnished by the contractor, duly machine numbered for the pages, and with an MB number given by the Division Office. The pages of these Measurement Books shall be of A-4 size. All these Measurement Books belonging to a Division shall be serially numbered and a record of these Computerized Measurement Books shall be maintained in a separate
Register in Form CPWA 92.

(2) The same format as in existing Measurement Books shall be used for the Computerized Measurement Books. The measurements shall be carried forward from the previous recorded measurements as per the existing procedure.

7.3 Mode of measurements

(1) The measurements shall be recorded and entered in computerized format in the first instance by the contractor, and a hard copy shall be submitted to the Department. All entries shall be made exactly as per the existing procedure.

(2) These measurements shall then be 100% checked by the Junior Telecom Officer (E)If Junior Telecom Officer (E) is not available, the Sub-Divisional Engineer(E) shall perform 100% check of the measurements. The contractor shall incorporate all such changes or corrections, as may be done during these checks, to his draft computerized measurements, and submit to the department the corrected computerized measurements in the form of a book, duly hard bound in red colour on the lines of the conventional Measurement Books now in use, and with its pages machine numbered.

(3) The Sub-Divisional Engineer(E)and the Executive Engineer(E) shall test check these computerized measurements as per the existing instructions. This book shall be treated as a Computerised Measurement Book.

(4) The Junior Telecom Officer (E), Sub-Divisional Engineer(E)and the Executive Engineer(E)shall record the necessary certificates for their checks and test checks as per the existing procedure in this Computerised Measurement Book.

(5) The Computerised Measurement Book shall be allotted a serial number as per the Register of Computerised Measurement Books.

7.4. Cutting or over-writing in the computerised M.B. not allowed

(1) The Computerized Measurement Book given by the contractor, duly bound, with its pages machine numbered, shall have no cutting or over-writing.

(2) It is the responsibility of the Junior Telecom Officer (E) or the Sub-Divisional Engineer(E)as the case may be to ensure that the checks and test checks done by them in the initial draft measurements are correctly incorporated in the Computerized Measurement Book before they record their certificates.

(3) In case of any error, the Computerised Measurement Book shall be cancelled, and the contractor shall re-submit a fresh Computerized Measurement Book. This should be done before the corresponding computerised bill is submitted to the Division for payment.

(4) The contractor shall submit as many copies of Computerised Measurement Books as may be required, and as are specified in the NIT/contract, for the purpose of reference and record in the various offices of the department.

7.5.Computerised Bill to be submitted by the contractor

(1) The contractor shall submit his running and final bills in a computerised form in the same format as the existing conventional bills, with all the pages machine numbered, and hard bound, and with all the entries made as per the existing procedure.
(2) The contractor shall submit as many copies of the computerized bills as may be required for the purpose of reference and record in the various offices of the department.
(3) The bill shall be carried forward from the previous running account bill as per the existing procedure.
(4) These computerised bills shall be processed by the various offices for payment, as per the existing procedure.

7.6. Review of Measurement Books

(1) The Measurement Books are required to be reviewed by Divisional Accountant under the supervision of Executive Engineer (E). The Sub-Divisional Engineer(E)s are required to submit the Measurement Books in use in the Sub-Divisions to the Divisional Office, from time to time, so that at least once a year the entries recorded in each of the Books are subjected to a percentage check. The Divisional Officer should ensure that this annual review is conducted regularly and positively every year.

(2) The review by the Divisional Accountant shall be in the following respects:-
(i) To compare the books in use with part I of the Register of Measurement Books maintained in CPWA Form 92, and to note necessary corrections in the Register.

(ii) To see that no original sheet is torn out of a Measurement Book, nor any entry erased or disfigured, and that the corrections made therein are initialed.

(iii) To see that pencil entries are not inked over.

(iv) To test check the accuracy of calculations, and to ensure that the instructions regarding writing of Measurement Books, recording of measurements, and their test check are being followed properly.

(3) On receipt of the Measurement Books in the Divisional Office, the Executive Engineer(E)should indicate in column 2 of the "Review Notes" in each Measurement Book as referred to in para 7.6(5) below as to which of the calculations are to be test checked by the Divisional Accountant. The extent of this check will be determined by the Executive Engineer (E)having regard to the result of the last review, and should cover complete set of measurements.

(4) Payments based on the entries reviewed should be traced into various accounts and verified. Similarly, supplies or issue of materials should be traced into the various accounts, contractor's ledger, etc. and verified.

(5) **Communication of discrepancies**
The defects, discrepancies, etc. noticed should be communicated to the Sub-Divisional Engineer (E)concerned and summarized in the following form in the Measurement Book that has been test audited:

Review Notes by Divisional Accountant

Pages reviewed generally	Calculations selected by Divisional Officer for re-check		Defects and discrepancies noticed	Dated initials of	
	Pages	Dated initials		Divisional Accountant	Divisional Officer
1	**2**	**3**	**4**	**5**	**6**

(6) The Measurement Book completed and returned for record during the year should also be similarly examined prior to their final record in the Divisional Office.

7.7. Loss of Measurement Books

(1) When a Measurement Book is lost, an FIR should be lodged with the police.

(2) An immediate report of the facts of the case together with an explanation of all parties concerned responsible for the loss should also be made promptly to the Chief Engineer, who is empowered to sanction the write off of the lost Measurement Books. In case of theft or loss of a blank Measurement Book, the Superintending Engineer shall be the competent authority to write off the loss.

(3) Such losses for write off should be reported in the proforma as at Appendix 10.

(4) It is also necessary that the measurements in the lost Measurement Book should be reconstructed at the earliest.

2. The M.B. movement Register is opened in the Sub Division and all other routine procedures followed in case of normal Measurement books are also followed in computer Measurement Books also.

TECHNICAL SPECIFICATIONS

1. The work shall be carried out as per current CPWD specifications for Electrical works as amended from time to time and Indian Electricity Rules as amended up to date.
2. The work shall be supervised by a qualified technical staff.
3. Layout of the work will be given by the Engineer in charge or his duty authorized representative at the site of work.
4. Following categories of wiring shall be done on separate conduits.
   a) Power plug
   b) Light and fan wiring
   c) Emergency light point wiring
   d) Telephone wiring
   e) AC unit wiring.
5. The No. of power plug points and emergency light point (fed from DC supply) shall not exceed 2 per circuit.
6. Earthing sets work shall be carried out in the presence of the Engineer-in-charge or his authorized representative.
7. Samples of all the materials, fittings accessories switch gears etc., shall be approved from the Engineer-in-charge before using the same on the work. Rejected material shall be removed immediately form the site of work.
8. The contractor will have to carry out the following test at his cost and intimate test results before final bills are paid. Nothing extra will be paid to him on this account.
   1) Earth test
   2) Polarity test
   3) Insulation test
   4) Earth continuity test of the surface recessed conduit pipes.
9. Any damages done to the building by the contractor during the executing of the work shall have to be made good at his cost and risk. If it is not done within a reasonable time determined by the Executive Engineer (E) then the same will be got done at his cost departmentally after giving notice to him.
10. The outlet boxes, IC boxes for switch gears and ends of conduit etc., for different categories of conduit runs catering for different types of electrical wiring as mentioned in clause above shall be painted inside/outside with different colours satisfying different categories mentioned so as to avoid mixing of various circuits and their wiring and nothing extra will be paid for this.
11. At the time of laying conduit pipes in the slab and in recess the contractor will keep wire of 15 SWG GI throughout the conduit pipe and will have to take special care so that the conduit does not pass through air conditioning ducts, grills columns, beams etc. If any such necessity is foreseen special written permission of Executive Engineer (Electrical) should be obtained before such work is carried out. In case of failure the contractor will not be paid on this account. The contractor should recess the conduit in the walls before they are plastered and co-ordination with the progress of building work. Any damages thus done will have to be made good at the cost of the contractor. The conduit pipes should be mechanically and electrically continuous.

12. The bakelite covers for the switches; plug sockets etc., shall not be removed or broken for taking connections which shall be done at their back by providing suitable wooden reaper in the IC boxes where found necessary. All wooden boxes for switches, plug, regulator etc., shall be provided with 1/8" thick bakelite sheet covers.

13. The runs of various circuits wiring at various places shall be kept minimum by taking the runs on walls where cross of columns is not necessary. This has to be decided before casting of slab so that unnecessary length of conduit is not laid there in.

14. All the IC distribution sub-main board and corresponding switch near shall be sign-written clearly indicating the No. of distribution boards, type of load it is serving and the number of circuits contained in the distribution box. Details of the routes led from a particular distribution box shall be placed in tabular from on the reverse of the cover of the distribution box.

15. Under ground cables both of 11KV and 1.1 KV grade should be subjected to pressure of insulation tests before and after laying the same in the ducts. In case of unsatisfactory tests, the cost of all repairs and replacement and all extra works of removal and relaying will have to be made good by the contractor at his own risk.

16. While making the end connections of wires, no strand shall be cut and the termination of wires shall be done with necessary lugs and ferrules without any extra payment.

17. The bus bars of the single-phase distribution box shall be of solid aluminium strip instead of sheet metal.

18. Lugs should be provided while terminating 8 SWG GI wire fro earth continuity without any extra payment.

19. The termination of conduit etc., in the junction box to be provided above DBs should be done by making proper holes knockouts instead of cutting the box.

20. The contractors will have to make arrangements to take the materials to site of work at his own cost and risk. Octroi, if paid by the contractor for the materials supplied by the Department can be claimed by his against the original vouchers.

21. If any conduits were laid before award of this work the recovery for the same will be made from the contractor at rates specified in the SR 94 (internal) plus abatement of tender.

22. The contractor shall submit the completion plan as required vide general specifications for electrical works. Part-I (internal) & part – II (external) as applicable within 30days the completion of the work. In case of contractor fails to submit the completion plan as aforesaid he shall be liable to pay sum equivalent to 2.5% of the value of the work subject to a ceiling of Rs. 2500/- as may be fixed by the S.E. (E).

Sd/-
Executive Engineer (E)

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)	BieccoLawrie / 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/ KWHrmeter	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/ lsolator /ELCB/RCCB/ Distribution Board	Crompton / Havells / lndokopp / 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
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 / Pilkingston / 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 /
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 /
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	ISI mark
43	Fire Extinguisher	ISI mark
44	Lift	OTIS, Kone, Mitsubishi , Schindler,Johnson

NOTE:

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

ANNEXURE

LIST OF INDIAN STANDARDS

I.S.277 Galvanized steel sheets.
I.S.325 Three Phase Induction Motors
I.S.655 Metal Air Ducts
I.S.732 Code of Practice for Electrical Wiring and fittings for Buildings.
I.S.778 Gun Metal Gate, Globe and Check Valves for general purposes.
I.S.900 Code of Practice for Installation and Maintenance of Induction Motors.
I.S.996 Single Phase small AC and Universal Motors.
I.S.1239 Mild Steel Tubes, G.I. Pipes, Tubular and other wrought steel fittings.
I.S.1248 Direct Acting Electrical Indicating Instruments.
I.S.1520 Horizontal Centrifugal Pumps for clear, cold and fresh water.
I.S.1554 PVC Insualted (heavy duty) Electrical Cables
(Part-I) for working voltages upto and including 110 volts.
I.S.2372 Timber for cooling towers.
I.S.2516 AC Circuit Breakers.
I.S.2592 Recommendation for Methods of Measurements of Fluid flow by means of Orifice Plates and Nozzles.
I.S.1822 Motor Starters of Voltage not exceeding 1000 volts.
I.S.2208 HRC Cartridge Fuse – Links upto 650 volts.
I.S.3589 Electrically welded steel pipes for water, gas and sewage.
I.S.3624 Bourden Tube Pressure and Vacuum Gauges.

I.S.4047 Heavy Duty air break switches and composite units of air break Switches and fuses for voltage not exceeding 1000 volts.
I.S.6392 Steel Pipe Flanges.
I.S.7403 Code of Practice for Selection of Standard Worm and Helical Gear Boxes.
I.S.8148 Specification for packaged air conditioning.

IMPORTANT NOTE
All references to I.S.I. appearing in this specification may be read as Bureau of Indian Standards, Latest amended versions.

ANNEXURE

LIST OF SAFETY STANDARDS
I.S.618 Code of Practice for safety and health requirements in Electrical and Gas Welding and Cutting Operations.
I.S.659 Safety code for Air Conditioning.
I.S.660 Safety code for Mechanical Refrigeration.
I.S.3016 Code of Practice for Fire precautions in welding and cutting operations.
I.S.3210 Code for Safety procedures and practices in Electrical works.
I.S.3696 Safety for Scaffolds and Ladders.

INDIAN ELECTRICITY RULES 1956

Note:-Tender documents & BSNL EW-8 General conditions of contract work for electrical works can also be downloaded from the website
http://www.telangana.bsnl.co.in/tenders_active.php